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RESEARCH ARTICLE

BANK LENDING VS NON-BANK LENDING: AN ANALYSIS OF SELECTED ASIAN CREDIT MARKET.

RasidahMohd. Said.
Graduate School of Business, Universiti Kebangsaan Malaysia, Selangor.

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Abstract

The 2007/2008 global financial crisis has witnessed an increase of regulation on credit by the traditional bank sectors. As a result, businesses turned to a range of alternative financiers, such as leasing companies, money-market funds, mutual funds, which are collectively known as 'shadow banks', for credit. Using panel data of seven South East Asia countries for the period 2004-2013, the results show that this new alternative source of credit acts as complement to the traditional bank credits that has been existing decades ago. Further, although the shadow banks have grown is some part of the region, bank lending remains bigger than lending by these alternative financiers. The results also suggest that the ease of getting credit plays an important role in the development of this alternative financiers.

Introduction:-

A few years after the 1997/1998 Asian financial crisis ended, another crisis came into the scene. Many were caught by surprise of the 2007/2008 global financial crisis, but for countries in the South East Asian region like Malaysia, Thailand, Indonesia and Singapore have definitely learnt some lessons from the previous crisis. Following the Asian financial crisis, policy recommendations were formulated by economists to prevent a repitition of this crisis, and these recommendations have certainly provided resilience to shocks to these countries and hence shielded them from being deeply affected by the 2007/2008 global economic crisis.

The 1997/1998 financial crisis are now behind us and economies are recovering strongly for most of the countries affected. This economic rebound has led to the growth of investment opportunities in this region. As a result, household and companies increase their demand for credit. On the supply side, the capacity of banks to provide credit are limited to the regulations set forth following the crisis. Banks are closely monitored and balance sheet repair is still ongoing in the banking sector for some of the countries. More than a decade ago, commercial banks accounted for almost all lending in the Asian economy. Due to the stringent capital requirement following the Asian financial crisis, credit is now available from a range of financiers such as insurance companies, leasing companies, unit trusts, provident funds, and many more. These alternative financiers are known collectively as shadow banks. Shadow banking refers to lending activities by these alternative financiers that are outside the formal banking sectors. The term 'shadow banks' was first introduced by Paul McCulley[1] at the 2007 Jackson Hole Symposium. McCulley referred to the non-bank financial intermediaries as shadow banks because they are unregulated and fund

[1] PAUL MCCULLEY, PIMCO, TETON REFLECTIONS: PIMCO GLOBAL CENTRAL BANK FOCUS 2 (2007), available at http://media.pimco.com/ Documents/GCB%20Focus%20Sept%2007%20WEB.pdf

Corresponding Author:-RasidahMohd. Said.
Address:-Graduate School of Business, UniversitiKebangsaan Malaysia, Selangor.

themselves with un-insured commercial paper. Thus, according to McCulley (2007), this system is particularly vulnerable to runs, which may further transmit risks to the economic system and therefore cause systemic risk.

In China, its production capacity has been expanding and in order to create new demand for its production, the government stimulated a rapid rise in domestic private debt through extensive credit creation by the state-owned banks. Since 2008, China has seen an explosive growth in domestic private debt partly due to the rise of shadow banking. In some Asian countries, although bank lending remains far bigger than lending by the non-banking financial institutions, the growth of shadow lending is accelerating as well. In China, for instance, as of March 2014, shadow banking had risen to 35 percent of GDP and is expanding at twice the rate of bank credit (Global Financial Stability Report, October 2014). In other countries like Malaysia and Thailand, lending by non-banks accounted for approximately one fourth and one third of the increase in the household debt, respectively, since 2007. Although shadow banking in this region is less complex, hence do not post any threat to the financial system of the countries, its rapid growth does raise debt level and its lack of regulation makes credit flow less transparent and more risky.

Literature Review:-

The complexity of the shadow banking process in the developed countries has attracted a number of studies, and many academic literature has evolved that addressed this issue. Some of these literature relate the development of this system to a demand for private money or demand for investments that are perceived as highly safe, liquid, and redeemable at par.Greenwood et. al (2012) and Pozsar (2011), for example, link the demand for private money to the investment needs of institutional cash investors, whose total balances significantly exceed the supply of short-term government debt and insured deposits. Meanwhile, Gorton et. al (2012) observe that the demand for safe assets as a ratio to GDP appears stable and has always been met by a combination of public and private instruments.

