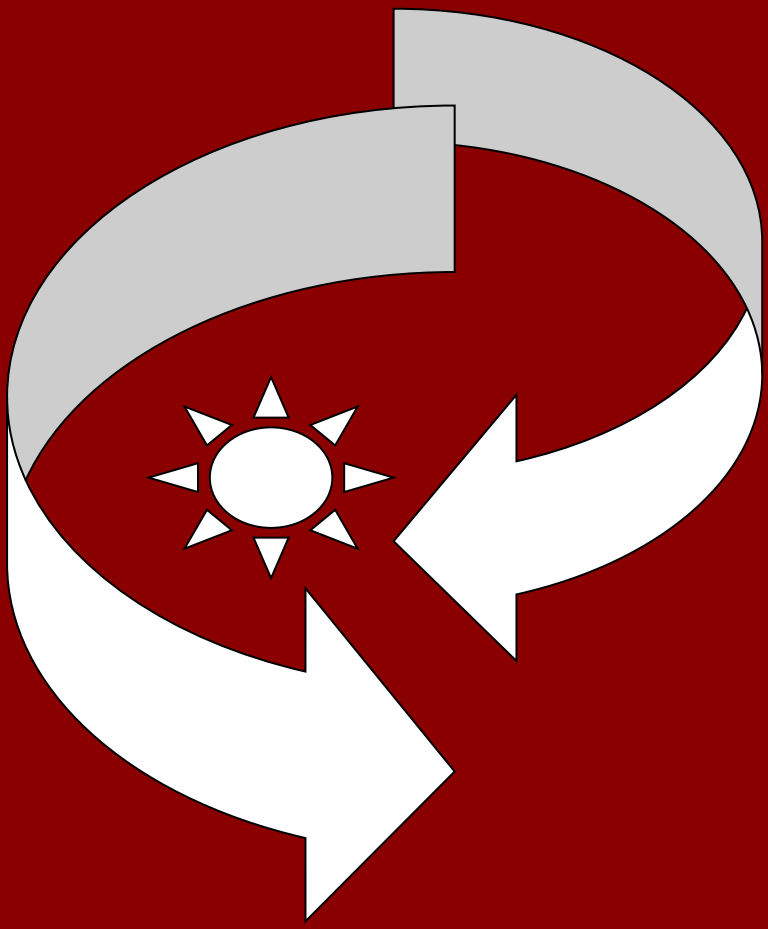
Vol. 6 No. 2, September – October 2018
International peer-reviewed journal
ISSN: 2338-4603 (print)
2355-8520 (online)

Jurnal Perspektif Pembiayaan dan Pembangunan Daerah

(Journal of Perspectives on Financing and Regional Development)



Master Program in Economics
Universitas Jambi

Jurnal

Perspektif Pembiayaan dan Pembangunan Daerah

Accreditation Decree (SINTA S4), valid from 9 Juli 2018 – 8 Juli 2023 based on the Decree of the Director General of Development and Research Enhancement, Ministry of Research, Technology & Higher Education of the Republic of Indonesia, Number 21/E/KTP/2018

Published by Master Program in Economics, Graduate Program of Jambi University

Editor Adress: Jurnal Perspektif Pembiayaan dan Pembangunan Daerah. Program Magister Ekonomi, Pascasarjana, Universitas Jambi, Kampus Telanaipura Jambi, Indonesia

Jurnal Perspektif Pembiayaan dan Pembangunan Daerah (The Journal of Perspectives on Financing and Regional Development) is reffered to be a forum for the delivery of scientific thought and analysis in the field of economics especially related to financing and regional development for faculty staff, researchers, alumni, students and broad community. Starting from Volume 6 No. 1, this journal is published into six times a year (originally published four times a year). The editor receives articles that have unpublished yet in any media, either inside or outside the country. The online version of this journal is available at http://online-journal.unja.ac.id/index.php/JES

Jurnal
Perspektif Pembiayaan dan Pembangunan Daerah

(Journal of Perspectives of Financing and Regional Development)

Table of Contents

Editor's Note

On its sixth year (Volume. 6, Number. 1), the Journal of Perspectives on Financing and Regional Development has two fundamental changes. First, this journal was originally published four times a year, and now has been published six times a year. This is based on consideration of the increasing interest of researchers / authors to publish their articles on this journal. Second, the journal has been nationally accredited with SINTA (Science and Technology Index) score of S4 which is valid from 9 July 2018 – 8 July 2023 based on the Decree of the Director General of Development and Research Enhancement, Ministry of Research, Technology & Higher Education of the Republic of Indonesia, Number 21/E/KTP/2018 concerning the Ranking of Scientific Journal.

In Vol. 6 number 2, 2018 is presented eleven articles that come from Universitas Jambi (Indonesia), Universitas Indonesia, Universitas Negeri Gorontalo (Indonesia), University of Lahore (Pakistan), Chernihiv National University of Technology (Ukraine), Lviv University of Business and Law (Ukraine), Lviv National University of Veterinarian Medicine and Biotechnologies (Ukraine), APB P.G. College, Augustmuni, Rudraparyag, Uttarakhand (India), NED University of Engineering & Technology (Karachi-Pakistan), SZABIST (Karachi-Pakistan), Habib Bank Limited (Karachi-Pakistan), Bank Al Habib Limited (Karachi-Pakistan)

Hopefully in the next issue can be presented articles with issues and from more diverse circles.

Happy joy reading

Editorial

Dynamic links between economic growth, institutions, fiscal policy and stock market development

Ghulam Rasool Madni

The University of Lahore, Pakistan

Correspondence author email: ghulam.rasool@econ.uol.edu.pk

Abstract

Economic growth is a most crucial factor that plays its role to improve the living standards in a country. But there is no consensus about the variables explaining the economic growth of economies. This paper is an attempt to explore the impact of institutional quality, instruments of fiscal policy, and stock market development on economic growth for a small developing economy, Pakistan over the time span of 1984-2016. To determine the long and short run relationship of the variables, Auto Regressive Distributed Lag (ARDL) bounds testing approach to integration is applied. An index of institutional quality is constructed by Principal Component Analysis (PCA) considering twelve institutional indicators given by International Country Risk Guide (ICRG). The findings of the study reveal a positive relationship of public spending, institutional quality and stock market development on economic growth of the country. It is suggested that improvement of institutional quality, productive public spending and efficient financial markets are driving forces for economic prosperity and development of Pakistan.

Keywords: *Economic growth, Institutions, Stock market, Public spending*

JEL Classification: B22, C32, Q43

INTRODUCTION

Economic growth is a vivid and ultimate source for economic development and prosperity which raises an economy's potential GDP and must be sustained in long run to achieve the desired goal of public welfare. Economic growth is a fundamental instrument and indicator for sustainability and development of any economy. In long run, the focus of governments is to foster sustainable economic growth. The sustained growth of any country is helpful to improve living standard of people in many ways like reducing the poverty, enhancing the infrastructure and educational facilities, combating increased inflation, and reducing the external vulnerabilities.

There is no consensus upon determinants of economic growth for an economy. Theoretical and numerical facts reveal that public spending, institutional quality and stock market have a pivotal role for economic growth. It may be observed that no society reaped towering echelon of economic growth without the intervention of government. Economies without interference of government face diverse hue of chaos that freezes their economic growth with passage of time. Government expenditures allow government to reallocation of resources from elite to poor. It is obvious that fiscal policy is a pre-condition to achieve macroeconomic permanence and sustainable economic growth that can have foremost impacts on income generation and poverty alleviation through taxation, optimal revenues generation, public borrowings and public expenditures. Recently, role of public spending got a striking attention of the policy makers and researchers of the subject, especially after financial crisis of 2007.

Endogenous and Keynesian growth theories proved the significant role of fiscal policy for economic development of an economy. The public spending may be helpful to raise the economic growth by developing the institutions like maintaining the law and order, protection of property rights, control over corruption, provision of public goods, and other social services that may lead to improve the aggregate demand and sustainability of economic growth.

The institutional role in growth route of economies got importance during decade of the 1990's, when two pioneer studies by Knack and Keefer's (1995) "Institutions and Economic Performance", and Mauro's (1995) "Corruption and Growth" were published. By relying on new dimensions of property rights and institutions, these items ushered in a new generation of devoted research to prove importance of institutional framework in economic performance across the countries. Knack and Keefer (1995) considered the data of 97 economies from 1974 to 1989 and concluded that institutional quality is working as a protection of property rights and contract enforcement is an essential difference for investment and growth. In the same way, Mauro (1995) found that the corruption rates have negative association with economic growth and private investment. The other experimental evidence supports these preliminary results. For example, Alesina (1998) and Madni (2017) indicates that institutional quality plays a vital role for growth and this quality of institutions was measured by bureaucracy, corruption, property rights and law & order.

The effectiveness of unwavering financial markets has been highlighted for prosperity and development of an economy because stability of stock market is considered as a sign of complete macroeconomic execution and performance of an economy. The supporters of stock market are of view that it has a significant role for development of industry and commerce leading to enhance the economic prosperity. Generally, the theoretical discussions deliberate the functions of the stock market in encouraging capital allocation, mobilizing and assembling savings, and engendering information for prospective investments liquidity. It is believed that presence of stable and active stock market can promote economic growth. Schumpeter (1911), Goldsmith (1969), Shaw (1973) and McKinnon (1973) found that financial markets and financial intermediaries play a pivotal role for economic growth and development. According to Levine (1997. p. 691), "to organize the vast literature on finance and economic activity, I break this primary function into five basic functions. Specifically, financial systems: Facilitate the trading, hedging, diversifying, and pooling of risk, allocate resources, monitor managers and exert corporate control, mobilize savings, and facilitate the exchange of goods and services."

Pakistan is a developing country of the world depending on agriculture, industry, manufacturing and remittances. Pakistan has experienced respectable economic growth for more than three decades i.e. up to 1990. The economy grew over 6% per annum, on average, but after that economy performed poorly.

Table 1. Economic growth and fiscal variables as percentage of GDP

Variables/ Years	1970's	1980's	1990's	2000's	2011-16
GDP Growth	5.0	7.1	4.4	4.7	4.0
Fiscal Deficit	8.6	5.5	7.3	4.6	6.4
Public Expenditures	21.9	22.3	23.2	18.8	20.2
Current Expenditures	18.6	17.8	19.8	15.5	16.1
Development Expenditures	3.3	4.5	3.4	3.3	4.1
Defense Expenditures	6.0	6.3	5.8	3.5	2.5

Source: The World Bank and Pakistan Economic Survey (Various Issues)

Wagner's law states that public expenditures' elasticity exceeds well above unity in the early economic growth process. It implies that a country needs more public expenditures for providing social services. In spite of fluctuating trend in public expenditures and fiscal deficit, GDP growth could not be enhanced as compared with preceding decades after 1980's. It can be observed that development expenditures are not strengthened with passage of time and have a stable trend. Current expenditures remained at the priority of state while development expenditures could not gain their importance. Increased fiscal deficits were utilized to finance the current expenditures but they could not contribute in growth process significantly.

The decade of the 1990's remained worst, not due to poor economic performance but also due to poor governance, political instability (during the period of 1988-99, eleven governments were changed resulting in loss of confidence of investors and growth), debt burden (accrued during the period of 1977-88, resulting in annual interest payments made equal to 60 percent of budget and 25 percent for defense, so development expenditures were reduced significantly), and imposed sanctions on Pakistan in the decade of the 1990's relevant to nuclear propagation. During the constitutional period of five years (2008-13), the average GDP growth rate during this period was only three percent, industrial growth was near to zero, investment rate declined to 12.5% of GDP (lowest in the history of Pakistan), budget deficit was 7% of GDP on average and public debt became double. Corruption and poor governance were key factors that affected every sector of the economy.

If we have a look on performance of institutions in Pakistan, we come to know that country has very poor development of institutions and rents are extracted by elites by breaches of laws or abuses of institutions as highlighted by Hassan (2002). The performance of institutional indicators of Pakistan is given in the Table 2.

Table 2. Institutional Performance of Pakistan*

Years/ Variables	Voice and Accounta-bility	Political Stability and Absence of Violence	Govern-ment Effective-ness	Regulatory Quality	Rule of Law	Control of Corrup-tion
1996-2000	-0.87	-1.17	-0.54	-0.55	-0.80	-0.97
2001-2005	-1.19	-1.65	-0.41	-0.75	-0.79	-0.94
2006-2010	-0.89	-2.46	-0.61	-0.53	-0.85	-0.88
2011-2015	-0.82	-2.40	-0.74	-0.67	-0.84	-0.92

*Values approximately range from -2.5 (weak position) to 2.5 (strong position)
Source: World Governance Indicators

The presented data reveal that institutional performance in Pakistan is very poor and having trend of further deterioration. According to Hassan (2002), there was degeneration of institutions in the country over the past three decades, and the decade of 1990's brought a great degradation of institutions. Poor governance of country excluded the poor people of society in process of decision making and malfunctioning of institutions caused the failure of benefits of rising per capita income to the poor. The increased poverty further weakened the quality of institutions and poor are trapped in the vicious circle of poverty.

The Pakistan Stock Exchange[1] was demoted to frontier-market status in 2009 after it introduced restrains against sell orders to stanch an investor migration in late 2008. Pakistan's stock market has been on a tear in recent years. The country's main KSE index has gained close to 400% since 2009, and 40% in 2016. Pakistan Stock Exchange

[1] A merger of Karachi Stock Exchange, Lahore Stock Exchange, Islamabad Stock Exchange

is declared as the best performing in Asia and 5th best performing market in world in 2016, in spite of multiple economic and social problems of the country. The global stock markets also grew in 2015 but the stock market of Pakistan gained and outstanding performance among the world's largest and most liquid stock markets including china, Hong Kong, India, Japan, Singapore, UK and USA.

The previous numerical facts reveal the volatility in economic growth of Pakistan in different time periods which requires to be studied further. Realizing the importance and effectiveness of institutions, stock market and government spending from literature, it will be much concern of interest to know the impact of public spending, stock market and institutions on economic growth of Pakistan, a core objective of this study. There is hardly any study that has investigated the impact of institutions, stock market and fiscal policy jointly on economic growth of the country.

After introduction, Section 2 outlines the literature review and Section 3 provides theoretical framework. Section 4 has details of data and variables. Methodology and empirical analysis are discussed in Section 5 while Section 6 concludes the chapter.

LITERATURE REVIEW

Ramadhan, et al. (2016) investigated the role of political stability for economic growth and development in Tanzania by employing Vector Error Correction Model (VECM) for the time span of 1996-2104. It was hypothesized that political stability plays a vital role for economic development and prosperity of any country. To test the unit root, Phillips Perron (PP) and Augmented Dickey Fuller (ADF) were applied and then cointegration was tested. The cointegration test proves the presence of long run relationship among the variables. The findings of the study reveal that political stability has a significant and positive impact on economic growth of Tanzania. It was also concluded that labor force and investment have insignificant positive impact on economic growth of the said country.

Ibrahim and Gadir (2015) examined to find out the motives and determinants affecting the Foreign Direct Investment in Oman covering the time period of 1980–2013. Public spending, trade openness, market size, inflation rate and natural resources are considered to be affecting the FDI. Johansen cointegration and VECM are applied to find the short and long run dynamics of FDI. It was found that natural resources and market size have positive impact on FDI while inflation and trade openness harm the FDI. Moreover, Granger causality results reveal that FDI inflow is due to resource seeking and market seeking motives.

Christie (2011) highlighted various aspects of the relationship between government expenditures and economic growth in the long term. A model has been developed through the application of a general method of moments (GMM) to find the dynamic nature of relation between the variables (government spending, economic growth) for 136 developing and developed countries during the period of 1971 to 2005. The conclusions of the study indicate that government spending beyond the threshold level affects the growth negatively. The findings of the study indicate that public spending at 26-32% of GDP is threshold level for developed economies and 33% of GDP for developing countries. Based on the findings, it was suggested to manage public spending; because 28 developed economies have the public spending more than 30% of GDP from 2001 to 2005.The expansion of public spending in these economies will have negative impacts on long term growth. The outcomes of research indicate that improving the quality of institutions may improve the economic growth in case of increasing public spending. It was also found that the threshold level of spending

without imposing serious side effects between production and non-productive spending, which alleviate the potential gain of increased government expenditure.

Benos (2009) disintegrated public revenues and government spending into subcategories and analyzed the impact of each category on GDP growth of 14 European Union economies for the period 1990 to 2006. In this study, public spending on health, recreation, education, housing, culture, economic affairs, religion, defense, public order safety, taxes on wealth, income, capital, imports, production, and fiscal deficit are considered as fiscal variables while private investment, population, secondary education, employment growth, imports and exports are treated as non fiscal variables. Panel data techniques and ordinary least square methods were applied to estimate the results. The empirical analysis reveals that public spending on human capital has not significant effect on economic growth while infrastructure spending affects the economic growth positively. It was also found that taxation affect economic growth negatively while budget deficit has not a clear relation with economic growth.

Glaeser (2004) observed that proposition about the positive impact of institutions on economic growth is ambiguous and variables used to measure the institutional quality is unsuitable for this purpose. He argued that these variables do not measure the quality of institutions which is claimed as constraints in theoretical literature but it is outcome of institutional variables. Author is of view that governance indicators are very volatile that do not reflect the actual position of political environment bit it varies with variation in per capita income. The established empirical relationship between institutions and economic growth in literature was questioned about the instrumental techniques and common measures by author and his collaborators.

Feng (2003) used the pattern of political economy theory of economic growth to investigate the economic development in Pacific Asian economies. The profound argument of the study is that institutions are very important to explain the economic growth of these countries. Yet, a closer look at his work unveils a more gradation situation. The author showed that variables such as political polarization, political stability and government repression were the political variables affecting growth in these countries. He also explored that political institutional framework is an important factor for explanation of economic growth by restricting individual decisions in their marketplace.

Hall and Jones (1999) postulated one of first empirical research establishing the relation between economic performance and institutions. Social infrastructure is considered as institutional variable which was defined as "the institutions and government policies that determine the economic environment within which individuals accumulate skills, and firms accumulate capital and produce output." They mentioned the relation between the provision of protection to private productive units from confiscatory diversion and institutions. Yielding that a perfect measurement of social infrastructures is not in rehearsal, they choice a proxy gained by pooling two indexes: "an index of government anti-diversion policies" and "an index of openness to international trade". On the other hand, a fundamental basis to measure the institutions was provided in this study and adopted methodology to measure institutional variables was used in many studies to know the relation between institutions and economic performance in many studies later on.

Several studies like Atje and Jovanovic (1993), Levine and Zervos (1998), Thornton (1995), Hondroyiannis et al. (2005), Nieuwerburgh et al. (2006), Enisan and Olufisayo (2009), Boubakari and Jin (2010), Masoud and Hardaker (2012), Miguel et al. (2013), Cojocaru et al. (2014) examined the efficacy of stock market on economic

growth of countries with contradictory findings. Some of them found a positive relationship between stock market and economic growth while others have negative effect.

These studies reinforce the argument that there is space to explore the joint impact of public spending, institutional quality and stock market development for a developing economy, Pakistan. It is also clear that empirical outcomes are likely to differ from country to country and time to time, even by using same techniques and methods when examining these indicators individually. It can be viewed also from literature that there is hardly any study in our observation which may explore the impact of government spending, quality of institutions and stock market development on economic growth of Pakistan. This study will provide a baseline for further advancement of research and better policy option for policy makers.

METHODS

By keeping in view the methodology adopted by Madni (2014), following model is derived.

$$Y = \beta_0 + \beta_1 FPt + \beta_3 INSTt + \beta_4 SMt + \beta_5 Zt\ \mu$$

Where Y, *FP, INS, SM and Z* represent the economic growth, fiscal policy, institutional quality, stock market and control variables respectively.

This study is focused to determine the impact of government spending, stock market and institutional quality simultaneously on economic growth of Pakistan. For this purpose, economic growth is treated as a dependent variable while institutions, stock market and government spending along with control variables are independent variables. The data set of institutional quality is based on the compilation of different institutional measures from ICRG (International Country Risk Guide), organized in twelve clusters namely as Bureaucratic Quality, Democratic Accountability, Ethnic Tension, Rule of Law, Religion in Politics, Military in Politics, Corruption, Government Stability, External Conflict, Internal Conflict, Investment Profile and Socioeconomic Condition. All of these variables range from 0-10. A higher score means higher condition and vice versa. By considering all these variables, an institutional quality index is developed by PCA (Principal Components Analysis). PCA is a statistical technique which uses an orthogonal transformation to alter a group of observations having a possible correlation of variables into an array of uncorrelated linear variables. The time span of data for this part is from 1984-2015.