From the aspect of risk that arises out of this private money creation, Gennaioli, Shleifer, and Vishny (2012, 2013) show that banks respond to the demand for safe assets through portfolio diversification and residual risk retention, and in the process of doing this, banks become exposed to adverse events. Looking at private money supplied in the form of repurchase agreement, Gorton and Metrick (2012) and Martin, Skeie, and von Thadden (2014) highlight the possibility of runs of the financial intermediaries. Failing to internalize the costs and risk of crises may result in the creation of excessive amount of private money, as suggested by Ricks (2012) and Stein (2012).

Market failure in securitization process is another area of focus of the shadow banking literature (see, for example, Pozsar (2008), Pozsar et. al (2010),Stein (2010), Gorton and Metrick (2012), Adrian and Shin (2009), Shin (2009), Acharya, Schnabl, and Suarez (2012)). The importance of shadow banking in the financial system is also highlighted in some literature. Singh and Aitken (2010) and Singh (2011), for example, highlight that shadow banking is crucial in supporting collateral-based operations in the financial system.Finally, the issue of regulation for the shadow banking system has also been discussed (Tuckman, 2010; Summe, 2011; Perotti, 2012).

In South East Asia, the existence of non-bank financial intermediaries is to complement the role of traditional banking system in providing financial services to market segments. Unlike non-bank financial intermediaries in advanced economies, the non-bank financial intermediaries in this region is less complex and as a result, shadow banking system do not post any threat to the financial system of the countries. However, lending by non-bank financial institutions in most part of South East Asia has increased since the global financial crisis. For example, approximately 25% and 30% increase in Malaysia and Thailand, respectively, since 2007. China and South Korea have experienced an increase in the size of their non-bank lending since 2004. Prior to 2008, non-bank lending in South Korea has always been greater than China. However, since the 2008 global financial crisis, the size of non-bank lending in China has grown dramatically and South Korea has never been able to catch up (see Figure 1). With the trend of non-bank lending depicted in Figure 1, shadow banking in this region deserves to be investigated.

Following the 1997/98 financial crisis, the past decade has witnessed a more tighter regulations for the traditional bank lending activities, and this open up business opportunities for alternative sources of credit. As pointed out by Plantin (2015), the growth of shadow banking has been driven by regulatory arbitrage (see also Acharya, Schnabl, and Suarez 2013; Gorton and Metrick 2010; Pozsar et al. 2010). While traditional banking institutions are subject to various regulatory requirements, the shadow banks are less regulated. Due to these regulations standards imposed on banks, banks become very selective in giving out loans to borrowers, and sometimes banks offered borrowers unattractive short-term funding. This results in the demand for higher non-bank credit.In China , for example,

although lending by banking institutions remain bigger than lending by non-bank institutions, its rate of growth has dropped recently, and as of 2013, non-banks lending grew by 50% since 2009.

H1: There is a negative association between the size of non-bank credit and bank credit.

In the wake of the 1997 financial crisis, many jurisdictions in Asia have adopted a stricter and more conservative loan loss provisioning standards. In China, for example, banks were allowed to establish specific reserves for loan depending on its grade. Among factors considered when determining the appropriate level of reserves is the probability of losses produced by the loans. In Indonesia, provisions of not less than 1 percent of the amount of loans are required, and this requirement may be waived if the loan is secured by high quality collateral. Generally, collateral are in the form of movable assets. However, in most developing countries, these assets are unacceptable to lenders as collateral since there are no guarantee that they can repossess these collateral through a timely and inexpensive process should the borrower default on their loan. This situation becomes worse when the borrower has already given the assets as collateral to another lender. One way to avoid conflicting claims on this cross-collaterized assets, a centralized collateral registry is established in some countries where it allows creditors to share credit information of debtors and hence provide more protection and stronger rights to the creditors. In countries where legal systems are functioning poorly, credit information sharing is important to creditors. But for countries that have well functioning legal system, creditors rights are better protected and this expand the availability of loans as creditors are more confident of getting their money back in cases of borrowers default (Djankov et al., 2005). These legal rights and creditor's rights to information are conducive to lending activities, and hence expand the availability of loans to businesses by banking institutions. As a result, businesses are less depending on loans from non-banking institutions. Hence, the following hypothesis is proposed:
H2: There is a negative association between the ease of getting credit, and the size of the non-bank credit.