Stock market capitalization is shares of all domestic listed companies as percentage growth of GDP. Government expenditures are treated as a percentage of GDP to represent the fiscal variables. Economic growth is measured from real economic growth, education is primary and secondary enrolment as percentage of population, trade openness is ratio of sum of exports and imports while investment is considered as private investment as percentage of GDP.

RESULTS AND DISCUSSION

To find the unit root and order of integration, ADF test is applied to all variables. The results indicate that some variables are stationary at level while others are stationary at first difference. The estimated results of the test are reported in the following Table 3.

Table 3. Unit root tests results (Augmented Dicky Fuller Test)

Variable	Level		1st diff	
	Intercept	Trend and Intercept	Intercept	Trend and Intercept
INST	-1.63	-1.84	-3.84*	-4.47*
GEXP	-1.87	-2.38	-7.16*	-7.23*
EDUC	-0.75	-4.14*	-4.96*	-5.71*
OPEN	-2.31***	-2.41***	-5.77*	-6.81*
INVT	-1.58	-2.27	-3.92*	-4.11*
GDPG	-2.47	-3.61	-4.71**	-5.56**
SM	-1.09	-2.85	-2.41*	-4.95*

Note: *, ** and *** shows significance at 1%, 5% and 10% level respectively.
If variables have different integrating order, then ARDL approach is appropriate to find the long and short run dynamics of variables.

Now, the unrestricted vector auto regressive model is applied to determine the lag length of variables via Schwartz Bayesian Criterion. The minimum value of Schwartz Bayesian Criterion represents the order of lag length as shown in the following Table 4.

Table 4. Lags defined through VAR-SBC

Variables / Lags	GDPG	SM	GEXP	INST	EDUC	INVT	OPEN
0	1.55	1.84	2.97	3.26	0.56	0.54*	1.83
1	0.07*	0.31*	1.39*	2.73	0.16*	1.93	1.27*
2	0.33	0.75	2.45	1.92*	0.71	2.59	1.99

NOTE: * Shows minimum Schwarz SBC.

To find the presence of long run relation between variables, the value of F-statistics is calculated. The calculated value of F-statistics is 5.34 while the critical Bounds values are at 10% level of significance (2.035-3.153), at 5% are (2.365-3.553) and at 1% are (3.027-4.296) so it indicates the presence of long term relation between variables.

Estimation of long run elasticities

After finding the existence of long run relationship, ARDL technique is applied to estimate the long run and short run coefficients. The ARDL form of the growth equation will be as follows;

$$\Delta GDPG = \alpha_0 + \sum_{i=0}^{n} \alpha_1 \Delta GDPG_{t-I} + \sum_{i=0}^{n} \alpha_2 \Delta GEXP_{t-i} + \sum_{i=0}^{n} \alpha_3 \Delta SM_{t-I} + \sum_{i=0}^{n} \alpha_4 \Delta INST_{t-i}$$

$$+ \sum_{i=0}^{n} \alpha_5 \Delta EDUC_{t-i} + \sum_{i=0}^{n} \alpha_6 \Delta INVT_{t-i} + \sum_{i=0}^{n} \alpha_7 OPEN_{t-I} + \beta_1 GDPG_{t-1} +$$

$$\beta_2 GEXP_{t-1} + \beta_3 SM_{t-1} + \beta_4 INST_{t-1} + \beta_5 EDUC_{t-1} + \beta_6 INVT_{t-1} + \beta_7 OPEN_{t-1} + \varepsilon_t$$

In this model, government expenditures (GEXP), stock market capitalization (SM), institutions (INST), education (EDUC), private investment (INVT), trade openness (OPEN) are considered as independent variables while GDP growth is a dependent variable. To test the efficiency of data, White heteroscedasticity test, serial correlation LM test, normality test and ARCH test were applied and output of tests

indicate that data has not any econometric problem. The estimated results are pasted in the following Table 5.

Table 5. Estimated long run coefficients for growth equation

Dependent Variable GDP growth	ARDL Technique Order(1,2,1,1,0,1)			
Regressors	Coefficients	Std. Error	t-Statistic	Prob.
GEXP	0.27***	0.15	1.85	0.07
INST	0.33*	0.13	2.46	0.01
SM	0.11**	0.04	2.47	0.02
EDUC	0.22***	0.13	1.77	0.08
INVT	0.27**	0.14	2.12	0.04
OPEN	0.45	0.59	0.76	0.45
R^2 =0.92				
Adjusted R^2=0.90				
DW-stat =1.93				
Serial Correlation LM Test=0.08(0.77)				
ARCH Test =2.53(0.38)				
White Heteroscedasticity =0.85(0.48)				
Jarque-Bera Test =0.44(0.70)				

Note: *, **and *** shows significance at 1%, 5% and 10% level of significance respectively.

This study examined the relationship between economic growth, government spending, stock market capitalization and institutions. The estimated results indicate that government spending has significant impact on economic growth of country and 1 percent increase in government spending will lead to economic growth by 0.27 percent. The increased government spending causes to improve the human capital, infrastructure and more facilitation for public that leads to increase the productivity of labor so economic growth is accelerated. It has been revealed that stock market capitalization is significant indicator for economic growth of the county and one unit increase in stock market capitalization would increase the GDP by 0.11%. The estimated result point out that institutional quality is more important than the government spending. The effectiveness of institutions on economic growth of Pakistan is significant and one unit increase in institutional quality will lead to improve the economic growth by 0.33 units. It is evident that with strong and effective institutional framework, people have inclusion in the development process as well as availability of equal opportunities. The efficient judicial and law enforcement mechanism makes it convenient to reduce the transaction costs so the gains from economic activities increase. Education also plays an important role to increase the growth of Pakistan. Findings of empirical investigation reveal that on unit increase in educational level of people will boost the economic growth by 0.22 units. It is evident that literate person are more productive as compared with illiterate persons. In the same way, private investment has a significant and positive impact on economic growth. It indicates that increase in investment increases the productivity and there are more chances of employment so it accelerates the economic growth. The derived results show that trade openness has not significant impact on economic growth. One of the reasons of insignificance of trade openness may be the non-competitive prices of our production sector in international market due to energy crisis and inflation rate of the country while on the other side; our imports are higher than exports so Pakistan is not much beneficiary from free trade policies.

Error correction representation for the ARDL model of economic growth

After estimating the long run relationship, we are able to estimate the error correction model for short run dynamics. The ECM form of growth model is following;

$$\Delta GDPG = \alpha_0 + \sum_{i=0}^{n} \alpha_1 \Delta GDPG_{t-I} + \sum_{i=0}^{n} \alpha_2 \Delta INST_{t-i} + \sum_{i=0}^{n} \alpha_3 \Delta SM_{t-i} \sum_{i=0}^{n} \alpha 4 \Delta EDUC_{t-i}$$
$$+ \sum_{i=0}^{n} \alpha_5 \Delta INVT_{t-i} + \sum_{i=0}^{n} \alpha_6 \Delta OPEN_{t-i} + \sum_{i=0}^{n} \alpha_7 \Delta GEXP_{t-i} + ECM_{t-1} + \varepsilon_t$$

Here ECM_{t-1} is the adjustment parameter. It shows the speed of adjustment while the other parameters represent the short run coefficients reported in the Table 6.

Table 6. Estimated short run coefficients for growth equation

Dependent Variable GDP Growth	ARDL Technique Order (1,2,1,1,0,1)			
Regressors	Coefficients	Std. Error	t-Statistic	Prob.
ΔGEXP	0.27	0.15	1.75	0.09
ΔINST	0.12	0.13	0.98	0.34
ΔSM	0.33	0.13	2.46	0.01
ΔEDUC	0.20	0.41	0.49	0.63
ΔINVT	0.15	0.085	1.75	0.09
ΔOPEN	0.21	0.44	0.48	0.61
ECM_{t-1}	-0.28**	-0.073	2.02	0.001
R^2 =0.93				
Adjusted R^2=0.91				
DW-stat =1.92				
Serial Correlation LM Test=0.15(0.66)				
ARCH Test =0.34(0.48)				
White Heteroscedasticity =0.16(0.38)				
Jarque-Bera Test =0.87(0.54)				

Note: * and ** shows significance at 1% and 5% level of significance.

The estimated lagged error correction term ECM_{t-1} is negative and significant. The negative and significant error correction term indicates that there is a long run relationship among the variables. The feedback coefficient is -0.28. It indicates that 28 percent disequilibrium is corrected in the short run. In short run, public spending and private investment is significant for economic growth while institutional framework, education and trade openness are not significant in the short run.

CONCLUSIONS AND POLICY IMPLICATIONS

This study highlighted that institutional quality, stock market development and government spending are necessary to promote the economic growth and living standard of the country. In this analysis, a number of competing hypotheses, on what contributes to Pakistan's economic performance, have been tested using econometric model. This study is a first attempt to explore the factors of economic growth in the context of institutional quality, stock market development and fiscal policy in Pakistan. There is hardly any study that investigated the impact of institutional quality and public spending simultaneously for Pakistan.

This study used the time series data covering the time span from 1984-2016 and econometric techniques (ARDL, stability tests) were applied. The empirical findings come up with following conclusions.

The empirical analysis suggests that the economic growth depends fundamentally on government expenditures, stock market and institutional quality. Government spending is contributing to improve the growth very little. The growth rate of the economy may be enhanced by productive public spending (public welfare oriented spending) as highlighted by Madni (2013). The government spending builds a relation of confidence between state and public due to the effective utilization of public taxation. Productive public spending causes to increase the confidence of people on public institutions and high quality institutions lead to boost the economic growth. So institutional quality and public spending are intermingled to explain the growth of an economy. If government spending is not public oriented, the people lose their confidence on state along with institutions of state and prefer to be more corrupt, which slows down the growth of country. In case of Pakistan, it is dire need to improve the efficiency of public spending because a major portion of public spending going to be preyed of corruption. According to report of transparency international, in the Corruption Perception Index (PCI), Pakistan stands at 117th position out of while Somalia and North Korea remained at 167th position that reflects highest level of corruption in the world. The Corruption Perception Index (CPI) ranks countries and territories based on how corrupt their public sector is perceived to be. The public oriented and corruption free spending of government may boost the economic growth as well as institutional quality of the country. The institutional indicators of Pakistan are going to be improved but there is still an ample space for their improvements. The encouragement of stock market in presence of quality institutions will certainly contribute to faster economic growth. The Pakistan Stock Exchange is emerging as one of the biggest stock markets of the world and its fruits can be ripen with effective government policies in presence of strong institutions.

By concluding, government spending fosters good institutions and high quality institutional framework is expected to be developed in equitable and open economies, with a sound fiscal contract in an educated population leading to enhance the confidence of investors in financial markets.. If these conditions are met, then it is possible to attain remarkable and sustained economic growth. Overall, results propose that variables leading to explain the economic growth are in reach of government. Although it is not an easy task but there is room for policies aimed at improving the growth.

REFERENCES

Alesina, A. (1998). The Political Economy of High and Low Growth, in Annual World Bank Conference on Development Economics, Washington DC: World Bank.

Atje, R., Jovanovic, B. (1993). Stock Markets and Development. *European Economic Review*, 37, 632-640.

Barro, R. J. (1990). Government Spending in a Simple Model of Endogenous Growth. *Journal of Political Economy*, 98(5): 103-125.

Barro, R. J. and Sala-i-Martin, X. (1992). Public Finance in Models of Economic Growth. *Review of Economic Studies*, 59: 645-661.

Benos, N. (2009). Fiscal Policy and Economic growth: Empirical Evidence from EU Countries. *Working Paper*, University of Loannina, Greece.

Bleaney, M. F., Gemmel, N., Kneller, R. (2001). Testing the Endogenous Growth Model: Public Expenditure, Taxation, and Growth over the Long Run. *Canadian Journal of Economics* 34(1): 36-57.

Boubakari, A., Jin, D. (2010). The Role of Stock Market Development in Economic Growth: Evidence from some Euro next countries. *International Journal of Financial Research*, 1(1), 14-20.

Christie, A. L. (2011). Essays on Fiscal Policy and Economic Growth. *Ph.D. Dissertation*, Georgia State University, Economics Department.

Cojocaru, L., Hoffman, S.D., Miller, J.B. (2014). Financial System Development and Economic Growth in Transition Economies: New Empirical Evidence from the CEE and CIS countries. *Working Paper Series*, University of Delaware. Available from: https://www.sites. udel.edu/saul-hoffman/files/2014/03/FinancialDevelopmentGrowth- FINAL-1vugriz.pdf.

Enisan, A.A., Olufisayo, A.O. (2009). Stock Market Development and Economic Growth: Evidence from Seven Sub-Sahara African Countries. *Journal of Economics and Business*, 61, 162-171.

Feng, Y. (2003). Democracy, Governance and Economic Performance: Theory and Evidence. *Cambridge:* MA, MIT Press.

Glaeser, (2004). Do Institutions Cause Growth? *Journal of Economic Growth*, 9(3): 271-303.

Goldsmith, R.W. (1969). Financial Structure and Development. New Haven, CT: Yale University Press.

Hall, R. E., Jones, C. (1999). Why Do Some Countries Produce So Much More Output Per Worker Than Others? *Quarterly Journal of Economics,* 114: 83-116.

Hassan, M. T. (2002). Governance and Poverty in Pakistan. *MIMAP Technical Series, No.13.* Pakistan Institute of Development Economics, Islamabad.

Hondroyiannis, G., Lolos, S., Papapetrou, E. (2005). Financial Markets and Economic Growth in Greece, 1986–1999. International Financial Markets, *Institutions and Money*, 15, 173-188.

Ibrahim, O. A., Gadir, S. E. M. (2015). Motives and Determinants of FDI: A VECM Analysis for Oman. Global Business Review, 16(6): 936-946.

Kakar, Z. K. (2011). Impact of Fiscal Variables on Economic Development of Pakistan. *Romanian Journal of Fiscal Policy,* 2(2):1-10.

Knack, S., Keefer, P. (1995). Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures. *Economics and Politics*, **7**(3): 207-227.

Kneller, R., Bleaney, M. F., Gemmel, N. (1999). Fiscal Policy and Growth: Evidence from OECD Countries. *Journal of Public Economics*, 74: 171-190.

Levine, R. (1997). Financial Development and Economic Growth: Views and Agenda. *Journal of Economic Literature*, XXXV, 688-726.

Levine, R., Zervos, S. (1998). Stock Markets, Banks and Economic Growth. *American Economic Review*, 88, 537-557.

Madni G. R. (2013), Instrumental Effects of Fiscal Policy for Pakistan Economy**.** *The Romanian Economic Journal,* 50: 27-49.

Madni, G. R. (2014). Taxation, Fiscal Deficit and Inflation in Pakistan. *The Romanian Economic Journal,* 53: 41-60.

Madni, G. R. (2017). Economic Growth in Context of Institutions and Fiscal Policy. *Pakistan Economic and Social Review,* 55 (1): 79-98.

Masoud, N., Hardaker, G. (2012). The Impact of Financial Development on Economic Growth. *Studies in Economics and Finance*, 29(3), 148-173.

Mauro, P. (1995). Corruption and Growth. *Quarterly Journal of Economics*, 110:681-712. Pesaran, M., Shin, Y. (1999). An Autoregressive Distributed Lag Modeling

Approach to Cointegration Analysis. Chapter 11, Cambridge University Press Cambridge.

McKinnon, R.I. (1973). Money and Capital in Economic Development. Washington, DC: Brooking Institution Press.

Miguel, M.L., Fuinhas, J.A., Marques, A.C. (2013). Does the Stock Market Cause Economic Growth? Portuguese Evidence of Economic Regime Change. *Economic Modeling*, 32, 316-324.

Nieuwerburgh, S., Buelens, F., Cuyvers, L. (2006). Stock Market Development and Economic Growth in Belgium. *Explorations in Economic History*, 43, 13-38.

North, D. C. (1990). Institutions, Institutional Change and Economic Performance. Cambridge, Cambridge University Press.

Ramadhan, A. A. et al. (2016). Does Political Stability Accelerate Economic Growth in Tanzania? A Time Series Analysis. *Global Business Review*, 17(5): 1026-1036

Rebelo, S. (1991). Long-Run Policy Analysis and Long-Run Growth. *Journal of Political Economics*, 99(3): 500-521.

Schumpeter, J.A. (1911). The Theory of Economic Development. Cambridge, MA: Harvard University Press.

Shaw, E.S. (1973). Financial Deepening in Economic Development. New York: Oxford University Press.

Thornton, J. (1995). Financial Deepening and Economic Growth in Developing Countries. *International Economics*, 48(3), 423-430.

Sustainability of post-mining land use and ecotourism

Herdis Herdiansyah[1*]; Marikha Ulfah Utami[1]; Joko Tri Haryanto[2]

[1)] School of Environmental Sciences, Universitas Indonesia
[2)] Center for Climate Change Financing and Multilateral Policy, Fiscal Policy Agency
Ministry of Finance of the Republic of Indonesia

**To whom correspondence should be addressed. Email: herdis@ui.ac.id*

Abstract
The mining sector can contribute to the state in the form of foreign exchange and state in the form of foreign exchange and funding sources such as royalties, taxes, the expansion of employment and physical development, on the other hand, led to some social and environmental conflicts. One effort to improve environmental conditions in the mining area through revegetation, reclamation and post-mining. Reclamation and post-mining activities must be under the EIA plan, FS, Plans Closure Reclamation and Mine Closure Plan to be used for sustainability and ecotourism. This study was conducted using a collaboration between study literature method and the AHP method. The purpose of this study was to determine the post-mining land use, preferred alternatives for utilization of post-mining land is done through the Analytical Hierarchy Process (AHP) method by analyzing the relationship between three criteria and alternatives. The criteria are selected based on the ecological, socioeconomic and cultural aspects. This is based on the consideration of sustainability and spatial planning. In addition, the alternatives that will be considered as utilization strategies include the efforts to increase the land use.. Secondary data analysis resulted that known to the utilization of post-mining land from various companies such as: the use of pits (void) into water treatment, aquaculture and ecotourism, the usage of land reclamation and mine closure in the form of plateau used as cultivation flora and fauna depends on the utilization zone, which has approved the EIA Document, FS, Plans Closure Reclamation and Mine Closure Plan.

Keywords: *post-mining reclamation, land use, mining, sustainability*

JEL Classification*:* Q24, Q56, Z32

INTRODUCTION

Environmentally friendly construction nowadays becomes a necessity for any country that wants the preservation of natural resources and for the welfare of the people on an ongoing basis is also needed natural resources exploited for consumption. Therefore, the natural resources that will be used must be appropriate, protected and preserved for the survival of present and future generations (Arif, 2007), as well as appropriate and as efficiently, exploited so that it can be enjoyed by people much quicker and affordable. Development is done cannot be denied changing the cover or land use which will result in the deforestation in an area at a particular time. For example, the exploitation of the forest land in a specific region which contains abundant natural resources (SIH 2013) for an extended period resulting an impact of the decreasing flora and fauna (Sandin, 2009), air pollution (Hu *et al.*2008), climate change caused by global warming (Trisasongko, et al., 2009). It is also more common in the

expansion region (Tuni, 2013) and the mining area of oil and gas well, mineral and coal (Gunawan et al., 2010).

In this article, the mining sector can contribute to the state in the form of foreign exchange and the various sources of funding countries such as royalties, taxes, and the expansion of employment and physical development, but on the other hand based on the results of research of LIPI (2006), mining activities have caused a number of social conflicts and the environment. Environmental damage resulting from mining activities that intentionally removes vegetation, transforming the landscape, change the composition of the soil which can cause erosion, sedimentation, soil nutrients and soil compaction can lead to land degradation. One effort to improve environmental conditions in the mining area is through reclamation and post-mining activities.

Reclamation is one of a series of mining activities conducted throughout the stages of venture mining activities which aim to organize, restore and improve the quality of the environment and ecosystems to function in accordance designation. In Government Regulation Number 78 Year 2010 regarding Reclamation and Mine Closure, that the reclamation plan includes: a) Land use before and after mined; b) Land clearing plan; c) Program reclaim disturbed land cover, and land mined lands outside the former mine who is temporary and permanent; d) Success criteria include the standard for land arrangement, civil works, and finishing; and e) Reclamation plan costs consist of direct costs and indirect costs.

While the post-mining is an activity planned, systematic, and continue after the end of the part or all mining activities to restore the function of the natural environment and social tasks according to the local conditions in the mining area, the definition in accordance to Law No. 4 of 2009 on Mineral and Coal. Efforts need to be made referring to the principles of post-mining, include: 1) quality of surface water, sea water, groundwater, and air according to environmental quality standards; 2) Slope stability and security pile of overburden, *tailings* dams, mined land and artificial structures *(human-made structure)* others; 3) Biodiversity; 4) Ex-mining land use in the manner intended and consider social, cultural, and economic.

Reclamation and post-mining land can be utilized in the manner intended and following the EIA, *feasibility study* (FS), the plan of reclamation and mine closure plan, regarding the principle of mining *good mining practices* and policies for the reclamation and post-mining community sustainability. Besides, the post-mining land use should be appropriate and consistent with the Spatial Plan (RTRW) in a region with still referring to the National Strategic Areas (KSN). KSN designated area of the national strategy is the area of which there are examples of strategic natural resources such as oil and gas Surefire resources, mineral and coal where natural resources can support the economy. The mining area is in a protected area (nature reserve, re-forest ecosystems, protected areas) do not get forest land use permit to perform well exploration and exploitation of mineral and coal. Under Article 38 Paragraph 4 of Law No. 41 of 1999 on Forestry, that the protected forest areas are not allowed or prohibited from conducting mining or exploitation by open pit mining system. Therefore, in this article, I will discuss the post-mining land use and designation Other Use Areas Protected Forest outside the mining area.

METHODS

This study was conducted using a collaboration between study literature method and the AHP method. The purpose of this study was to determine the post-mining land use. Data have been obtained will be reviewed in more detail to strengthen existing data.

In this research, preferred alternatives for utilization of post-mining land is done through the Analytical Hierarchy Process (AHP) method by analyzing the relationship between three criteria and alternatives (Saaty, 2008). The criteria are selected based on the ecological, socioeconomic and cultural aspects. This is based on the consideration of sustainability and spatial planning. In addition, the alternatives that will be considered as utilization strategies include the efforts to increase the land use. The ecological criteria indicate that the post-mining land use considers the ecological sustainability. Furthermore, the socioeconomic factor shows that the selected alternatives are the ones that beneficial among community around the sites which the advantages are not solely material. The utilization should consider the cultural factor, to measure the magnitude of the land use to the sustainability of the culture to achieve maximum results.

Some alternatives that were analyzed are as follows: the first alternative is to build the water treatment, the second one is to develop aquaculture and ecotourism zone. The last alternative is to build a flora and fauna conservation zone. Determination of these alternatives is based on the concept following the statement of Ross & Wall (1999) that nature can help the environment harmonization between conservation areas and sustainable development aimed areas which utilize both economic values of ecosystems/ environment for the well-being of communities around the mine and can keep the preservation of the environment. The strategy undertaken by the government has become more normative thus a breakthrough for more effective implementation in post-mining land use is needed. Figure 1 described the hierarchy model used in this study.

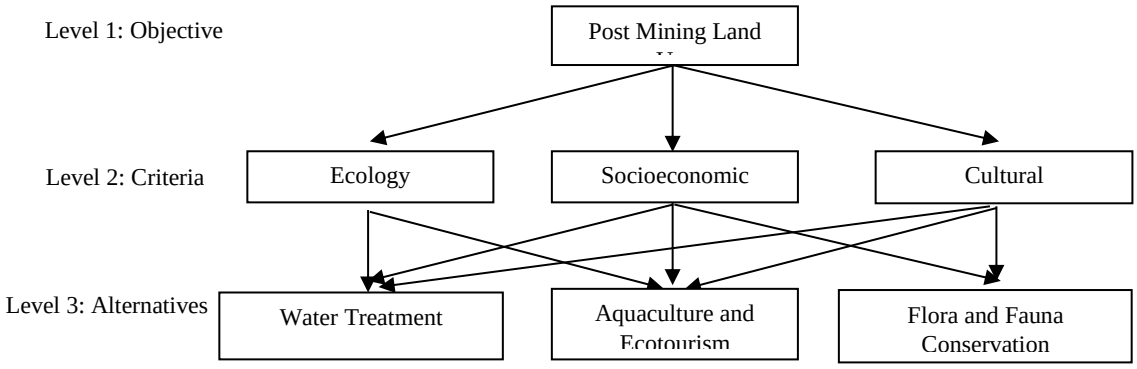


Figure 1. The hierarchy for The Post-Mining Land Utilization Strategies

RESULTS AND DISCUSSION

As elaborated, the priority of the alternative strategy is to be determined through a comparison concerning each criterion. The value of the criteria and alternatives are determined to meet the outcome of developing the post-mining land utilization. This analysis is based on a multidisciplinary approach to the study of literature studies, including studies of socioeconomic, environment, cultural basis, and technology.

Table 1. Pairwise comparison between criteria and objective

Post mining land use	Ecology	Social	Cultural	Percentage (%)	Ranks
Ecology	1	3	7	65.86	1
Socioeconomic	0.333	1	4	26.28	2
Cultural	0.143	0,250	1	7.86	3
Consistency ratio			0,031		

Source: results of data analysis, 2018

Based on the results of the pair-wise comparison in Table 1 in respect to the criteria to determine the objective of the selection of the post-mining land use strategies, it was found that the ecology criteria are a priority with the result of 65.86%. Utilization of post-mining land through reclamation and post-mining activities may include soil fertility improvement activities (reclamation and revegetation of mined land) and water quality improvement pits (void). Post-mining land use may be nature, landscapes, cultivation of biodiversity of flora and fauna. Criteria Region former mine which can be used for sustainability depends on the structure and shape landscape view of its natural conditions, i.e. ex-mine made basin in the form of pits that resemble lakes, hills or steep cliffs and fields that have been successful in reclaiming and revegetation (Arifman, et. al., 2013). Therefore, the results of the AHP/ANP assessment proves that the ecology factors need to be the basis for the choice of the post-mining land utilization strategies. Consistency ratio of 3.10% (0,031) indicated that the results of the analysis are valid by the requirements (<10%) (Saaty, 2008). This method deals with subjective judgment, and it may include a high degree of inconsistency. Saaty (1998) proposed to analyze Consistency Ratio by comparing the Consistency Index to Random Consistency Index. If Consistency Ratio is equal to or less than 10% or 0.01, then the result is categorized as consistent and acceptable (Saaty, 1998).

Table 2. Pairwise comparison between criteria and alternatives

Post Mining Land Use	Ecology				Socioeconomic				Cultural			
	WT	AE	FF	Total	WT	AE	FF	Total	WT	AE	FF	Total
WT	1	0.200	3	0.188	1	0.333	4	0.279	1	0.333	3	0.258
AE	5	1	7	0.731	3	1	5	0.627	3	1	5	0.637
FF	0.333	0.143	1	0.081	0.250	0.200	1	0.094	0.333	0.200	1	0.105
Consistency Ratio	0.062				0.082				0.037			

Note: WT=Water Treatment; AE=Aquaculture and Ecotourism; FF=Flora and Fauna Conservation
Source: results of data analysis, 2018

Furthermore, the pair-wise comparison assessment of alternative strategies is to determine which utilization strategy is a priority. Table 2 is the result of pair-wise comparison analysis between alternatives for the criteria to determine priority post-mining utilization strategies. In this study, all analyses were performed using Superdecision ver 2.6 software. Based on the result of pair-wise comparison between alternatives to each criterion, it was found that the development of aquaculture and ecotourism in the post-mining land becomes the leading alternative on each criterion, followed by the establishment of water treatment and project of flora and fauna conservation. The alternative for aquaculture and ecotourism development showed results sequentially by 73.1% (ecology criteria), 62.7% (socioeconomic criteria), and 63,7% (cultural criteria). The second option is a water treatment establishment, which showed the results consecutively are 18.8% (ecology criteria), 27.9% (socioeconomic criteria), and 25,8% (cultural criteria). The next approach is the conservation project of flora and fauna with the results of 8.1% (ecology criteria), 9.4% (socioeconomic criteria), and 10,5% (cultural criteria). The three results of the analysis are eligible because all results show consistency ratio of <10%.

Table 3. The result of AHP method

Post Mining Land Use	Total	Normal	Ranking
WT	0,1089	0,2179	2
AE	0,3480	0,6960	1
FF	0,0431	0,0862	3

Note: WT=Water Treatment; AE=Aquaculture & Ecotourism; FF=Flora & Fauna Conservation
Source: results of data analysis, 2018

Priority prevention strategies that are selected sequentially are shown in Table 3. As mention before, the development of aquaculture and ecotourism becomes a top priority to the strategy of post-mining land use utilization. This is in line with the condition where the current utilization strategy implemented in some sites in Indonesia.

Coal mining and land use ex-mining

According to Tushar & Mark (2009), a technique that is used to exploit the mining of coal is very dependent on the quality, depth of coal seams and geological structure of coal resources and reserves itself. In this case, the coal mining process can be grouped into two categories: Surface Mining and Underground Mining. In general, many coal mines in Indonesia uses a system of open pit mining *(surface mining).* Open-pit mining system with mining methods *open pit mining* prevalent in almost all the coal mining areas in Indonesia. Each stage of mining activities such as (a) exploration: drilling activities to search, specify the amount of resources and reserves, including the form of the formation, size, location and the quality or grade of minerals and coal; (b) *land* clearing: activities of clearing of shrubs and trees; (c) the exploitation associated overburden cover *(overburden)* and *coal getting* (Hartman, 1987). In the mining area, mining has a severe influence on the transformation of land use, which in turn determines the response of different ecological (Zhang *et al.,* 2010).

In general, open-cast mining activities (open-pit mining) would result in environmental damage in the form of a decrease in surface soil structure, soil, and vegetation. Surface soil or *topsoil* is placed in an area with no regard to the technical aspects as well as the implementation of the revegetation and reclamation are not good will lead to a reduction or change in physical and chemical fields, such as changes in the form of rocks, decreased quality of nutrients and slope instability that would result in soil landslides, erosion. As one explicit impact, that subsidence can cause structural changes in the land surface and vegetation, which affects the surface of the land use and landscape (Zhang et al., 2011). This proves that the plant recovery after mining seems slow and qualitatively lower than the regeneration after the use of land for other activities (Peterson & Heemskerk, 2001). It can be concluded that the use of an area is one of the determinants of primary environmental gradients (Cooper *et al.,* 2006). So that the damaged mining land being targeted for restoration and use, with the purpose of the land can be used for the future. Planning and landscape restoration for use in the post-mining land can be a redistribution of industry, including agriculture, forestry, fisheries, tourism, cultural industries, and so on.

According to Dewi (2011), the landscape is a preliminary description of a planning development of nature tourism with the aim to learn visually and enjoy the view (flora, fauna and socio-cultural). In the specific area of planning, need to be inventoried and some data out information in the form of the structure, properties, layout, symptoms of which would be caused by changes in the region. According to Arifman, et. Al (2013) used a natural tourist area in landscape planning approach potential to protect the environment and improve the quality of the environment sector in the region.

However, to landscape planning viable, and sustainable firstly need any EIA, feasibility studies, plans reclamation and mine closure program in landscape planning area of the former coal mine contained into the reclamation and mine closure plans both in the planning of mined land into a tourist area natural, urban areas, aquaculture, plantations or farms.

According to Dr. A. Robertson & S. Shaw (in the book *Mine* Closure), stated that the planned closure, there are four main objectives to be considered: The main purpose of the planned closure (A. Robertson & S. Shaw), is: 1) Protecting public health and safety; 2) Relieve or eliminate damage to the environment; 3) Achieve productive land use, or returned to its original condition or an acceptable alternative; and 4) the extent possible, provide sustainable social and economic benefits as a result of mine development and operations.

Zones land mine closure

Determination development zone of an area of land reclamation and mine closure specified in EIA documents, Feasibility Studies, Plans Reclamation and Mine Closure Plan well into nature tourism, cultivated areas, and other areas, it is determined based on the starting zone of the mining area and the division of the zone designation. Landscape ecology focuses on the structure, composition, and its purpose *(McGarigal,* 2001). Three principles to realize a corresponding landscape planning is *spatial* patterns, a *large extent*, and *role of humans* (Mc*Garigal, 2001).*

Kim *et al. (1991)* in the Goddess (2011) split 4 landscape development zone according to the type of land suitability, namely: a) Zone Potential Scenic is a zone that has the potential diversity of visual interest. The diversity that is the center of attention consists of stands of vegetation, flora, and fauna, bodies of water. Where the area has the potential for the use of the natural attractions in the form of stands of vegetation and water tourism and other uses; b) Cultivation and Education Zone is a zone devoted to farming, such as aquaculture, beef, lamb, mushroom cultivation, fruit and more. Spatial data, land use and cultivation of the data needed to plan the cultivation and education zone. Besides Raising this region serves as a passive education and recreation zone; c) Recreation zone is a zone for nature tourism activities, entertainment, and a playground. To preserve the resource in this zone several attempts namely by limiting the number of visitors, setting the frequency of visits, make regulations maintenance and preservation of the environment in the area of recreation, sanctions related to the destruction and pollution of the environment and other businesses to preserve the ecology and conservation recreation zone. Data spatial and land use, form, structure, land, soil, water and area restrictions are needed to plan this recreation zone; d) Conservation Zone is a zone is an area where the preservation and protection of the area must be managed and utilized wisely because this zone is susceptible to natural changes caused by human activity so that this region is also known as a counterweight to other areas. Flood-prone area, the river, and its flow pattern, Spec*ial Natural Area,* is a water catchment area component of the conservation zone.

But in the field of applications, land use zones of each company is different former land use zones, e.g. PT Bukit Asam is divided into 12 zones, namely: Planted Forest Zone; Productive Research Zone; Zone Infrastructure; Zona Gardens Collections; Zone Receiver / Recreation; Air Travel Zone; Zone Ranch; Agricultural Zone / Agroforestry; Animal zone: Zone Orchard; Campgrounds zone; and Fishing Zone. Utilization zones mined lands such, must comply with the FS, EIA, Reclamation Plan and Mine Closure Plan has been consulted by the government and society.

In general, post-mining areas in Indonesia in the form of reclamation plain or used as the cultivation of flora and fauna, while open holes due to mining process *(void)* can be utilized for sustainable sources of clean water for local communities following the utilized zones, as follows:

a. Zone Scenic potential, some examples of the utilization of mined land that has the potential for sustainability and nature, among others:
   1. A Case Study in PT Bukit Asam Sawalunto (Arifman, et. al., 2013), the results of reclamation activities of *sight viewing* that can be developed with walking down the hills of the former coal mine that has changed with the various stands of vegetation, fruit garden has been an active and visible range of colors, and the ex-mine lake.
   2. Development *area camping* in the former mining area of PT Bukit Asam Sawalunto, in the area can be done *hiking*, can also be a place of rest for the tourists who walk and local artistry.

(a) (b)

Figure 2. (a) Old coal mining town; (b) Camping ground Sawahlunto

   3. Activities PT Adaro Indonesia, South Kalimantan Province which utilize hole Ex-Mine (Void) for sustainable development in the use of water for the people to not neglect either the metal content of the soil and water (Nurcahyani, 2011).
   4. Case Study PT Adaro Indonesia in addition to using the water from pits*(void),* PT Adaro Indonesia also utilize wastewater, and the wastewater from the use of mining activities of PT Adaro processed through the treatment process which is equipped with a settling pond at each mine site (Adaro Indonesia, 2010).
      A total number of water treatment ponds at each mine site as much as 50 pools of waste treatment. From the diagram of water use and water treatment in a mining area of PT Adaro, the water used comes from rainwater and water that was in the mining pit ago flowed into the *settling pond* (settling ponds). From the *settling pond* water is reused for mining activities are for watering mining roads which aims to reduce dust pollution, and part of water that is in conformity with the environmental quality standard flowed into water bodies and partly processed by using *a water treatment* plant and clean water that can be consumed is ready to be distributed by truck or pipeline to the communities around the mine.

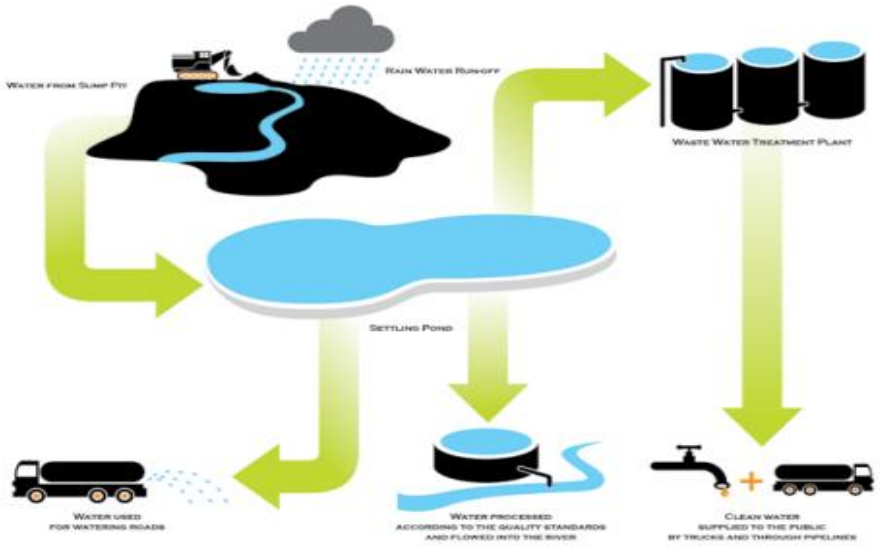


Figure 3. Diagram of the water usage and treatment in mining sites

PT Adaro builds a water treatment facility Water Treatment Plant (WTP) T.300, which can be used as clean water for both the company and society. Clean treated water dispensed to 1,110 heads of families in eight villages around Adaro Mine area. Even for the Dahai and Padang Panjang village, Adaro distributes clean water directly to homes via truck, tanker trucks by facilitating water tank adequate because the villages were distant and unreachable by pipeline built by Pt Adaro round 10 kilometers. Following the document of the pipeline management closure plan will be submitted to Clean Water Agency (Bapel-AB) to be distributed to the public, it also is sustainability and reduces community dependence on PT Adaro Indonesia.

(a)

(b)

Figure 4. (a) The pool precipitator; (b) Water Treatment Plant (WTP)

5. Activities of PT Kaltim Prima Coal, which utilizes Hole Ex-Mine *(Void)* for sustainable development in partnership with the Regional Water Company (PDAM) in the management of clean water for the surrounding communities in the region Sanggata, East Kalimantan with affordable and equitable (can be enjoyed by the public many). This contributes in the form of income for the area and cleans water resources for the communities around the mine. Source water comes from Telaga Batu Arang as follows:

Figure 5. Lake of Batu Arang

The source of clean water from the Lake of Batu Arang which a mining plateau after was originally after leaving the pits which gradually fills with water, before it is used as clean water and submitted the Regional Water Supply Company in advance KPC perform appropriate water quality monitoring environmental quality standards to be consumed by the public.

b. Raising and Education Zone, several examples of mined land utilized for the cultivation and its function as an educational and recreational passive as follows:
   1. A case study of mined land in the city of Sawahlunto that converted into fruit garden for tourism. There are various kinds of fruit cultivation developed by the department of agriculture and forestry in Sawahlunto city, and it is also for tourists to get education how process management fruit garden of mined land to be land that produces fruit and also equated provide a shopping tour fruit produce from the garden of this fruit (Arifman, et. al., 2013).
   2. PT Adaro Indonesia to plant oil palm (Elaeis oleifera) and jatropha (Jatropha curcas) to produce biodiesel in a post-mining reclamation land. The biodiesel production now saves on fuel costs to support the mining operations, trucks and light vehicles that are used for production operations are usually given diesel fuel. In addition to saving fuel, biodiesel can be used as a partial replacement for the current fuel and this option is also more environmentally friendly (Mansur, 2012).
   3. The former mining site of PT Berau Coal reclamation is now land for planting cocoa *(Theobroma cacao)*, and the rubber tree *(Hevea*brasiliensis), *cacao trees* shade trees planted after (F. moluccana) has grown and grown enough to provide

shade on the cacao tree. Rubber trees are usually used for mine reclamation at the request of landowners, both individuals, and private companies.