In addition to the above measures, a set of variables are included to control for the macroeconomic conditions. They include GDP per capita and money growth. GDP reflects the overall economic performance of a country and is expected to have a positive impact on credit issued by either banks or non-bank institutions. Higher money growth implies expansion of the economy hence improve liquidity of banks and hence increase lending by banks. As a result, borrowers depend less on these intermediaries as their source of fund. The following hypotheses are therefore proposed:

H3: There is a positive association between the size of non-bank credit and GDP per capita.
H4: There is a negative association between the size of non-bank credit and money growth.

Data:-

The data set consists of panel of observations of seven East Asian countries, namely China, Japan, South Korea, Indonesia, Malaysia, Singapore and Thailand for the period 2004 to 2013. Data on the amount of credit by banking institutions are collected from the Bank of International Settlements database on credit to the private non-financial sector of 40 advanced and emerging economies. The quarterly series of total credit from the database comprises of credit provided by three sectors: domestic banks, all other sectors of the economy and non-residents. To arrive to amount of credit povided by the nonbanking institutions, the amount of credit by the banking sectors is deducted from the amount of total credit provided by the three sectors. Finally, annual amount of credit is estimated by taking the sum of the quarterly data in that particular year. Money supply and GDP per capita were in USD, and were extracted from the World Bank WDI. The data on credit were provided in local currency unit and hence were converted to single currency unit, USD, for an easier analysis. In doing so, the prevailing exchange rate during each quarter were used. Although the credit database began in 1940 and continues in 2014:2, the analysis uses data only from 2004 through 2013 because of the nonavailabilty of data for some of the series.

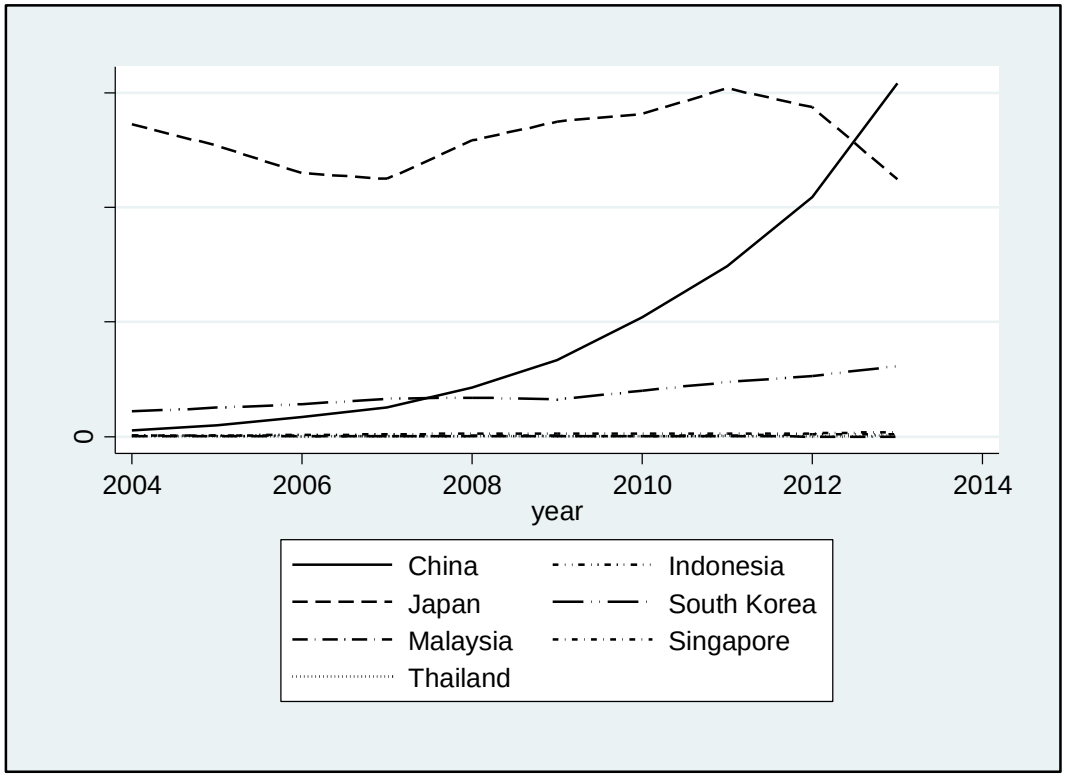
Table 1 displays descriptive statistics of the variables used in the study. These variables are not presented in a log metric for the sake of comparability. Entries indicate that for China, South Korea, Thailand and Indonesia, the average amount of credit provided by the nonbanking institutions is higher than the median level. This implies that for these countries, the nonbanks institutions provide relatively small amount of credit over the sample period. Across all sample countries, the average amount of credit provided by the banking institutions are larger than the amount of credit provided by the nonbanking institutions. This indicates that banking institutions are still considered as an important source of fund.