4. Water usage from the mine in PT Adaro Indonesia, which has been deposited in a sedimentation pond and otherwise appropriate quality standards, also, to circulate into WTP flowed well into the fish pond. Farmed fish types that Nila, Mujair and other types of fish. The fish are distributed into a community, from its seeds, and PT Adaro Indonesia also guides the way to cultivate it for economic purposes. Later this fish cultivation will be submitted to the government/society/group (Adaro Indonesia, 2013).

Figure 6. Aquaculture in PT Adaro Indonesia

5. Cattle Integrated Program (FAST) is one of mined land utilization program of PT Kaltim Prima Coal stands on 22 hectares of mined land. FAST is an integrated cattle farming model program and includes programs PPM KPC. Products from the dairy farms produce meat products; dairy products will produce yogurt and pasteurized milk. Meanwhile, the biogas produced from livestock manure utilized for electrical readiness, as well as organic fertilizer produced from the manure will be used for reforestation, vegetable, and forestry, so that the plants can flourish. In addition, to be the location of education, activities of KPC is the well-sustained impact of economic, social and environment for the people in the area around the mine.
6. PT Kaltim Prima Coal to develop freshwater aquaculture in Lake of Batu Arang. Similar farmed fish catfish, catfish, goldfish, and tilapia in ponds locations coking named nursery cages.

Figure 7. Separating cage (Location Telaga Batu Arang)

7. In addition to fish farming and cattle PESAT KPC cultivation laying hens, in cooperation with the Cooperative KODIM 0909 Sanggata conducted in mined areas Pit J. In addition, the implementation of laying hens farming is still accompanied by KPC employee who is also a recipient of scholarships from the local community KPC (Kaltim Prima Coal, 2015).

Figure 8. Utilization Pit J for Raising Poultry Laying

c. Recreation Zone, a few cases of mined land were used as a model to be developed into a recreational zone is as follows:
   1. A Case Study of mined land PT Bukit Asam in Sawahlunto city, drilled area in the form of lakes used water attractions, with recreational facilities such as water bikes and rowing boats which used to surround the former mining lake surrounded reclamation of degraded forest scenery PT Bukit Asam Sawahlunto (Arifman et al., 2013).
   2. Also, in the former mining area of PT Bukit Asam also be an arena Sawahlonto outbound and nature with various play facilities such as *flying fox, paintball, ground* games, *high* ropes and other games that can be played individually or in groups (Arifman et al., 2013).

d. Conservation Zone

   The case study of land developed for conservation zones is as follows:
   1. A case study in PT Bukit Asam Tanjung Enim, the development of the urban forest as a green space in the form of construction of the urban forest of 50 hectares in the location heap Air Laya
   2. A case study in PT Bukit Asam Sawahlunto, develop tree planting for the conservation of green open space (RTH) attractions around the *Camping* Ground, *Old Coal Mining Town*, and other tourist areas to provide comfort and cool for at tourists but it also can be a water catchment area to prevent flooding.
   3. A Case Study in PT KPC was developing and conserving local wildlife on mined land that has been reclaimed. In the post-mining region of 51 orangutans and other local wildlife relocated in 2016 (Kaltim Prima Coal, 2016).

e. Infrastructure Zone

This zone is a zone that can be enjoyed by many people in the form of public facilities, roads, hospitals, schools, and examples:

1. Case Study PT Bukit Asam, which utilize mined land into infrastructure that can be utilized by the community, e.g. Building construction Sports (GOR), where Bowling, mined land that is used as an arena Golf and Futsal.
2. Utilization of the planned road hauling into regional and local road for example, in some provinces such as East Kalimantan and South Kalimantan.
3. Utilization of *the mess, the guest house* is an asset of local government especially on Coal Mining Agreement (PKP2B) Generation I especially like PT Adaro Indonesia, PT Berau Coal, PT Kaltim Prima Coal etc. In the contract agreement stated that all company assets will belong to the state.

From the above discussion, each company has a plan for reclamation and post-mining based on their priority and environment situation. PT Kaltim Prima Coal has reclamation, and mine closure plans are already well underway in accordance zones are defined as follows:

Table 4. Post-mining land use zone of the KPC (Kalitim Prima Cola, 2016)

Zone	Usage
of Protected Zone	Utilization of water and provision of resources clean water
Buffer zones	Utilization and restoration of biodiversity, to rehabilitate and manage and develop the land into a zone after ecotourism because it is directly adjacent to the Kutai National Park.
Conservation Zone	Utilized to develop the typical flora and fauna of the area following the initial conditions and develop the new species of both animals and plants according to the region.
Travel Zone	Utilization and mined land development as a tourist zone that is mine openings *(void)* developed into the lake / Lake of Batu Arang for recreational activities.
Zone Use	Land post-mining KPC utilized and developed for the cultivation of laying hens, breeding cattle (FAST: Cattle Integrated) and freshwater fish farming in Lake of Batu Arang, cultivation and planting grass and cassava in post-mined land area 45% of mined land KPC.

Source: results of data analysis, 2018

CONCLUSION AND RECOMMENDATIONS

Conclusions

From the discussion about the use of reclamation and mine closure concluded that the utilization of land reclamation and post-mining of various companies are different, such usage can be: the method of pits into water treatment, freshwater aquaculture and ecotourism, utilization reclamation and post-mining land be used as a farming plains flora and fauna such as the cultivation of laying hens, cattle, crops, and so forth. Utilization of land reclamation and mine closure should conform with the first zone and Assessment EIA Document, Kelayangan Studies, Plans Reclamation and Mine Closure Plan which has been approved in consultation with the Government, communities, and stakeholders.

Recommendations

The result from the AHP method shows that aquaculture and ecotourism development is the priority of the strategy of post-mining land use utilization with respect to ecology, socioeconomic and cultural criteria. Through the strategy of utilization of land reclamation and mine closure environmentally sound to create a society that is sustainable both from the environmental, social and economic that can provide income from other sectors, of course, with the planning and implementation of programs of reclamation and mine closure well before the closure so as to contribute revenue to the regions.

REFERENCES

Adaro Indonesia. (2010). *Coal Added Value for Sustainability*. Sustainability report 2010: Sustainability Report.

Adaro Indonesia. (2013). *Delivering Positive Energy Sustainably*. Sustainability Report 2012-2013.

Arif, I. (2007). *Perencanaan Mine Total Settlement Efforts Environmental Issues as World Mining University of Sam Ratulangi, Manado*.

Cooper, A., Shine, T., McCann, T., Tidane, D.A. (2006). An ecological basis for sustainable land use of Eastern Mauritanian wetlands. *Journal of Arid Environments, 67*, 116-141.

Creswell, J.W. (2013). *Research Design: Qualitative Approach, Quantitative and Mixed.* Yogyakarta: Student Library.

Dewi, R. (2011). *Landscape Planning for the Development ofNature in BorderKemiri River District of Margadana - Tegal City.* PSMILUNPAD.

Gunawan, A., Jaya, I.N.S., Saleh, M.B. (2010). Quick techniques in identifying Open Area by the Use of Multi-Spatial and Multidate Imageries. *Journal of Tropical Forest Management*, *16*(2), 63-72.

Hartman, L. H. (1987). *Introductory Mining Engineering*. Canada: John Wiley & Son, Inc.

http://pmb.lipi.go.id/

Hu, D., Yang, G., Wu, Q., Li, H., Liu, X., Niu, X., Wang, Z., Wang, Q. (2008). Analyzing Land Use Changes in the Metropolitan Jilin City of Northeastern China Using Remote Sensing and GIS. *Sensors 8*, *9*, 5449 -5465. doi: 10.3390 / s8095449.

Kaltim Prima Coal. (2015). *Membara Untuk Indonesia*. Sustainability Report 2015

Kaltim Prima Coal. (2016). *Nyalakan Semangat Bersama Igniting Resolution*. Sustainability Report 2016

Mansur, I. (2012). Integrating Biodiversity Conservation and Agricultural Production in Mine Reclamation for Sustainable Development. *Journal of Developments in Sustainable Agriculture*, 7, 97-102.

Nurcahyani, T. (2011). *Kajian Pemanfaatan Lubang Bekas Tambang (Void) di Adaro Indonesia, Provinsi Kalimantan Selatan*. Program Studi Ilmu Lingkungan, University of Indonesia.

Peterson, G. D., Heemskerk, M. (2001). Deforestation and forest regeneration following small-scale gold mining in the Amazon: the case of Suriname. *Environmental Conservation*, *28*(2), 117-126.

Robertson, A., Shaw, S. (n.d.). *Mine Closure*. Info Mine E-book

Ross, S., Wall, G. (1999). Ecotourism Towards Theory and Practice. *Tourism Management*.

Sandin, L. (2009). The relationship between land-use, hydromorphology and river biota at different spatial and temporal scales: a synthesis of seven case studies. *Fundamental and Applied Limnology*, *174*(1), 1-5.

Trisasongko, B. H., Panuju, D. R., Iman, L. S., Harimurti, V. A., Ramly, A. F., Subroto, H. (2009). *Analisis Dinamika Konversi Lahan di Sekitar Jalur Tol Cikampek*. Publikasi Teknis DATIN, Kementerian Negara Lingkungan Hidup.

Tuni, M. S. (2013). *Perencanaan Penggunaan Lahan Pascatambang Nikel untuk Mendukung Pengembangan Wilayah di Kabupaten Halmahera Timur*. Tesis Program Studi Pertanian, Institut Pertanian Bogor.

Tuni, M. Z. (2013). *Perencanaan Penggunaan Lahan Pascatambang Nikel Untuk Mendukung Pengembangan Wilayah Di Kabupaten Halmahera Timur*. Tugas Akhir Program Studi Ilmu Perencanaan Wilayah Departemen Ilmu Tanah dan Sumber Daya Lahan, Institut Pertanian Bogor.

Undang-undang Nomor 4 Tahun 2009 tentang Pertambangan Mineral dan Batubara

Undang-Undang Nomor 41 tahun 1999 tentang Kehutanan

Zhang, et. al. (2011). *Land Use-Based Landscape Planning and Restoration in Mine Closure Area.* Springer Science Buisness Media.

Zhang, J. J., Fu, M. C., Tao, J., Huang, Y., Hassani, F. P., Bai, Z. K. (2010). Response of ecological storage and conservation to land use transformation: a case study of a mining town in China. *Ecological Modelling*, *221*, 1427–1439.

Banking globalization: from origin to development and internationalization

Rajeev Rana

Dept. of Economics, APB P.G. College, Augustmuni, Rudraparyag, Uttarakhand, India

Correspondence author email: rajeevjeet@gmail.com

Abstract

The globalization of financial markets has encourage internationalization of banking to finance cross-border trade and business, banks which was localized initially having their presence globally to provide financial services to their customer. There are several push and pull factor which had been encourage offshore banking activities as well as huge presence on global market. These banks in different counterpart may be known with different names i.e. investment banks, universal banks and global banks, and basically having almost similar nature of business but had been differentiated either due to the geographical identities, or on the basis of legal separation under the specific law. The paper have been explaining many reasons that why banks become global banks. Indeed, the individual banks decision to expand abroad are for multiple reasons out of which few are critical which encourage domestic banks to offer services globally. The objective of paper is also to see the growth of offshore claim, contingent liabilities and internationalization.

Keywords: *Global banks, Cross-boarder trade, Foregin claims, Banking regulation*

JEL Classification : G15, G24, G32**.**

Understanding the nature of global banking

Once banks go global and spread their activities abroad by offering various type of services to the global customers recognized as their internationalization with different names, a multinational banks, international banks, universal banking or global banks are termed interchangeably. To make clear distinction between these terms are very difficult. The connotation varies due to geographic diversity as in European counterpart banks offering services globally recognized as universal banks while in the U.S.A they recognized Investment banks, and other counterparts of the land they have been recognized as global banks.

The cross-border operation and services offered by those banks mostly similar and very less distinction have been found which limits them due to their own structural parameters, regulatory conditions. However, Lewis and Davis (1987), made some distinction of international banks and explain traditional foreign banks offer and involves in the transaction with non-residents in domestic currency to allow trade finance and other international transactions. In the Eurocurrency banking banks participating in foreign exchange transaction with both resident and non-residents.

Buckley and Casson (1999), define multinational banking as an enterprise which 'owns and control activities in different countries'. So any bank own and control branches or affiliates in more than one country and involves an elements of foreign direct investment (Jones, 1992), Robinson (1972), Gray and Gray (1981) recognized that international banking do not require physical presence offshore distinguish from multination banking.

The forces that motivated the growth of multinational banking are expanding international trade, colonialism and the strength of the British Empire in early era of development. Which has been substituted by new source of funds, increasing competition due to gradual liberalization of domestic banking sectors in many countries (Huertas, 1990).

There have been many reasons that push domestic banks to become global banks. Indeed, the individual banks decision to expand abroad for multiple reasons out of which few are critical which encourage domestic banks to offer services globally. A banks go global to serve their domestic customers who have gone abroad- "the gravitational pull effect" that banks follow their domestic customers abroad to reduce the likelihood that they might lose their business to host-country banks (Metais, 1979). Indeed, each banks had a differentiated package of products, which sometimes give foreign banks advantage over domestic institution (Caves, 1977). banks headquartered in one country set up foreign subsidiaries in other countries or setup branch abroad- for as an entities banks maximize their own profits by providing services to as many foreign or domestic customers as possible, rather than looking at them as financial institutions that only move abroad when their domestic clients move abroad (Aliber, 1984). Dwenter and Hess analyzed banking theory based on asymmetric information between a bank and its customers, and concluded that banks' profits should differ between economic boom and busts (Dwenter ad Hess, 1998). These authors also suggest that one of the main reasons that explain expansion of banks globally in certain countries is due to protection that the legal systems of these countries offer to foreign financial institution (La Porta, 1977). For example Japan have laws that protect foreign banks, encouraging them to open branches in their counties.

Increasing competition in financial services and cross-border financial flows has result of less number of small banks operate in many countries, it also evident in different type of bank's including the mutual savings and cooperative banks as well as domestic commercial banks. However the number of foreign banks has increased in every banking market over the same period, reflecting the internationalization trend and the opportunities accessibility of trade and finance (Del Negro & J.kay)

Structural framework of international banking

The banking globalization is evolving, moving away from one place to other with primarily cross-border flows and cross-border transactions with internationally diversified ownership of banks. However, apart from international transaction the growth of banking also took place due to growing size multiple transactions extended by the branches and subsidiaries of parent banks that are located in host country markets, derivatives and other forms of offshore investment have also push banking globalization. These implications are visible as the developments of services of globally-oriented banks remain epicenter towards host countries from the parent countries of the same banks.

The main type of frameworks use by international banking to operate globally due to that bank operates through holding companies or in branches or separately incorporated subsidiaries e.g. joint venture, special purpose vehicle, and simple representative offices (shell branch) because of Native or foreign tax or banking law favors operation though subsidiaries, and there might be other reason that host government does not permit foreign banks to have local branches. In which the parent banks seeks consumer business in the foreign market or it has specialized business that is facilitated by separate incorporation, apart from their most preferred option of foreign branches. Many of them banks also operate globally through separately capitalized foreign subsidiaries. As acquiring an established institution helps the gain in the term of sizable, presence in the market. Most U.S banks having their owned subsidiaries and controlled by the parent (J. V. Houpt and M.G. Martinson, 1982) as mention below.

Banks operated internationally through foreign joint venture and were more popular in 1970s, when many U.S banks have begun to enter in an international banking. Joint venture banking growth begun with advantage of appealing partners both side domestically and in the abroad.

With basic structure and historical development, organizational structure, universal (Global) banks constitute multi-product firms within the financial sector. They target all segment of the variety of product for their client in the domestic environment and provide full range of appropriate financial services. However, outside the home market, at naïve they adopt narrower competitive profile with the help of technical collaboration with the host banking or expanding their services focusing on wholesale banking and securities activities as well as international private banking (I.Walter, 1997). The global banks have been recognized in the different name by different economist over the world. The nature and work of global banking are so wide, and include large investment activities, as well off-shore countries investment with international operation of variety of financial instrument.

Banks can be term as a global banks on the basis of their presence in the international market to finance trade, cross border flow of financial capital, stocks of cross-border claims that capture inter-country exposure (Camelia .M and Javier.A Reyes,2011), providing debt, investment in equity with wider financial markets, including investment in stock market, advisory, providing loan and management to foreign counterparts, offshore-branching, (Goldberg and Saunders, 1981) acquiring shareholding in a foreign bank (subsidiary) being "globalized". The process of globalization of banking nearly started in the 1970's onwards with the internationalization of banking (Pecchioli, 1983), following financial innovation a period of rapid innovation in the capital markets, complex product such a 'securitization' in the 1980 for two purpose one is to making loan tradable and second use of asset-backed securities for enhancing the growth through financial product and innovation and use of financial derivatives (W. Mullineux and V. Mirinde) which enhance banks' ability to generate liquidity and bringing down their cost to finance the rapid increase in international trade. Of which these international banking activities have reached in historical peak due to an increase in cross border mergers (Berger et al.2000)

Further, Kubelec and Sa (2010) conduct study of 18 advance emerging market and collected a large dataset of bilateral cross-border exposures by asset class (FDI, portfolio equity, debt, and foreign exchange reserves) to exhibit of financial interconnectedness over 1980-2005, and they prove that these financial network has become more clustered over the time and its central hubs are the United State and the United Kingdom. Comparison with the international trade network reveals that both networks have experienced increased connectivity over time, although it has been observed that financial openness increases much faster that trade openness.

The role of global banks is to reducing financing cost. In the broad sense global banks include all combination of activities performed by banks (i.e. acceptance of deposit, direct lending, investment in equity/debt, underwriting, insurance services trade financing etc.). The banking internationalization strongly emphasis on the three activities (i) providing loan & asset-liability management to foreign counterparts, (ii) expanding and opening foreign branch and (iii) to acquire shareholding in a foreign banking as subsidiary

Bank has been transformed from domestic- to-international and international to multi-national then global or so called them Universal banking particularly in Europe, To understand the nature of global banking and their motivation why they go globally?, and focus the global market required topology linkage between among the agents, markets, institutions, and countries. (Caballero, 2010). Aliber (1993) define multinational model of global banking expands in form of its home market and sets up subsidiaries abroad that borrow locally to finance assets operates with sizeable foreign branches and subsidiaries

in multiple jurisdictions (Jones, 1992) and those out of the home country through major financial center and conduct cross-border business explaining under international banking model and later 1980s all banks shifted towards multinational model banking.

The second age of globalization are known a resurgence of international banking, continuing general expansion of international financial integration (Obstfeld and Taylor, 2004). And the share of country banking systems of banks with sizable foreign positions have grown tremendously. Moreover, the form of banking globalization is evolving, moving away with cross-border flows to a system with both cross-border transaction and more internationally diversified ownership of banks. Beside diversified ownership pattern there are other type of international transaction has been increases that transaction extend by the branches and subsidiaries of parent banks that which were located in host country markets, as derivative uses and other form of international investment settle by banks (Obstfeld and Taylor, 2004). The broader objective in the global capital market integration has been detailed by Obstfield and Taylor (2004) with an empirical studies of Lane and Milesi-Ferretti (2001).

With this perspective of the parent banks spreading their international positions from the bank-specific to search yield and diversification opportunities. Beside from these two important factors other includes change in regulatory framework in the home of host countries market. Due to which there have been increase the accessibility of expanding services to the host country either in the form of cross-border transactions or either in the form of establishing branches and subsidiaries in the host countries. Even, it was observed that most of the cases foreign banking entry was previously restricted into foreign markets had increase due to which of the agreements made in conjunction with negotiations in the international trade and particularly specific forms of the market access.

Banks offer direct lending particularly to large scale borrowers such as states as well as to the multinational companies as mostly in the form of syndicated loans. Which usually do not require physical presence of the bank in the foreign nation. However, there are representative offices may prove useful for this operation. As foreign banking branches are the internal part of the parent bank which offers a range of a variety to banking services in both domestic and foreign customers. Traditionally, they concentrate their banking activities in the primarily wholesale market. And their subsidiaries have identical banking powers as domestic banks and are typically retail oriented.