As for the average amount of non-banks credits, Japan leads with an amount of USD13000 billion, followed by China and South Korea, with an average amount of USD4700 billion and USD1900 billion, respectively. Indonesia, Malaysia and Thailand have average amount of non-banks credit of USD50 billion or less. Lastly, Singapore has an average amount of non-banks credit of USD110 billion. These sample countries, thus, can be divided into two groups with respect to the amount of non-banks credit: countries with high amount of non-banks credit (which include Japan, China and South Korea) and countries with small amount of non-banks credit (which include Indonesia, Malaysia, Thailand and Singapore). The GDP for the former group ranges from USD1100 billion to USD5100, and the GDP for the latter group ranges from USD170 billion to USD570 billion. In general, countries with high amount of non-banks credit is associated with higher amount of economic performance as measured by GDP.

Results and Discussions:-

Table 2 reports the hierarchical regression analysis under the fixed effect assumption using five versions. Model 1 is an estimate of the relationship between the dependent variable (*NON-BANK CREDIT*) and the control variables, *GDP/Capita* and *MONEY SUPPLY*. In the second step, the independent variable, *BANK CREDIT*, was added and the results are provided by Model 2. The moderator variable, which is represented by the ease of getting credit index (*INDEX*), is added in the third step and the results are presented by Model 3. This index is measured by two indicators: the strength of legal rights and the depth of credit information. The strength of legal index measures the degree to which collateral and bankruptcy laws protect the rights of both the borrowers and lenders. Higher scores of this index indicates that the laws facilitate lending well. The depth of credit information, on the other hand, measures rules affecting the scope, accesibility and quality of credit information available through credit registries. The higher the score of this index, the more credit information is available to facilitate lending. These two works well together. Greater legal protection and more credit information allows lenders to become more confident and willing to extend credit and therefore, expand the availability of loans to businesses. Hence, the ease of getting credit is based on the sum of these two indices. In order to extract more information from *INDEX*, the interaction between *INDEX* and *BANK CREDIT* was introduced as a new regressor in the regression and the estimation results are presented in Model 4. To capture the influence of the global financial crisis that took place in 2007, a dummy year was introduced and the results are as presented in Model 5 of Table 2.

Figure 1:- Annual Growth of Non-bank Credit.



Source: Bank of International Settlement

Table 1:- Descriptive Statistics

Country	Obs.		Loan by nonbanks (billions USD)	Loan by banks (billions USD)	GDP (billions USD)
China	70	Mean	4700	24000	5100
		Min	270	9000	1900
		Max	15000	49000	9200
		Median	2700	21000	4800
		Std Dev	5000	14000	2600
Indonesia	70	Mean	50	610	570
		Min	25	230	260
		Max	120	1100	880
		Median	37	520	520
		Std Dev	32	330	240
Japan	70	Mean	13000	21000	5000
		Min	11000	18000	4400
		Max	15000	26000	6000
		Median	13000	21000	4900
		Std Dev	1400	3100	590
S. Korea	70	Mean	1900	5000	1100
		Min	1100	3100	760
		Max	3100	6400	1300
		Median	1700	5300	1100
		Std Dev	6400	1100	170
Malaysia	70	Mean	25	1000	220
		Min	1.6	620	120
		Max	35	1600	310
		Median	31	960	220
		Std Dev	12	350	67
Singapore	70	Mean	110	770	200
		Min	39	410	110
		Max	200	1400	300
		Median	120	710	190
		Std Dev	48	340	66
Thailand	70	Mean	23	1100	270
		Min	6.9	660	160
		Max	42	1800	390
		Median	22	1000	270
		Std Dev	11	400	79

Results of hierarchical regression analysis for non-banks credit
Dependent Variable: *Ln Nonbankcredit*

Sample 7:-Asean countries, 2004-2013. Number of observations: 70

	Model 1		Model 2		Model 3		Model 4		Model 5	
Step 1: control	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Constant	1.4459	0.55	-18.9509	-10.17***	-16.2315	-8.35***	-8.1104	-2.38**	-8.1004	-2.37**
GDP/Capita	1.1650	6.65***	0.6601	7.27***	0.9229	7.78***	0.9325	8.28***	0.9328	8.24***
Money Supply	0.4504	7.40***	0.2048	6.10***	0.1658	4.91***	0.1647	5.13***	0.1647	5.11***
Step 2: independent										
Bank Credit			1.1459	14.94***	1.0723	14.20***	0.7778	6.17***	0.7764	6.14***
Step 3: Moderator										
Ease of Getting Credit Index					-0.1623	-3.18***	-0.1728	-3.56***	-0.1726	-3.54***

Step 4: interaction term										
Bank Credit x Ease of getting credit							4.56E-15	2.84***	4.63E-15	2.86***
Step 5: Dummy year										
Dummy year 2007									0.1965	0.68
Adj. R^2	0.5595		0.8980		0.9104		0.9192		0.9185	

*Note: *,** and *** indicate the respective 10%, 5% and 1% significance levels*

From the final model, Model 5, the regression coefficients for both control variables are positive and statistically significant at 1 percent level of significance, supporting H3 but not H4. The coefficient of the independent variable (*BANK CREDIT*) is positively related to the *NON-BANK CREDIT* and statistically significant at 1 percent level of significance, thus, H1 are not supported. When *INDEX* is added to the regression, this index is signicantly negative related to non-bank credit. This supports H2. Since this index is an indicator that represents the ease of getting credit, the negative relationship implies that as businesss face difficulty accessing bank credit, they therefore must rely on funds from non-bank institutions. Finally, as indicated by the significant interaction term,ease of getting credit index moderates the relationship between lending by banks and non-banks. The positive sign in the regression result implies that the higher the level of ease of getting credit in an economy, the higher the effect of the traditional bank credit has on the non-bank credit. Although the regression coefficient for *BANK CREDIT* is found to be statistically significant different from zero, its positive sign is contrary to what has been expected previously. The argument that the declining lending activities of banks as a result of tighter regulation following the recent financial crisis led to the increase in alternative sources of credit, namely shadow banking is deemed to be false in this study. Unlike in advanced economies where non-banking credits are substitutes for reduced bank credits, non-banking credits and banking credits seems to be competing in Asia. And as argued by Noeth and Sengupta (2011), "the shadow banking system can be viewed as a parallel system—one that is a complement to and not a substitute for traditional banking". However, the regression coefficient of the dummy year is not significant, which implies that the 2007 global crisis does not have any impact on the relationship between bank credit and non-bank credit. This imply that the global financial crisis has limited impact on the credit market in Asia, and this support the popular view that this market in this region has become resilient to shocks following the 1997/1998 asian financial crisis when we witnessed major revamp in the credit regulations.

Conclusion:-

This study investigates the relationship between credit by traditional banks and non-credit institutions, or better known as shadow banks. The growth of non-bank credits occured against a backdrop of instable banking system following the 2007/2008 global financial crisis. The findings suggest that shadow banks act as a complement to the traditional banking system and also plays a helpful role in the real economy. The empirical results suggest that banking institutions is still an important source of fund for the economy. Although lending by the shadow banking system has grown dramatically for some countries in the south-east asian region, the traditional banking maintains its relevance in assissting continued growth of the economy. The results of this study also shows as ease of getting credit index has a negative realtionship with the size of non-bank credits in an economy. This supports the notion that as businesses face difficulites in getting credit, they will turn to the non-traditional banking system as their source of funds for their businesses. Ease of getting credit index acts as a moderator for the relationship between the traditional banking credits and the non-banking credits.

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