Banks has grown in the part of central and Eastern Europe in the earliest of 1990s with experience of rapid growth of foreign ownership in local banking systems. In the earliest of 21st century these foreign banks participation in the markets has been often increased about 80 percent of the local banking assets. In the experience of Latin American financial liberalization there was first wave of liberalization that follow your customer type during mid to late 1990s. The development of foreign banking branches including its subsidiaries during last 40 years remain largely uneven. Foreign banks branches considered as a mature form of expansion abroad. Brealey and Kaplanis (1996), suggested that the number of banks foreign branches has been increased very fast from 1960 to the mid-1980s and then slow down significantly after 1985. Later on it was also found that the number of cross-border merger and acquisition in the banking industry has risen most rapidly in the 1990s. Which was still a small fraction of the total banking M&A activity within individual nations (Group of Ten, 2001) and they were rarer than in other industries (Focarelli and Pozzolo, 2001).

The banking internationalization has been explain by three major pillar explaining the pattern of internationalization and supported by the empirical literature also, where are: **economics integration**, **institutional characteristics** and **profit opportunities**. These are well-accepted fact in the economic literature that the pattern of bank internationalization was correlated with degree of integration between the home country of the parent company and the country where the branch or the subsidiary is located.

Integration related both to strictly economic variables, such as the levels of trade or foreign direct investment, and to non-economic aspects, such a linguistic and cultural similarities.

The restriction imposed by regulatory mechanism have been severely affect banks that how banks shape their international activities. For example, governments may change the regulatory mechanism which may reduce the degree of cross-border acquisition or consolidation either in the form of directly or either by enforcing explicit limits on cross-border M&As or in the form of blocking single takeovers. Also indirectly through failing to reconcile structural divergence between the financial systems, or in the form of imposing limits on domestic banking activity. However, the characteristics of these investment banking sector can also influence the favors of banks entry (Boot, 1999). For example it has been reasoned that governments might wish to have the largest institutions of their nations which were typical domestically owned. In that cases, government can be expect that in more concentrated markets the entry of foreign banks in the domestic market will be more difficult, because one single acquisition would imply the loss of a significant share to the advantage of foreign investors.

Another important aspect of banking internationalization may be profit opportunities, which is also the most basic factor that encourage banking to operating their activities in foreign market. These is a bank-specific factors which related to the characteristics of the banks country of origin of the investing bank, and also to the country of destination of the investment. In the bank-specific characteristics, the main factor of size has been consider most appropriate for the patterns of internationalization of banking. The studies and empirical literature suggested that larger banks are much more international than smaller ones. This is the case they have larger as well as more internationally located customers (Berger et al., 1995). Also they have been encourage more stronger incentives to diversify internationally and its portfolio and to smooth the effects of nonparallel fluctuation in the pattern of loans and deposits as they are involved in activities such as portfolio management and investment banking which are typically found in the international banking and by the characterized they have advantage of economies of scale and scope.

Within the domestic country assign those banks may have more potential of the banks internationalization in the reference of the development of the financial markets, and banks which are operating in developed market as they are seen to be more efficient and viable if compared. So, this is to hold a comparative advantage with respect to their competitors of the destination country (Boot, 1999). However, there is very less or almost no empirical evidence given in the support of evidence that on the importance, profit opportunities in the destination market of investment have been related to country risk (Grosse and Goldbreg, 1991: Fisher, and Moyneux, 1996; Yamori, 1998).

Characteristics of the bank and of the country of origin

The decision of banks to expand abroad is basically depends of the size of banks itself, as empirical studies suggested that larger banks likely to operate in both ways i.e. with foreign branches and foreign subsidiaries. In the same way banks having a larger share of non-interest income might likely to operate in foreign activates, may be due to advantage of innovation and their aggressive strategic behavior in the home as well as abroad activities. Those countries where banking seems to me more profitable business banks likely to explore more branches abroad, and push their supply and variety of product with specialized services including some more lucrative befits and offers. In sum-up those factors elaborating the characteristics of the bank and about the country of origin had been increased almost two times, the marginal effect in the case of number of branches roughly about 11.4 percent, and in the case of subsidiaries 5.1 per cent, explaining with the level of roughly with probabilities and approximately the same size.

The evaluation of banking internationalization is moving away from the way of cross-border flows in a system of both cross-border settlement with the internationally diversified structure of ownership of banks. However, there are variety of international transaction also had been increased enormously, including transaction done by branches and subsidiaries of parent banks located in the host markets in the form of derivatives, and international investment done by banks.

The overall developments of these banking arena have profound significance in the host countries those are receiving global banking orientation, and the parent countries of these banks few implication that are immediately evident. For example related to the international transmission of shocks. Other implication are longer term and more structural by nature, such as those associated with productivity and technology spillovers, growth consequences, and institutional developments.

The impulse of globalization of investment banking varied differently in the form of player, time and form of country. Form the banks perspective, few sequence of enhance the international opportunities in global banking. However, few other sequences have regulatory changes in the home of the host country markets, which have increased the accessibility of expanding services to the host country, either as cross broader transactions or through establishing branches and subsidiaries in the host. Some cases of foreign bank entry into previously restricted markets have occurred in the aftermath of crises, or as a result of agreements made in conjunction with negotiations over international trade and specific forms of market access.

Particular episodes of expanding global banking include the period following the dissolution of the Soviet Union, when bank entry into central and Eastern Europe in the early 1990s let to a rapid growth of foreign ownership in local banking systems. By the early part of the 21st century, foreign participation in the markets often exceeded 80 percent of local banking assets. Another episode of expansion occurred with the liberalization of financial sector in Latin America through the mid to late 1990s. The first wave of liberalization was a follow your customer type, taking place in the aftermath of expanded FDI into manufacturing and resource extraction industries and enhanced competition that Latin American countries faced form Asian counterparts. Another burst of foreign banking activity within Latin America occurred as result of financial crises of the mid-to-late 1990s.

The US and Spain were particularly active in their expansion into foreign market during this period and measured in terms of value of positions or numbers of acquisitions. Indeed, the result was substantial in roads into central and South America, as well as into Mexico by both U.S and Spanish parent banks. By Contrast, as we further elaborate that the next most active group of banks in mergers and acquisitions were the U.K. banks and those from other euro-area countries. These banks took a regional focus, with targeted positions that were more concentrated across industrialized and developing Europe.

Globally-oriented banks, cyclical lending, and international linkages

Once banks has its presence globally, or banks internationalization has been spread there are huge possibilities that transmission of shocks increased across the global market as it banking internationalization affect business cycles. Practically, it has been experience that global banks are the agent of international risk sharing, diversification of risk, and financial intermediation, though which host courtiers depends on served through cross-broader flows or in the host markets by branches and subsidiaries of the parent banks.

It is equally important to understand that how basically the banking internationalizing structure or ownership of global banks affect the business cycles and its international linkages. The studies have been suggested that banking internationalization has net effect on business cycles in different ways. First, in the macro

banking model suggested by Morgan, Strahan and Rime (2004). Which has implication on relaxed restriction on cross-baking within the U.S.A integration have severely dampen the banking capital shock within borders, but amplifies the effect of bank-specific shocks across borders.

Banking foreign claims have increasing continuously including cross-broader claim and derivatives contracts, guarantees, and credit and other commitment. The table shows of BIS statistics that how banks are engaging in the foreign claims and other potential exposure

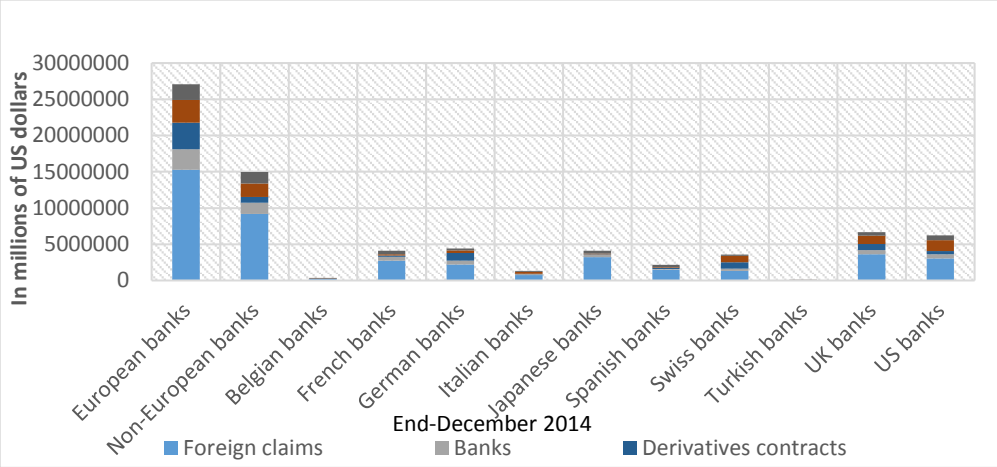


Figure 1. Consolidated foreign claims and other potential exposures

Source: consolidated banking statistics of BIS, 2014.

A cross-border activities encourage banks to shift from their cross-border activities to multinational banking with more local and likely locally funded operation. Another facts came to know that banks had reduced the number of subsidiary they hold abroad both includes advance and emerging market economics, while the total number of branches has risen sharply. But both subsidiaries and branch had been reduced in the wake of the global crisis and have continued to decline.

There are significant distinction have been identified between foreign claims and international claims which can be classified as:

	Local Claims of Foreign banks' affiliates	
A	**B**	**C**
Cross-border claims	**Local claims of foreign banks' affiliates in foreign currency**	**Local claims of foreign banks' affiliates in local currency**
International Claim	**(A+B)**	
Foreign Claim	**(A+B+C)**	

Figure 2. Types of clams in Bank for international settlements, consolidated statistics

Source: Cerutti. Claessens, and McGuire 2012.

A basic observation is that the availability of loanable funds via the deposit base contributes to pro cyclicality. If foreign –owned bank entrants are less reliant on host-country funding sources and more reliant on foreign sources that are their domestically owned counterparts. The pro cyclicality of their supply of loanable funds may be lower.

The various banking studies suggest banking internationalization encourage cyclical lenders similar to domestic banks in the countries, which has been empirically verified in the case of Chile, Argentina and Colombia as the lending cyclical of foreign banking and their own private banks are almost similar. Essentially in the case of foreign banks came in the host countries through the acquisition of local banks, the M&A activities of those banking studies have been suggested Crystal. Dages, and Goldberg (2001). However, the finding are different across the banks but strongly supported in the case of existing banks are either foreign owned or domestic owned. In such case when foreign banks has high growth of loan then they avoid the volatility form local financial systems in the way of destabilizing lenders.

Role of baking or banks internationalization in has been analyses though banks-eccentric data which results to the studding the consequences of foreign versus domestic owned banking pattern for international cyclical and linkages. The literature strongly expressed the role of foreign-owned banks as an agent of transmission of monetary policy as well as interest rate shocks in the various national and international markets. Similar studies have been supported in the evidence of banks internationalization that Japanese banks also transmitted shocks which later hit their own capital base and directly affect their baking stock price moments into the U.S. real estate market through Japanese banking and their subsidiaries having their operation in U.S. the concrete demonstrate of transmission through individual U.S. bank is supported by those who examine individual bank balance sheet data for all U.S.

Banks is instituted by those who are closely examine individual bank balance sheet data for all U.S. banks with global operation between 1980 and 2006 (Cetorelli and Goldberg (2008)). This analysis, which also considers the effect of banking globalization on the lending channel within the U.S. demonstrates that not only is the lending of foreign offices of U.S. banks affected by U.S. monetary policy, but these foreign offices can rely less on support from parent bank balance sheets in times of tighter liquidity condition in the U.S.

Factors that encourage banks for globalization

There are several factors that encourage internationalization of banks and broadly can be classified in two phase: one push factor: factor involves a force which acts to drive banks away from a native country. Second as a pull factors: what draws banks to a new location (i.e. what attracts to the banks globally).

Table 1. Why banks go abroad and become global banks

Push Factor: factor involves a force which acts to drive banks away from a place.	*Pull Factors: what draws banks to a new location.*
Macroeconomic Factor.	*Search for yield (profitability).*
Policy environment (i.e. liberalized policy or banking reforms by host countries).	*Cyclical lending and International Linkages.*
Allowing competition by banks domestically.	*Cross-border lending activities.*
Institutional developments.	*Liquidity or Global Liquidity.*
Diversification Opportunities.	*OTC derivative and Interest rate derivatives contracts.*
Agreement under the International Trade Treaty of Market Access.	*Risk Transferring or risk minimizing strategies*
Merger & Acquisition and Takeover of domestic banks by foreign banking entities.	*Stability during financial crises compare to narrow domestic banking activities.*
Access to Bail-Out during the crises.	*Scope of Economics and X-Efficiency.*
Economic Integration	*Market Innovation*

Source: Research finding from various studies

The list has been shown that why bank globalized and several important factor constitute for their globalization process, even if they do not go abroad they have sever thereat in term of losing their clients domestically those who went abroad and secondly, they have been either takeover or thrown out by big banks in the term of merger & acquisition activities. Going banks globally is win-win situation in such case as they are able to serve their clients globally but also they have diversification of business, more profit opportunities, innovation and large market shares with least cost or achieving higher efficiency in term of serving to the global client.

Structure of the global banks

The Table 2. Represent the anatomy of global banks and their different structure in the various forms which shows that globalization of banks have been shaping in the different structure, particularly due to domestic regulation and law in the home land of country. The internationalization of banking structure have been classified in the four category.

The specific structures that universal banks adopt are driven by regulatory consideration, by the production-function characteristic of financial services, and by demand-side issues relating to market structure and client preferences. American regulation, for example, mandates a Type D form of organization, with the Glass-Steagall provisions of the Banking Act of 1933 and later the Gramm-Leach-Bliley Act of 1999 requiring functional separation of banking and insurance (taking deposits and extending commercial loans) and most types of securities activities. Each type of business must be carried out through subsidiaries under a qualified holding company structure. British universal banking follows that the Type C model, with securities and insurance activities carried out via subsidiaries of the bank itself. Most continental European countries seem to follow the Type B model, with full integration of banking and securities activities within the bank itself (despite functional regulation), and insurance, mortgage banking and other specialized financial and non-financial activities carried out through subsidiaries. As noted, the Type A universal banking model, with all activities carried out within a single corporate entity, seems not to exist even in environments characterized by a monopoly regulator such as, for example, the Monetary Authority of Singapore.

Table-1.2. Structure of the global banks.

No.	Nature	Global Banks: activities	Structure
Type-A	*Full Integration*	*Banking activities* *Securities activities* *Insurance activities* *Other*	*Monopoly Banking*
Type-B	*Partial Integration*	*Banking activities including securities, commercial and investment banking* *Insurance activities* *Assets Management* *Mortgage banking (subsidiary)* *Management consulting*	*European Banking* *E.g. Deutsche Bank A.G.*
Type-C	*Bank Parent Structure*	*Banking activities including commercial banking* *Subsidiaries activities in securities, Insurance and Financial services.*	*British Banking* *E.g. Barclays plc.*
Type-D	*Holding Company Structure*	*Subsidiary activities in: Banking, Securities and Insurance.*	*American Banking* *E.g. Citigroup. J.P. Morgan Chase & co.*

Source: banking structure and function, Ingo Walter.

From a production-function perspective, the structural form of universal banking appears to depend on the ease with which operating efficiencies and scale and scope economics can be exploited-determined in large part by product and process technologies as well as the comparative organizational effectiveness in optimally satisfying client requirements and bringing to bear market power.

European universal banking how it's different from U.S originating banks

Banking have been classified on the basis of nature, activities, area & scope. They have also been categorized by their foreign operation, investment activities, engaging in insurance then normal banking activities. In U.S under the rugged law "The Glass-Stegal Act-1933" made separation between banking activities or their line of business.

The Glass-Stegall Act which brings significant changes in the American banking then the other banking structure particularly European banking. Before the Act came All Banks and Financial Institution are in U.S engaged in all financial services beside their core banking activities they may sell insurance, underwrite securities, advisory, diversified investment and carry out securities transaction on behalf of clients (Benston. 1994). The Glass-Stegall act made separation of banking on the ground of their activities. Banks who engaged in core banking activities (i.e. accepting deposit, lending and primary banking) or fiduciary services not permitted to engage in to sell insurance, underwriting of securities and to offer financial services.

To offer variety of financial services including investment activities, merchant banking, insurance, mortgage banking are now permitted to only specialized banks known as an Investment banks. Thus the primary Laws of Glass-Steagall Act or called National Banking Act prohibits commercial bank and investment banks on the basis of the activities of business and offering full range of financial services.

However, it has been observed that U.S. banks are permitted to offer full verities of services before the act came and later on 1900 under the Gram-Lichie-Belly Act, and National Banking reform act (1956) permitted commercial banks to engage in financial services as till now they were prohibited as these services could be provided only by investments banks.

The state of international baking can be examined in two ways: (1) by looking at the number and size of offices of different types:-for example, the assets of foreign branches, subsidiaries, and other foreign offices and the volume of internationally related credit extended directly from the head office. And (ii) by reviewing data on total credit exposure to foreign parities, by country. Thus here we look the number of foreign branches to examine the structure for international banking by U.S banks is in large part a reflection of efforts to restrain banking power throughout this country's history, government policy has sought to restrain concentration in banking and other financial activities. Until 1997, U.S banks generally were not allowed to branch across state lines (although, by then their parent holding companies could own banks in different states) and barred from underwriting corporate securities and from conducting other financial activities typically permissible for foreign banks.

Although the U.S banking main structure for international banks were unique in the term of bank holding and offices used by U.S foreign banks in the various forms (e.g. branches, subsidiaries, etc.) to provide international banking services. The graph shows growth of foreign U.S banking growth during the 1970s to 1998 period how U.S banks operate internationally, and most of the foreign counterpart are wholly owned by U.S banking parent.

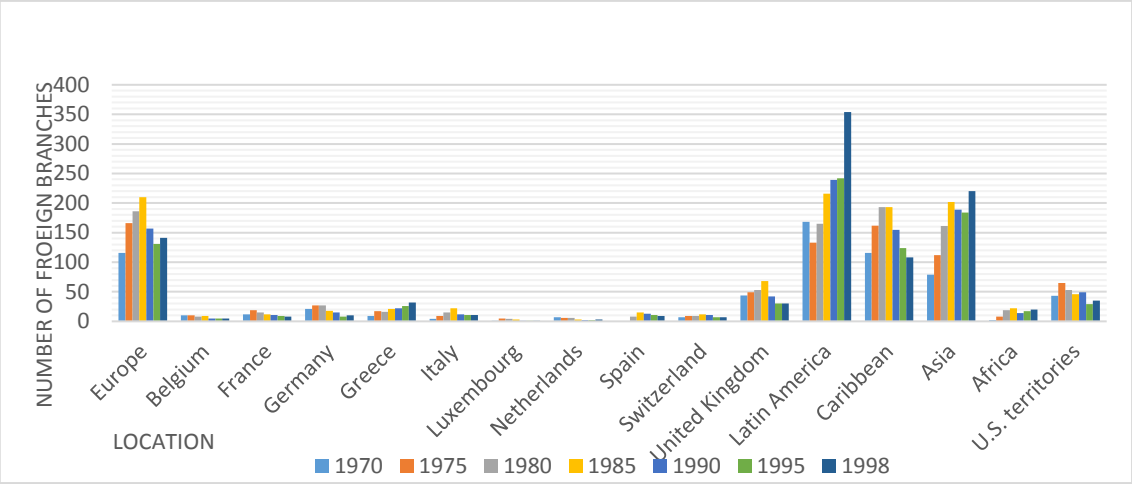


Figure 3. Number of foreign branches of Federal Reserve member banks, by location, selected years, 1970–98

Source: James V. Houpt, International Activities of U.S. Banks and in U.S. Banking Markets.

In the federal republic of Germany a credit institutions engage in all types of business typically commercial and investment banks, insurance and mutual funds activities classified as a universal banks since late 1850s. and they were not restricted to the limited scope of banking as in earlier U.S commercial banks was but apart from providing traditional services of 'accepting deposits and making advance', they were engaged in a diverse kind of banking and financial business including insurance and housing finance activities and categories as financial conglomerates, as a part of financial supermarkets (Gurusamy, 2009).

In Europe and particularly the Germany the financing done by German universal bankers *(kredit banker)* to the large-scale industrial financing and referred to the joint-stock or credit banks structure. These banks operate national wide branching networks and provided an unrestricted rage of financial services including lending, underwriting, trust services and deposit banking. After European Unification banks operated nationwide along with branch networking, provide full range of financial services beside basic services, (i.e. commercial banks and investment banking operation), trust services, investing in the firm's shares, and advisory by a single commercial banks known as Universal Banks (Charles w. Calomiris, 1995).

CONCLUSION

Banks had been globalized based on their nature and activities which includes cross-borders transaction and flows, and also their diversified ownership structure has been recognized as bank internationalization. However, they have been called with different name due to several reasons, since in early period to now banks have been spread across the region and sectors to offering their services to their clients. Studies suggested that it is not only the reason to whom banks have been globalized beside their core activities i.e. searching for yield, cross-broader lending there are several technological innovation and market integration development took place which encourage banks to globalized and if they are not to be globalized they somehow threaten in the wake of merger and acquisition activities by other big banks. So even domestic or states banks if they get the opportunities to render services to their client has gone globally.

Once banks become international or global they provide the several benefits to their customer in different ways i.e. low transaction cost, high liquidity, easy access of

borrowing and lending. This represent that once trade opportunities encourage between the nation's banks also move to the other nations for providing trade facilities, fast settlement and discounting the business opportunities with the objective to minimizing cross-border risk. The presence of banking globally had been changed from their origins as earlier banks used to show their presence in the form of shell banking, opening their affiliates, or subsidiaries and in other forms such as representative offices, Joint Ventures has been substitute by branches, acquiring domestic banks in the host countries or in the form of subsidiaries are the twenty first century global banks.

The strong expansion in banks internationalization in recent periods have been changed the shape of the global banking industry. These banks particularly follow their activities abroad: (i) to provide loans and asset-liability management for foreign counterparties. (ii) Opening as a foreign branch with acquiring shareholding (i.e. subsidiary). The declining trend have been capture of branch banking during the 1990s, in Europe except (such as Germany, Italy and Spain) where branch of banks have proliferated during 1990's mainly due to removal of branching/territorial restriction that were in place. Most of the European banking characterized by a declining number of banks, although most systems have a large number of small local and regional banks.

We have explain several factors that why banks go globally, primarily the objective is to find the profit opportunity. While the others important factors of globalization of banks have been classified into two broad category. First, push factors are those factors which involves a force which acts to drive banks away form a place, and secondly, pull factors are those factors: which draws banks to a new location. These two have been explained important factors that encourage banks to be globally and become global banks.

There are some debates for internationalization of banks that host country augmented with higher growth and better technology transfer from the foreign banking and they also benefited in term of wages, as the expansion of human capital should manifest in a greater worker productivity with rewarded by higher wages. Studies on banking FDI conclude that growth may occurred in both through technological transfer and through improved intermediation of capital flows between savers and investment opportunities.

These global banks are also subject to transmission of business cycles as the international trade theory suggested that trade are heavily influence through the transmission of cycles. In banking, once the internationalization took place they faced sever transmission of business cycles with growth and depression and further spread contagion across the markets. Then these global banks are immediately evident of international transmission of shocks.

While in the optimism of business cycle, the global banks are to encourage for the development in term of long term structural change associated with productivity and technology spillovers and institutional development. Global banks are also play important role for the regional and international capital market development with integration, which have been empirically proven that the development of banks globally integrated with the growth of capital market. These global banks playing more stabilizing role in the host credit market during the crisis.

REFERENCES

Adrian E, Tschoegl (1983). Size, Growth, and transnationality among the World's Largest Banks. The Journal of Business, Vol.56, University of Chicago Press.

Alan McIntyre and C, Chandrasek. International Banking Strategy: The quest for El Dorado? Oliver Wyman.

Aliber, Robert A (1984). International Banking: A Survey. Journal of Money, Credit and Banking and Growth. Vol. 16, No.4. Cambridge University Press 2004, Cambridge.

Andrew W. M. and V. Murinde (2003). Handbook of International Banking. Edward Elgar Publishing Limited.

Ball, C.A. and A.E. Tschoegl (1982). The Decision to Establish a Foreign Branch or Subsidiary: An Application of Binary Classification Procedures. Journal of Financial and Quantitative Analysis.

Berger. A., DeYoung, H. Genay, and Udell. (2000). The Globalization of Financial Institutions: Evidence form a Cross-Border Banking Performance, Brooking-Wharton Paper on Financial Service 2000.

Berger. A., Kashyap. A, and Scalise J. (1995). The Transformation of the U.S. Banking Industry: what a long, strange Trip it's been, Brookings Paper on Economic Activities.

Boot, A.W.A (1999). "European Lesion on Consolidate Banking", Journal of Banking and Finance, 23, pp. 609-613.

Brealey. A, Kaplanis. E. (1996). The Determination of Foreign Banking Location, Journal of International Money and Finance.

Buch. M. (2000). Why Do Banks Go Abroad? Evidence form German Data, Journal of Financial Markets, Instruments and Institutions, 9, pp.33-67.

C, Minoiu and Javier A. Reyes (2011). A network analysis of global banking: 1978-2009. IMF Working Paper Series.

Charles W. Calomiris (1995). The Costs of Rejecting Universal Banking: American Finance in the German Mirror, 1870-1914. University of Chicago Press.

Charles W. Calomiris (1995). Universal Banking and the Financing of Industrial Development. The World Bank Policy Research Department.

Claudia M. Buch (1999). Why Do Banks Go Abroad? Evidence from German Data. Kiel Working Paper No. 948, Kiel Institute of World Economics.

D, Focarelli and A, Pozzolo (2002). Where do banks expand abroad? An empirical analysis. Economics & statistics discussion paper. University of Molise and Ente Luigi Einaudi.

D, Quinn, Martin S, and A. Maria (2011). Assessing Measures of Financial Openness and Integration, IMF Economic Review.

Detragiache, Enrica, and Poonam Gupta, 2004, ''Foreign Banks in Emerging Market Crises: Evidence from Malaysia,'' IMF Working Paper 04/129 (Washington, International Monetary Fund).

G, Galati and Moessner (2011). Macroprudential policy – a literature review. Monetary and Economic Department of the Bank for International Settlements Working Paper.

Georg Rich and Christian Walter (1993). The Future of Universal Banking. Cato Journal, VoL 13, No.2.

Goldberg. L, Grosse. R. (1994). Location Choice of Foreign Banks in the United States, Journal of Economics and Business.

Goldberg. L, Johnson D. (1990). The Determinants of U.S. Banking Activity Abroad, Journal of International Money and Finance, 9, pp.123-37.

H. Grubel (1977). A theory of Multinational Banking. Quarterly Reviews, Banca Nezionale Del Lavoro.

H.E. Boschegn. (1979). the universal banking system in the Federal Republic of Germany. Journal of Comparative Corporate Law and Securities Regulation, North-Holland Publishing Company.

Henry S. Terrell and Sydney J. Key. (1970). the Growth of Foreign Banking in the United States: An Analytical Survey. The International Corporation, ed. Charles P. Kindleberger (Cambridge: M.I.T. Press.

Igno Walter (2009). Universal banking and shareholder value: a perspective. New York University and INSEAD.

Jaime, Caruana. August (2012). International monetary policy interaction: challenge and prospects, Bank for International settlement.

Kevin J. Stiroh (2002). Diversification in Banking Is Noninterest Income the Answer? Federal Reserve Bank of New York.

La Porta, R., F. Lo´pez-de-Silanes, and A. Shleifer, (2002). ‘‘Government Ownership of Banks,’’ Journal of Finance, Vol. 57, No. 1, pp. 265–301.

Lewis, Davis and Mervyn (1987). Domestic and International Banking. MIT Press.

Linda S. Goldberge. (2007). Financial Sector FDI and Host Countries: New and Old Lessons, FRBNY Economic Policy Review.

Linda S. Goldberge. (2009). Understanding Banking Sector Globalization. Vol. 56, No. 1. IMF Staff Papers.

M, Hattori and Suda. Development in a cross-border bank exposure “network”. The BIS international financial statistics.

M, Obstfeld and A. M. Taylor (2003). Globalization and Capital Markets. University of Chicago Press.

Maurice Obstfeld and Kenneth Rogoff (2009). Global Imbalances and the Financial Crisis: Products of Common Causes, University of California, Berkeley, and Harvard University.

McCauley, McGuire, Peter. (2010). the architecture of global banking: from international to multinational? BIS Quarterly Review.

McCauley. Ruud and D Wooldridge (2002). Globalizing international banking. BIS Quarterly Review.

Minsky, H.P (1994). Outline for Issues in Bank Regulation and Supervision. Paper 73. Levy Economics Institute of Bard College, N.Y.

Neil M C, Martin, Yeung Peter and J Henderson (2004). ‘Globalizing’ regional development: a global production networks perspective.

Norman S. Fieleke.The Growth of U.S. Banking Abroad:-An Analytical Survey. Federal Reserve Bank of Boston.

Obstfeld, Maurice and Alan M. Taylor (2004), Global Capital Markets Integration, Crisis,

Philip R. Lane, and Milesi-Ferretti (2008). The Drivers of Financial Globalization. New Perspectives on Financial Globalization (AEA).

R.E. Caves (1971). International Corporation: The Industrial Economics of Foreign investment. Economica.

Romer, P., 1993, ‘‘Idea Gaps and Object Gaps in Economic Development,’’ Journal of Monetary Economics, Vol. 32, No. 3, pp. 543–73.

Sandra E, Leonardo G, and B Hofmannx (2013). Understanding Global Liquidity. Working Paper 402, Monetary and Economic Department, BIS.

Stefano Battilossi (2000). Financial innovation and the golden ages of international banking: 1890–1931 and 1958–81. Financial History Review 7.

Stijn Claessens and Neeltje van Horen (2012). Foreign Banks: Trends, Impact and Financial Stability. Research Department, IMF Working Paper.

Timothy W. Guinnane (2001). Delegated Monitors, Large and Small: The Development of Germany’s Banking System, 1800-1914. Journal of Economic Literature, Yale University.

Turner, P., 2006, ‘‘The Banking System in Emerging Economies: How Much Progress Has Been Made?’’ BIS Paper No. 28.

W. Grais, and Z. K (2003). World the Changing Financial Landscape: Opportunities and Challenges for the Middle East and North Africa, World Bank Policy Research Working Paper 3050.

How to improve accountability of fixed assets of local government?

Sri Rahayu*; Yudi; Rahayu

Faculty of Economics and Business, Universitas Jambi, Indonesia

**To whom correspondence should be addressed. Email: srijambi@gmail.com; sri_rahayu@unja.ac.id*

Abstract

Accountability of assets is an unfinished problem in almost all local governments in Indonesia. It is proved by the high number of audit findings from the State Audit Agency regarding asset management issues. The aim of this study is to analyze the implementation of the accountability of fixed assets of local government. The method used is qualitative method. Questionnaires and interviews were done for data collection. The respondents of the research are government officials and apparatus who are actively involved in managing regional assets. The result shows that the implementation of the legal and process accountability for fixed asset management in Jambi City is categorized as good.

Keywords: *Fixed Assets, Local Government, Legal Accountability, Process Accountability*

JEL Classification: M41, M42, M48

INTRODUCTION

The government continues to make improvements in achieving good governance at central and regional levels. One of the ways to see the increase in good governance in terms of financial management is State Audit Agency (BPK) opinions for both central and regional governments. After twelve years, central government finally gained an unqualified opinion (WTP in Indonesian) in Central Government Financial Statements Year 2016 (Report of audit findings of State Audit Agency 2017 (LHP BPK 2017). There has been a 20% increase in the number of WTP in the central government ministries/agencies in the last two years. In 2016, only 65% (56 central government ministries/agencies) gained WTP, while 30 of them still received opinion other than WTP. In Premilinary Unaudited Central Government Financial Report (LKPP in Indonesian) Year 2017, there are 75 central government ministries/agencies that obtained WTP and only 15% (13) of them that obtained opinion other than WTP (BPK, 2015, 2016).

At local government level, of the 537 Preliminary Unaudited Local Government Financial Report (LKPD in Indonesian) Year 2016, the State Audit Agency gave WTP to 375 LKPD (70%), Qualified Opinions (WDP in Indonesian) to 139 LKPD (26%) and Disclaimer Opinions (TMP in Indonesian) to 23 LKPD (4%). WTP was obtained by 31 of 34 provinces (91%), 272 of 415 regencies (66%), and 72 of 93 cities (77%)**.** Obtaining these opinions has exceeded regional financial performance targets in the area of strengthening local government governance or regional financial capacity

improvement program as stipulated in National Medium-Term Development Plan Year 2015-2019 that are respectively 85%, 60%, and 65% in 2019. Comparing it with the achievements in 2015, LKPD that received WTP increased by 12 percent from 58% (2015) to 70% (2016). The increase in WTP indicated an increase in the quality of LKPD, thanks to the efforts of the regional government in improving to previous year's shortcomings (BPK, 2017).

Although there has been an increase in opinion acquisition, government organizations must continue to improve the accountability of financial management and the quality of their financial statements. LKPD must be able to prove that managed funds have been used and invested without financial waste or abuse (Said & Jaafar, 2014). The use of public funds carried out by the local government is, one of them, realized in fixed assets. Fixed assets are regional non-financial resources and have the greatest value in financial statements (Sadjiarto, 2000). Fixed assets are the resources and assets of the state as a tool in the implementations of government operational activities. Good asset management will have a direct impact on regional financial management (Pangaribuan & Sumini, 2010). If regional assets are managed effectively and efficiently, it will have an impact on effective and efficient financial management. In reality, however, there are still lots of regional fixed asset management that have not been accompanied by high accountability. One of the evidences is that there are still findings of regional asset management from the results of the BPK audit (BPK, 2017).

Some problems in asset management often faced by local governments are fixed assets that have no valid proof of ownership (such as certificates), incomplete administration of asset management in accordance with regulations, and the value of fixed assets recorded doesn't reflect the actual condition (BPK, 2016). These problems may not appear in the financial statements, but the disclosure of these problems will greatly influence the decision making by the authorities. The risk of the incomplete information will be the misleading in decision making.

Fixed assets are still being a cause of poor opinion on LKPD in Indonesia (Sujarwo & Halim, 2013). In addition, the increasing number of Unqualified Opinion on LKPD has not been followed by the increased level of accountability in many Indonesian local governments. The development of accountability of performance in Regencies/Cities of 2017 in Indonesia was mentioned by Minister of Administration and Bureaucratic Reform in Yogyakarta on February 15, 2018. Regencies/cities received the CC category or below are 303 (63.80%). Government agencies obtaining accountability scores below 70 potentially have budget inefficiencies. The higher the value of performance accountability, the higher the budget efficiency (Inspektorat, 2016).

The quality of disclosure and accountability for activities will affect the evaluation and control of the implementation of the activities. Sadjiarto (2000) and Ebrahim (2010) provided a definition of accountability as a responsible relationship between those who manage the entity and those who have formal power over the manager towards the acceptance and judgment of certain responsibility. An activity is said to have high accountability if it can be legally and morally accountable (Agustinus, 2012).

Public accountability is characterized by the provision of information and disclosure of the activities and financial performance of local governments to interested parties (Mardiasmo, 2004). Based on this definition, it can be concluded that government accountability in the management of regional fixed assets is the provision of information and disclosure of activities or asset management activities carried out by

the government to interested parties, and such activities must be legally and morally accountable.

Accountability in the fixed asset management includes legal accountability and process accountability (Mardiasmo, 2004). Legal accountability is the accountability or responsibility of government (manager/steward) that is realized through the implementation of applicable regulations and laws. Process accountability is a form of accountability, which the procedures used in the management of fixed assets have been carried out correctly in accordance with the applicable regulations and involve measures in its implementation (planning, allocating, and managing).

Based on the explanation above, researchers aim the research on analysing the accountability of fixed asset management in the Local Government of Jambi City. In addition, this study also aimed to uncover obstacles and strategies to improve asset management accountability from the point of view of regional asset management apparatus. Fixed assets which are the focus of this research are Land and Buildings.

METHODS

This study used a qualitative method. In qualitative research, the author tries to be as close as possible to the informants to understand the context/background or the environment in which they face the problem of the research and qualitative research is axiologically not free of value (Creswell, 2014). Qualitative methods are used in order to achieve research's aim, that is, obtaining an overview of the accountability of fixed assets management carried out by the local government, in disclosing the reality and existing phenomena through direct interaction between researchers and informants as well as evidences and other related documents.

The informants of this study are the asset managers/stewards in Regional Financial and Asset Management Service (DPKAD in Indonesia). The data used are from the discussion through interviews, review of documents and questionnaires. There were 15 respondents/informants that are apparatus related to asset management. The indicator used to assess the implementation of legal accountability and process accountability in the asset management refers to the relevant regulations, that are, Minister of Home Affairs Regulation (Permendagri) No. 17 of 2007; Government Regulation (PP) No. 71 of 2010; Presidential Regulation (Perpres) No. 54 of 2010 which was amended by Presidential Regulation (Perpres) 172 of 2014; Government Regulation (PP) No. 27 of 2014 and Government Regulation (PP) No. 60 of 2008. Questionnaires have the choice of answers of "yes" and "no" that can reflect the implementation of a regulation. "Yes" has the value of 1 and "no" has the value of 0.

The level of compatibility of the implementation was calculated by the percentage of the answers' value from the questionnaire. The total value obtained will be divided by the total criteria and multiplied by one hundred percent. This study uses percentage descriptive techniques. Firdaus and Ritonga (2018) stated that the percentage-descriptive-technique is a technique to calculate the level of compatibility by making a percentage of existing data, and then it will be described. The calculations were done as in the following formula:

Level of compatibility = (Total value obtained) / (Total criteria) x100%

Steps in carrying out percentage-descriptive-technique to determine the compatibility level of implementation of fixed asset accountability for land and buildings were conducted as follows: a) determining the criteria for legal and process accountabilities of Land and Buildings in accordance with applicable regulations. Legal

accountability has several indicators, namely Planning and Budgeting; Procurement; Receipt, Storage and Distribution; Implementation; Administration; Utilization; Security and Maintenance; Assessment; Disposal of Fixed Assets; Transferring; Guidance, Supervision and Control; Financing; Claims for compensation. These indicators are in seventy-three questions. Process accountability is assessed by using a process dimension consisting of eight questions; b) Finding facts of compatibility through the questionnaire; c) Scoring the answers by giving value of 1 if it matches the criteria, and value of 0 if it doesn't; d) Adding up the total value/score obtained for both assets (Land and Buildings); e) Calculate the average percentage of compatibility level of the implementation; f) Describing and interpreting the obtained average percentage of compatibility level of the implementation.

The level of compatibility is used to determine the results of the evaluated implementation based on five criteria (Table 1). It refers to Firdaus and Ritonga (2018) with some modifications as follows:

Table 1. Criteria for compatibility level of the implementation of law accountability and process accountability

Average	Criteria of compatibility	Criteria of implementation
100%	Very Compatible	Very Good
75-99%	Compatible	Good
50-74%	Fairly Compatible	Fairly Good
55-49%	Not Compatible	Bad
0-25%	Very Incompatible	Very Bad

Source: Firdaus and Ritonga (2018)

For analysing qualitative data, the interactive qualitative analysis steps were used. The steps are screening the sample, determining the theme, determining temporary conclusions and presenting (Rahayu, Ludigdo, Irianto, & Nurkholis, 2015). Researchers can use each step by having an interaction. It means that it is possible to repeat a step from the data collection stage. Qualitative research provides an opportunity to be flexible enough to do it.

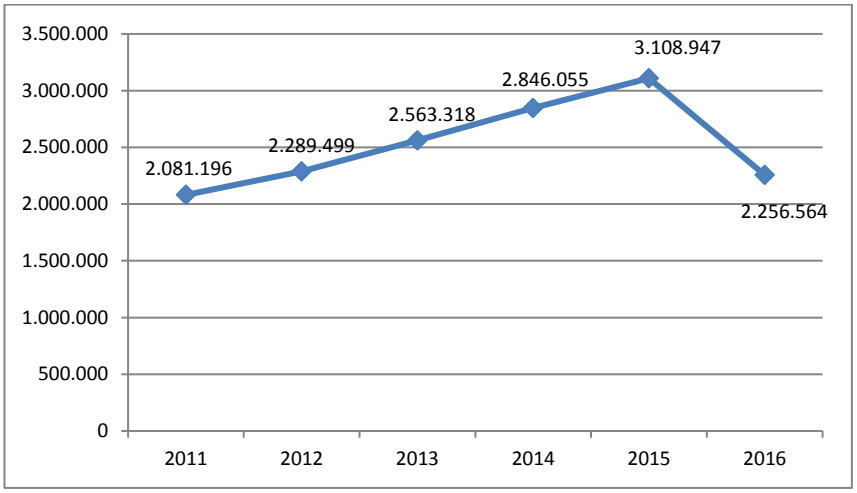
Validity test in this study was carried out by increasing persistence, negative case analysis, compiling a rich and solid descriptions of the results of the study (Sugiyono, 2015). Reliability test refers to dependability testing carried out by examining the entire research process (Firdaus and Ritonga, 2018). The credibility of qualitative data was examined using triangulation of data sources, namely comparing between data obtained from various sources (Rahayu, 2016).

RESULTS AND DISCUSSION

Development of fixed assets in Jambi City

Fixed assets must be managed properly because other than being used for operational activities and public services, they can also be a source of regional income. In addition, fixed assets become one of the benchmarks for local government performance as well. Fixed assets obtained from capital expenditure are always sought to be increased in number because they can be one of the boosters for regional economic growth.

Therefore, fixed assets become the focus of the Government of Jambi City. In the following figure, we are able to see the development of net fixed assets of the Government of Jambi City:



Graph 1. Growth/development of net fixed assets of Jambi City 2011-2016

The realization of fixed-asset budget increases every year and the decrease in net fixed assets from 2015 to 2016 are shown in the figure above because of the increase in the accumulated depreciation of fixed assets. Government of Jambi City has prioritized budget allocation for fixed assets. One consideration is that fixed assets are directly related to the needs of the community. Infrastructure developments such as roads, irrigation and bridges are the concern of the Government of Jambi City. Besides providing comfort for the community, it also aims to accelerate the economic growth of Jambi City.

As of December 31, 2016, the Government of Jambi City has 650 plots of land that were distributed over 27 Regional Work Units. Some of them are leased by Local Revenue Offices in the form of 43 locations of land to 40 tenants. In addition, there are also fixed assets (Land) in the form of public facilities in seven housing estates in Jambi City, such as playgrounds. Land experienced an increase in the balance sheet as of December 31, 2016 compared to the previous year. As of December 31, 2016, it shows that land worth Rp. 481,346,826,952,-, meanwhile the land worth Rp. 475,243,924,252,- per December 31, 2015. The realization of Expenditure for Land in 2016 was quite low at only 12.86%. Out of a budget of Rp. 1,225,500,000, only Rp. 157,603,000, was used. It has decreased considerably compared to 2015's realization of land expenditure (reaching Rp. 2,381,288,000).

Buildings and plants are all buildings and plants obtained by the intention of being used in government's operational activities in a ready-to-use condition. Two types of owned buildings are buildings and monuments. The buildings consist of buildings used for work, residencies, towers, and rented kiosks. Monuments consist of historical buildings, memorials, control-point monuments, and traffic signs.

Buildings and Plants owned by Jambi City consist of parking lots, parks, arches, *musholla* (Islamic prayer building/room), nursing homes, water treatment, swimming pools, and offices. In the operational activities of public services, the Government of Jambi City still makes use of 27 buildings and plants which were built on land owned by Jambi Province. It means the Government of Jambi City uses the land in loan status. The existing buildings on that land include offices, schools, sub-district offices and urban-village offices. Loan status like this, should be clarified immediately through the asset grants between regions, so the ownership and presentation of assets in each region's balance sheet will be clearer and easier.

Government of Jambi City also revealed in the notes of its 2016 financial statements, that there were fixed assets in the form of buildings lent to 4 public institutions. The amount of building and plant expenditure budgeted in 2016 amounted to Rp. 104,057,109,193. 98.42% of the budget has been realized, which worth of Rp. 102,411,390,734. The spending for building and plant has increased compared to the previous year of Rp. 60,129,512,749. It certainly affects the increase in building and plant assets presented on the balance sheet in those two years. The increase of building and plant assets as of December 31, 2015 reached Rp. 744,897,313,909.51 and as of December 31, 2016 amounted to Rp. 871,183,176,438.12,-.

Fixed assets accountability of Jambi City

Legal accountability

Based on Permendagri No. 17 of 2007, it stated that one of the principles that must be implemented is accountability. The implementation of legal accountability for both fixed assets is in the "good" category. Legal accountability for buildings at 93.15%. From 73 question items, 68 respondents answered “yes” on average and only 5 of them answered “no”. Some implementations that are yet optimized are: 1) Indicator of Administration, especially the punctuality of reporting Region-Owned Land. The implementation of inventarization process of BMD (Region-Owned Property) every five years has not been implemented optimally. It is yet periodically carried out; 2) Indicator of Compensation Claims (TGR) especially for Exemption of TGR and Submission of TGR Objection related to findings of Region-Owned Land. Both items have not been implemented because every time there are audit findings related to the asset, it is being acted upon immediately by the authorities, and if it contains elements of TGR, it is immediately resolved; 3) Indicator of Security for protection carried out for Region-Owned Land. Security officers are not hired specifically for land. The protection of land has been carried out only by providing signposts for the ownership of the Government of Jambi City and fences.

Legal accountability and fixed asset regulations for Buildings have a better score than those of Land. The status of “good” on the implementation level shows the compliance of the Government of Jambi City with related regulations in managing the assets.

Legal accountability for Buildings is also categorized as “good” at 87.14%. Of 70 question items from 13 indicators, an average of 61 respondents stated “yes” and only 9 respondents stated “no”. Some implementations that are not yet optimized are: 1) Indicator of Administration for the punctuality for reporting Region-Owned Building, five-year Region-Owned Building inventarization process, and reporting on the use of Region-Owned Building. It shows that the punctuality of reporting and the periodic inventarization process are not optimal; 2) Indicator of Financing for evaluation conducted for financing that has occurred. The evaluation has been done but it has not been well documented.

Legal accountability relates to compliance with applicable regulations required in running an organization. Accountability of compliance with applicable laws and regulations must be considered in addition to transparency and responsibility (Shaoul, Stafford and Stapleton, 2012). Legal accountability in the management of fixed assets of buildings and plants, and of land in the Jambi City, has been good. It is proven by the absence of State Audit Agency’s findings regarding compliance with regulations for these two assets.

Especially for Land that consists of 663 plots of land, they come from various methods of acquisition, including purchases through spending on land and grants from various parties. Based on the disclosures in the 2015 financial statements, 315 plots of land do not have certificates. It means that 348 plots of land already have certificates. In 2016, the Government of Jambi City has increased the amount of certified lands, left 292 plots of uncertified land. The ownership certificate is important to be obtained immediately by the Government of Jambi City, for the legality of its fixed-assets.

Process accountability

The implementation of process accountability for Buildings, Plants, and the Land is categorized as "good". Implementation levels of process accountability for both assets are at the same number at 75%. Some implementations for Buildings and Plants, that is yet optimized are: 1) Reward and punishment have not been implemented in managing buildings and plants; 2) Reporting has not been punctual; 3) Updated data regarding management cannot be obtained quickly.

As for Land, the implementations of accountability that are yet optimal are: 1) Reporting wasn't punctual; 2) Unsettled patterns of asset management concerning personal tasks.

The indicators above are not optimal on its implementation, one of which is due to the lack of on-line system starting from the procurement process of assets to the reporting of assets. So that changes in assets cannot be monitored any time. In addition, the implementation of some accountabilities of process has not been well documented.

Government of Jambi City has established accounting policies/regulations related to the accounting for fixed assets. Fixed asset is recognized if its future economic benefits can be obtained and its value can be measured reliably. The recognition of fixed assets is stated as reliable if the fixed assets have been handed over their ownership rights and or when the ownership has changed hands.

Fixed assets management by local governments in accordance with applicable regulations can be explained by the theory of stewardship. In the theory of stewardship, the manager/steward (regional assets steward) will behave in accordance with the principal interests (community). If there is a difference in principle, the steward of assets will try to act in accordance with the principal interests because the steward believes that the affairs has to be done to achieve organizational goals (Raharjo, 2006). Agency relationships with local governments are not as simple as with private organizations (Halim & Abdullah, 2009). The apparatus is a man who is able to act with full responsibility, high integrity, trustworthy, and honest in carrying out the tasks given (Kaihatu, 2006).

Local governments are organizations in the public sector that have the responsibility to be able to provide and channel resources for the welfare of the people. Daily operational objectives are the optimization of public services for the community. The orientation in local governments is not related to economic relations. Economic relations are assumed to be relationships that are influenced by personal interests and profits (Aurelie & Petrie, 2014).

Problems in the implementation of fixed asset accountability

There are several problems in increasing asset accountability:

1. The competence of asset manager is still low along with the changes in the government's accounting basis, and it affects asset management in the regions. Recognition and measurement, as well as assessment changes. Before 2015, several

regions had not calculated the accumulated depreciation. Since the implementation of Government Regulation (PP) No. 71 of 2010, starting from the 2015 financial report, all local governments must use accrual accounting.

The use of accrual accounting requires both human resources and system to be used to manage the assets. Human resources who are knowledgeable about accounting are needed in order to understand, when an asset must be recognized, how much assets are measured and how assets are assessed/measured. Jambi City has sufficient reliable human resources in asset management in the Government of Jambi City, posted in DPKAD. But in SKPD, accrual accounting is not well understood yet. Human resources at SKPD still have an understanding of the cash base towards accruals, even some of them still have a cash base mindset.

2. The limited number of asset manager.
   There are one head of division and 14 employees (8 civil servants and 6 non-civil servants) working in Division of Assets in DPKAD. These stewards of assets are also supported by the asset management division in all SKPD. The number of the officers is considerably small compared to the number of assets in Jambi City, especially with the high demands of asset management. They have to do planning, analysis, monitoring of implementation, combined inventory of all assets of the city, and analysis to optimize asset utilization. Technology is needed to support asset management with this limited number of management personnel.
3. The use of assets between regions. Jambi City is the capital of Jambi Province. One of the consequences related to assets is the phenomenon of using Province's assets by the Jambi City in its operational activities. Similarly, there are several assets of Jambi City that are utilized by other institutions, even by vertical institutions**.**
4. The optimization of asset management system. Government of Jambi City continues to make improvements in the management of its fixed assets. Asset Mutation in Regional Organizations cannot be monitored at any time by the Division of Asset, so that Region-Owned Property reports are not up-to-date at any time.
5. Assets as a source of regional income have not been optimal. Almost in all local governments in Indonesia, they are only using fixed assets in accordance with the objective of government organizations that is public services. One of the consequences of regional autonomy is not only the granting of authority in spending / expenditure management, but also the requirement of being more independent in its finances. One of the regional independence's indicators is the ability to finance regional expenditures from its source of local revenue/income. One opportunity to increase local revenue is by optimizing the use of assets.

Strategies for improving accountability of fixed assets of Jambi City

Several strategies that should be implemented by Government of Jambi City to improve its fixed asset accountability are:

1. Increasing the quantity and quality of regional asset managers/stewards. Activities such as trainings and technical guidance, also promotions need to be carried out for regional asset stewards, both those in DPKAD and in SKPD**.** The limitation of the human resources was noticed by the Government of Jambi City, so that in the process of asset inventarization was assisted through mentoring by Jambi Province Representative of Indonesia's National Government Internal Auditor.
2. Optimizing asset management system using an integrated online system, starting from asset planning, implementation of procurement, evaluation, disposal to

reporting of fixed assets. So that every asset mutation will be known, including at SKPD level.

3. Improving asset management. Planning of fixed assets that should be done by Government of Jambi City is the one based on 5 W (What, Who, Where, When, Why) and 1 H (How). In 2016, the Government of Jambi City conducted an inventarization of all fixed assets. This inventarization is carried out by the inventory team based on the Decree of the Mayor of Jambi Number 304 of 2016. In the inventory management process, Government of Jambi City cooperates with Jambi Province Representative of BPKP.
4. Optimizing the use of assets. Regional assets in the form of land, buildings and plants, and other fixed assets have the potency to be used as a source of regional income.

CONCLUSION AND RECOMMENDATION

Conclusion

Legal accountability and process accountability of fixed assets in the Jambi City have categorized as *good*. The low implementation of process accountability is partly due to the lack of an integrated online system, starting from the procurement of assets to the reporting of assets. So that division of the asset has not been able to monitor at any time changes in assets of Jambi City. This study has limitations, such as combining several processes in some questionable items.

Recommendation

Government of Jambi City should increase the accountability of its fixed assets by improving the competence of asset managers. One of the most effective strategies is the implementation of an integrated online system in asset management, starting from planning, and implementation to reporting of regional fixed assets. In the future, researchers can expand the respondents of the research to all assets managers in SKPD and add the elements of accountability to be analised.

REFERENCES

Agustinus, J. (2012). *Kajian Fenomenologi kinerja keuangan dan akuntabilitas pengelolaan dana otonomi khusus sektor pendidikan di Provinsi Papua.* S3, Universitas Brawijaya, Malang.

Aurelie, & Petrie, U. (2014). The transformative effect of top management governance choices on project team identity and relationship with the organization — An agency and stewardship approach. *International Journal of Project Management, 32*, 1358-1370.

BPK, R. (2015). Laporan Hasil Pemeriksaan BPK RI Tahun 2015: Badan Pemeriksa Keuangan.

BPK, R. (2016). Laporan Hasil Pemeriksaan BPK RI Tahun 2016: Badan Pemeriksa Keuangan.

BPK, R. (2017). *Ikhtisar hasil pemeriksaan semester II BPK RI tahun 2017*. Retrieved from http://www.bpk.go.id/assets/files/ihps/2017/I/ihps_i_2017_1507002855.pdf.

Creswell, J. W. (2014). *Qualitative inquiry & research design: Choosing among five approaches*. Thousand Oask, London, New Delhi: Sage Publication.

Ebrahim, A. (2010). *The many faces of nonprofit accountability*.

Firdaus, M. A., & Ritonga, I. T. (2018). Analisis artikulasi laporan keuangan pemerintah daerah. *Jurnal Akuntansi & Akuntabilitas Publik, 1*(1), 68-87.

Halim, A., & Abdullah, S. (Producer). (2009, 12 Juni 2015). Hubungan dan masalah keagenan di pemerintah daerah: Sebuah peluang penelitian anggaran dan akuntansi. Retrieved from http://www.bppk.depkeu.go.id/

Inspektorat, P. J. T. (Producer). (2016). *Transformasi fungsi audit intern pemerintah: Meningkatkan kapabilitas APIP*. Retrieved from http://inspektorat.jatengprov.go.id/2015/po-content/po-upload/4.%20%20DEPUTI%20PKD%20-%20Dadadng%20K.pdf

Kaihatu, T. (2006). Good corporate governance dan penerapannya di Indonesia. *Jurnal Manajemen dan kewirausahaan, 8*(1), 1-9.

Mardiasmo. (2004). *Otonomi dan manajemen keuangan daerah*. Yogyakarta: ANDI.

Pangaribuan, & Sumini. (2010). *Modul pokok pokok pengelolaan barang milik daerah*. Paper presented at the Pusdiklat Kekayaan Negara dan Perimbangan Keuangan.

Raharjo, E. (2006). Teori agensi dan teori Stewardship dalam perspektif akuntansi. *Fokus Ekonomi, 2*(1), 37-46.

Rahayu, S. (2016). Institutionalization process of SOA funds budgeting at basic education institutions in Indonesia. *Research Journal of Finance and Accounting, 7*(4), 201.

Rahayu, S., Ludigdo, U., Irianto, G., & Nurkholis. (2015, 17-18 September 2015). *Budgeting of school operational assistance fund based of Gotong Royong.* Paper presented at the 2nd Global Conference on Business and Social Science, Bali.

Sadjiarto, A. (2000). Akuntabilitas dan pengukuran kinerja pemerintahan. *Jurnal Akuntansi & Keuangan, 2*(2), 138-150.

Said, & Jaafar. (2014). Accountability in government linked companies: An empirical finding. *Procedia-Social and Behavioral Sciences, 145*, 294-299.

Sugiyono. (2015). *Metode penelitian kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta.

Sujarwo, H. N., & Halim, A. (2013). Analisis inventarisasi aset tetap pada pemerintah Kabupaten Bantul. *Jurnal Program Magister Akuntansi Fakultas Ekonomika dan Bisnis, Universitas Gadjah Mada*.

Fiscal Policy and Economic Stability: A Case of Pakistan

Farhan Ahmed[1]; Suman Talreja[2]; Yasir Aman[3*]; Govinda Lohana[4]

[1)] NED University of Engineering & Technology, Karachi-Pakistan
[2)] SZABIST, Karachi-Pakistan
[3)] Habib Bank Limited, Karachi-Pakistan
[4)] Bank Al Habib Limited, Karachi-Pakistan

**Correspondence author email: agm.ird@yahoo.com*

Abstract
This paper aims to assess the impact of fiscal policy on the economic stability within Pakistan. The findings indicate that the fiscal policy process constitutes the subsequent impact on the GDP, FDI, discount rate and CPI. That is to say, the corresponding expansionary and contractionary fiscal process has a direct and significant impact on the overall productivity, the foreign investment, the interest rates and the inflation process of the state. However, in comparison to these three variables, the exchange rate has an indirect impact and is lesser significant as compared to the other variables. The findings help stakeholders to understand how the overall fiscal policy affects the economic and business cycle of the country and how each individual is affected by the decisions made by the government executives in constituting the fiscal policy.

Keywords: *Discount Rate, Gross Domestic Product, Exchange Rate*

JEL Classification*:* O40, E62

INTRODUCTION

Fiscal Policy plays a very important and critical role in a nation's economy. It summarizes the sources of income of the state and their subsequent expenditures and based on that, the budget analysis is comprehended. Therefore, it is very important to know the microeconomic as well as the macroeconomic effects of the fiscal policy. However, our research would particularly comprise of the macroeconomic effects. The major macroeconomic variables that have a significant impact on fiscal policy include the total composition of output or GDP, the tax policy, the state expenditures, inflation rate, capital inflow or FDI, interest rates, inflation rates, and the exchange rates. Since these variables also reflect the development of our nation's economy, therefore it would also provide us a valuable insight as to how the economy is shaped and analyzed.

The fiscal policy is one of the important tools used by Government to give country a right direction. Government has two ways to change its direction by making adjustments in taxes or expenditures. Fiscal policy is the issue being discussed by the policy maker and researchers because it gives a right direction towards countries development. Serfraz & Anwar (2009) stated Fiscal budget is overall changes in the government budget which impacts on macroeconomic variables such as GDP, unemployment, and inflation.

The main purpose of the fiscal policy is to generate the revenue stream in the form of taxes and those taxes are utilized to carry out the government expenditures. Government collect taxes in various forms such as sales tax, income tax, corporate tax,

social security tax, and other indirect taxes Khalid et al., (2008). Government uses these revenues to meet its expenses such as infrastructure development, health care development, improving the standard of education etc. If Government expenditures are greater than its revenues, then it constitutes budget deficit and if its income exceeds the expenditures, than we have the budget surplus. The government can achieve the budget surplus in many ways. However, the government needs to constitute a clear and transparent policy under which it can improve the budgetary constraints and difficulties.

The fiscal policy has been seen as an important indicator to attract the foreign direct investment. For example, it can be used in a way that the government can reduce the corporate tax rates to attract the foreign investors. In this way, the lower cost for the investor with forecasting for high returns will encourage him to invest in various forms Li & Resnick (2003). However, when industries grow, the employment rate also increases. The labor gets sufficient wages to have a stable life.

Fiscal policy affects the whole economy as it has the power to increase or reduce the output. Economy can be stabilized by saving money from the budget and invest in the better infrastructure for attracting the foreign direct investment. But if the Government is in deficit position and they have more expenditures then savings, then the Government can borrow short term and long term loans from the financial institutions like banks and corporations in the form of T-Bills and PIBs. In order to analyze its effects on the economy, we have to analyze both situations separately for short run and long run. In the long run, it contributes negatively towards our economy as it is considered a burden because, at the end of the period, we have to repay the interest and the principal amount both, which will, in turn, enhance and increase the budget deficit. However, in the short run, a situation named as Crowding-out Effect, this situation arises when the government relies on borrowings and utilizes the loans to build and improve the government-owned entities like health care and infrastructure development. Thus lesser loans are available for the private sector to carry out their work activities. Thus, the government is believed to be crowding out the private sector. This will, in turn, lead to higher interest rates in the future.

When the government collects less taxes and spending is in excess, then it means the government has initiated the Expansionary Fiscal Policy. The reduced taxes increase the consumption level of the people. However, the more consumption will increase the demand for goods. That includes both types of good, i.e. locally produced goods and imported goods. Due to the higher demand, the import of goods also increases, which in turn, increases the import bill. That means more dollars are going out of the economy and that constitutes the depreciation of the local currency. Another situation arises when the government borrows excessively. In this case, the interest rates increase. The higher interest rate will increase the capital inflow and will attract the foreign direct investment, which will, in turn, bring in more dollars into the economy. This constitutes the appreciation of local currency.

The main aim of this research is to analyze how each of the macroeconomic factors affects the fiscal policy process of the country. The research will also help us understand the importance of each of the subsequent factors. Fiscal Policy is of two types: namely contractionary fiscal policy and Expansionary Fiscal Policy. When the government revenues are greater than its expenses, then it constitutes the Contractionary Fiscal Policy. This means the budget is in surplus. And when the government expenditures are greater than its revenues, then it constitutes the Expansionary Fiscal Policy. This means the budget is in deficit. However, the traditional practice is that the State Bank uses the expansionary fiscal policy in tough times like recessions so that

they could attract foreign direct investment and improve the capital structure of the country. The State Bank uses the contractionary policy in good economic times, i.e. when the economy is in boom. The main aim is to control the rising inflationary trends.

The objective of the study is to analyze the impact of macroeconomic effects on fiscal policy using the Vector Autoregression (VAR) Model. How each of the factors affects the composition of budget and the corresponding positive and negative relations will be studied. The variables that have been taken into account include the composition of output or GDP, the impact on exchange rates and the relation between the monetary policy and the fiscal policy which includes the impact of fiscal policy on the long-term interest rates of the country. The timeline of the study will be from 1995 to 2014 (20 years). The components of the VAR model included the exchange rate volatilities and level of GDP and the corresponding level of interest rates.

The study has an utmost importance since it determines the importance of each variable and how it brings about a significant change in the fiscal policy process. To analyze the impact each macroeconomic factor will create in the fiscal policy will help us determine the forces that play a critical role in devising the tax policy and the government expenditure and budgeting purposes. The main stakeholders of the study are: 1) The policymakers who would be able to determine how the tax policy will affect the overall economic activity of the country; 2) The economists who will help in devising a favorable fiscal policy that should strengthen the overall economy of the country; 3) The financial analysts who determine the level of interest rates based on the corresponding tax policies and economic conditions; 4) The general public who are the major taxpayers and what affect the fiscal policy brings into their financial positions.

LITERATURE REVIEW OF THE STUDY

In Pakistan, government stakeholders and economists are more focused and concerned about the monetary policy. However, it is also essential to look into the impact of fiscal policy in our economy. Economists, policymakers and financial analysts have different views about the impact of monetary and fiscal policy in our economy. In our research, we are focusing in detail on the impact of fiscal policy based on previous researches.

Fiscal policy determines the overall budget of the country in every corresponding year. And that budget contains the results of various variables like GDP or output and foreign inflows etc Favero & Giavazzi (2007). Therefore, in order to analyze the impact of each macroeconomic variable, it is very important to have an insight related to the previous studies and researches that have been conducted on this particular course of study. Our literature would consist of studies from various regions and by various economists and analysts. This would help us in consolidating our research and for comparison purposes also. It is essential that the studies should be concerned with diversifying regions and capacities so that we may be able to summarize the overall or average impact of each macroeconomic variable on the fiscal policy of Pakistan.

Fiscal policy has a direct impact on the overall output of the country. Like if the government plans to increase the taxes, so this will lower the saving patterns of people and the consumption would also decrease. This will lower demand for goods and the overall productivity decreases. However, on the other side, the government can play a major role in increasing output by reducing taxes. The lower taxes would encourage saving patterns and will increase the consumption over a period of time. This will encourage more productivity and output and thus the GDP increases. Lower taxes also

attract the foreign investors as they have a traditional view of investing in a state where growth and return opportunities are higher and taxes are lower.

Fiscal Policy and GDP

Fiscal policy determines the level of productivity and output. In the case where the state reduces taxes, the economy prospers as the output increases, the inflation decreases, employment increases and subsequently the overall business cycle is in a positive state. The taxes will bring in more capital inflow and it can also enhance the export bill and the trade deficit can also be reduced. This state not only provides a support to the trade but also the credit rating of the economy can be improved. The higher employment will discourage the people from finding employment opportunities abroad and the brain drain will be discouraged. Most of the times the state has been in a budget deficit position where the taxes are lower than the expenses. The main hurdle to this is the fact that the government seems reluctant to cut down on the state expenses. The traditional approach has always been to increase taxes to control the deficit.

According to Sandro et al., (2008), economic activity is positively affected by shocks to government purchases of goods and services, these shocks tends to increase private real GDP, however, the response after few years drop to zero. They further revealed that employment, private consumption, and investment also have positive effect.

The fiscal policy of the economy will determine the impact of the future economic indicators. We have been witnessing a trend of rising state expenses and it is rising at an increasing rate. The tax policy is unclear. It has been evident that a rising population of the nation does not pay taxes and that is also one cause of the budget deficit. However, the state executives usually abuse the power and seem reluctant in paying taxes Kneller et al., (1999).

Fiscal Policy and Interest Rates

The trend shows that the fiscal deficit has always resulted in an increase in the interest rate structure of the economy. The reason being that the higher state expenditures encourages more borrowing from the Central Bank. This will, in turn, affect the business cycle of the economy. The financial institutions will then be discouraged to borrow and thus the lending of banks will also get affected. Besides, the foreign investors will be reluctant to invest considering the too much cost in the form of corporate tax. Agha & Khan (2006) argued in their study that long-run inflation is related to financing fiscal deficit as well as fiscal imbalances, by assuming impact of exchange rate and real GDP as exogenous.

The borrowing has a negative implication as it will also demotivate the investors that the country is indebted with too much money and the state is not in a stable economic position. The rising expenses and the rising deficit might force the economy to move towards foreign funding as the deficit also impacts the exchange rate and the local currency gets depreciated. The funding from the external agencies will have an adverse effect on the credit rating of the economy. The low rating puts the economy in an undesirable situation as no venture will come and invest in such economy. Therefore the fiscal policy process has a very significant impact on the discount rates of the country as it will determine the future economic position of the country. In this scenario, the monetary policy and the fiscal policy makers have a joint discussion as to how the economy can be stabilized and how the economic and financial position of the country can be improved.

Fiscal Policy and Inflation

According to classical theory (Quantity Theory of Money), Money growth drive inflation, as higher growth rate of money determines the level of price. Fiscal policy has a direct impact on the inflationary trends in the country. The rise in the prices of goods and services occur when there is lesser output produced and more demand of goods is there. However, the lesser output is a result of lesser industries operating in the economy or the lesser factors of production Shahid Ali & Naveed Ahmed (2010). The lesser industries are a result of dissatisfaction of the industries and investors that withdraw their capital from the country.

António & Peter (2007), discussed that "fiscal slippages are mainly due to reversals in tax policies", which in contrast tends to worsen economic conditions with rise in deficit. However, in good time bad policies result as contributing factor in aggregate macroeconomic instability.

The investors are generally concerned with high return and low cost. But due to the corporate tax rates, the profit structure of the industries get affected which results in closure or bankruptcy. The inflation decreases the saving patterns of the people and results in lesser investments. However, due to higher inflation, poverty rises and the lifestyle of the people gets affected as the inelastic goods become costly and people could not meet with the rising prices of goods. In this situation, the brain drain can also occur where the educated class feels the need to getting employed abroad for better income and to meet up the expenses.

Fiscal Policy and Exchange Rates

The fiscal policy can affect the exchange rates in a way that if the state has implemented an expansionary fiscal policy, then the rising government spending will result in the higher interest rates. The higher interest rates are being seen by the foreign investors as an opportunity to invest in a higher return. They invest in the form of dollars, the supply of the dollar currency increases. Thus the local currency appreciates and the imported goods become cheaper. The higher supply of dollar will not only decrease the import bill but will also generate much revenue through the exports which will become expensive for the buyers. Therefore, the fiscal policy has a much greater say when it comes to improving the status of the local currency and strengthening the trade balance of the country. The exchange rates are also seen by some investors as a strong indicator of the economic performance of the country. Agha & Khan (2006) argued in their study that long-run inflation is related to financing fiscal deficit as well as fiscal imbalances, by assuming impact of exchange rate and real GDP as exogenous.

The appreciation of the local currency indicates that the trade balances of the country are in a stable position due to the cheaper imports and the inflationary trends in the country is also controlled.

Fiscal Policy and FDI

Foreign direct investment is a critical variable which determines the overall economic stability and strength of the country. The FDI can be raised in the expansionary fiscal policy in which the interest rates are high. FDI inflows help to reduce transaction cost and risk for foreign investors and help to improve more credible property rights protection Li & Resnick (2003).

Also, there is one thing that should be taken into account is the fact that the rising tax policy has a negative impact on the FDI. If the corporate tax rate would be high, then it will affect the financial position of the firms as the profits will be squeezed. However, in this situation, most firms opt for capital expansion in the form of debt so

that the interest acts as a shield from rising tax rate. Makki & Somwaru (2004), their findings suggested that FDI and economic growth trade has strong positive integration for developing economies. They further discussed that domestic investments are stimulated by FDI and its contribution towards growth of economy is enhanced by its positive integration with stability of institutions and macroeconomic policies. Therefore, it can be said that the expansionary fiscal policy can encourage the foreign investment and the government shall take measures to improve the tax policy to be in a strong economic state

Theoretical Review

There have been studies and researches conducted on this study and there are various schools of thoughts that have a different views on the impact of each variable on the fiscal policy. Below are the summarized views of the studies:

Antonio Afonso and Ricardo M.Sousa (2009) concluded the results by using the Vector Autoregression Model (VAR). He stated that the expansionary fiscal policy has a minor impact on the private sector. The rise in the state expenses has an indirect impact on the overall output and GDP. He further stated that the high government spending gives rise to the decline of the stock exchange and the stock prices fall.

Fata's and Mihov (2001) studied the fiscal policy process in detail and concluded that the fiscal policy and monetary policy have a strong relation and that both must be devised keeping in mind the state-owned as well as the private sector. However, he was of the view that the private sector is usually ignored when devising the fiscal policy. The government will usually focus more on the tax policy structure and less on the state expenditures

Blanchard and Perotti (2002) studied the impact of elastic goods in times of contractionary fiscal policy. The contractionary fiscal policy arises when the taxes are increased and the expenses are controlled. This is mainly done to have a strong budgetary position and the prices of elastic goods rise due to the lesser inflationary scenarios in the concerned fiscal policy. Normally economists and financial analysts are more concerned and focused on the impact of monetary policy than fiscal policy. In impact of monetary policy, it is related to interest that's why it is directly hurting the money supply and cost of interest. Whereas in fiscal policy it is not the case.

Other studies have been conducted which stated that the high-worth investors are of the view that the privately-owned corporations and institutions are earning them a higher rate of return than the state-owned enterprises. The major reason for this could be the highly sophisticated check-and-balance system in the private sector as opposed to the state-owned companies. The state needs to have sufficient funds to run and operate the enterprises and that is possible only when the state needs to plan and control its flow of funds. It is highly critical in the fiscal policy systems that the government needs to control its expenditures up to the extent that they should achieve a positive balance of payments situation. This is possible when the states plans the tax and expenditure policy and implement it accordingly.

Considering the capital-intensive technologies, the positive balance-of-payments situation will help them create factories and highly profitable institutions from which a considerable source of income is generated. Therefore, studying the impact of each macroeconomic variable will help us understand how each of the fiscal policy variables affects it in a positive or negative way. Lowering the expenditures and stabilizing the tax policy is also not good as it will cease the development process of the country.

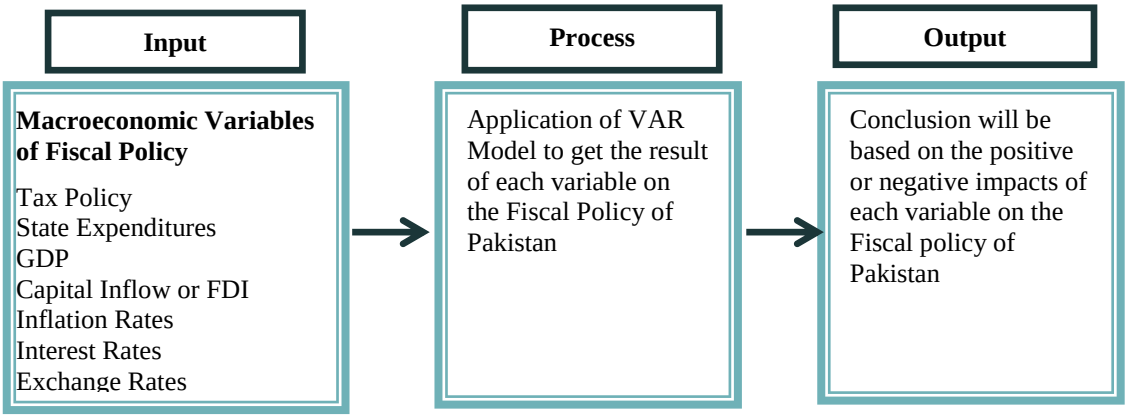
METHODS

The research would be based on a detailed analysis on the fiscal policy of Pakistan. The data can be collected through multiple sources which include the publications, the past researches and online website etc. The scope of this study will be meaningful to all the government officials, policy makers, economists, financial analysts and decision makers in strategic business issues. The data will be gathered for 20 years, i.e. 1996-2014 and thus this data can be used to analyze the effect the tax policy brings in to the economy. Besides the tax policy, the impact of the high rise in the government expenses over the past few years will also be studied. For this purpose, the concerned persons will be approached and communicated face to face and via email.

The figure above shows the theoretical framework of our research study. As we have discussed before, we will be using the multiple macroeconomic variables in order to evaluate and analyze the results of each variable on the fiscal policy. Tax policy and government expenditures have been defined as the dependent variables as they constitute the fiscal policy whereas the GDP, FDI, CPI, Discount rate and the Exchange rate act as the independent variables.

We will be using the Multiple Regression Models for the research study. The probability of each variable can be interpreted by the unit root test. If the data does not come out as stationary, then it will tested at 1st difference interval to make it consistent. Then Vector Autoregression (VAR) Model will be used to analyze the impact of each variable against the corresponding variables and thus the results will be comprehended. Florian Hoppner (2001), Khan et al (2007) & Sandro & Roberto (2008) use same model in their research study to analyze the data.

We aim to conclude the output by analyzing the impact of the fiscal policy process on each of the corresponding dependent and independent variables.



Throughout the literature review, we have observed that the independent variables like GDP, interest rates have a significant impact on the fiscal policy but to further strengthen our study we have used the Multiple Linear Regression to capture the output. We have used the f-test and its p-value. The f-test is an important tool for testing the joint significance of all the independent variables. If all the independent variables are not jointly significant, then we cannot reject the null hypothesis and homoskedasticity will be assumed. To reject a null hypothesis, we require a p-value less than 0.05. Since the p-values of all our independent variables is less than 0.05, therefore it can be concluded that homoskedasticity is present. Which means each independent variable has an equal significance and impact to the dependent variable. We have performed the unit-root test to conclude the output.

The unit root test is basically conducted to test whether a time series variable is non-stationary or not. To test the validity of the unit root test, we have the Augmented Dickey-Fuller (ADF) test developed by David Dickey and Wayne Fuller in 1979. It takes into account the f-statistic and its p-value which shows either the null hypothesis is rejected or not. Since the p-value of all the variables that we have taken into account is less than 0.05, therefore it can be concluded that the 20 years of data is stationary and lesser variation can be seen over the period of time. However, initially the data was non-stationary while using the unit root test but after capturing the data at 1st difference interval, it can be seen that the data is stationary and there is no major fluctuation in the data over the entire period. It is highly critical to validate the data with tests so that accurate results can be captured.

In this case, the null hypothesis is the unit root which we have tested through Augmented Dickey-Fuller (ADF) test. The results have become static which means that the VAR model can be applied to capture the accurate results.

RESULTS AND DISCUSSION

We have used the VAR Model to validate and analyze the impact and inter-relation of each of our dependent and independent variables. As shown in Table 8, we have analyzed each independent variable with the other independent variable and likewise with the dependent variable too. So it will give us the impact of each variable and we will get to know their dependency over each other. We have captured the data on the 1 % difference interval as well as at 2% difference interval as shown in the tables above.

As shown in Table 1 (Appendix), the results were initially extracted through the unit root test and it indicated that the CPI has a probability of 0.0012 which accepts the null hypothesis that the data has not been consistence over the years. However, after conducting tests at 2% difference interval (See Table 9 in Appendix), it showed a consistent result and it can be deduced that the inflation has a direct and significant impact on the other variables and it has an adverse impact on the foreign direct investment which show a heavy reliance at 1% difference interval. The probability of CPI stands at 0.7035 (See Table 9 in Appendix). It can be concluded that the inflation has major impact on the fiscal policy as it has around 70% impact on the government expenditures and 94% impact on the Government revenues. Besides, it has a major impact on the discount rate since the monetary and fiscal policies go together. Therefore, the determinants of both these policies determine the corresponding inflation and interest rates. Catao and Terrones (2003) revealed a positive relationship among inflation and fiscal deficit between developing countries and high inflation country groups, but as far as advanced economies with low inflation are concerned results are not same.

It can be further deduced from the VAR model (See Table 8 in Appendix) that the discount rate has a greater impact on the Exchange Rate (Around 94% at 1% difference interval). The reason being that when the taxes are raised, the discount rate also tends to increase as the government borrowing also increases to control the budget deficit. Therefore, in case of high government borrowing, the foreign investors become hesitant to invest, which means lesser dollar is flowing into the economy. The demand for dollar is already high due to imports. Therefore, the more demand and lesser supply of dollar will result in the appreciation of the foreign currency and subsequently, the local currency depreciates.

Furthermore, when the taxes are raised, keeping in mind the corporate tax rate, the investors are reluctant to invest due to higher tax cost. In the expansionary fiscal policy where the taxes are reduced and the government spending is raised, we see a trend of higher interest rates or discount rates to discourage borrowing at any level. In this situation, the Central bank raises interest rates of the economy which can attract the foreign investors to invest at high rate. However, we have witnessed over the past few years that the rising tax policy has decreased the overall output and productivity of the economy (See Table 8 in Appendix). This happens due to the fact that the industries need to cope with the higher tax rates and closure of industries take place. The lesser output will be produced which then constitute a rising inflation in the future. Mountford (2005), found nearly similar results stating that tax cut helps to improve GDP.

However, the impact of foreign direct investment can also be deduced from the Model. When investors bring in money into the economy, then that means more dollar currency is flowing into the economy which appreciates the local currency of the nation. The exchange rate difference becomes lower between rupee and dollar (See Table 8 in Appendix) However in times of expansionary fiscal policy, the spending is high and government borrowing is high. This means more borrowing take place. When the economy has more borrowing, then there comes a point where we feel the need to borrow from external sources. This means more dollars move out of the economy and the depreciation of local currency takes place. The high reliance on external agencies will have an adverse effect on the FDI.

CONCLUSION AND RECOMMENDATIONS

The results portray that the macroeconomic variables have a major inter-relation among each other. No macroeconomic variable can be ignored. The fiscal policy shall be devised keeping in mind all the variables. However, the past trend shows that the country has been in the deficits for most period of time. This is due to the heavy reliance on debt and lesser output and productivity due to lack of resources like electricity and gas supply. The fiscal policy has a key role in improving the economic position of the country. The fiscal policies can either improve or damage the economy of the country. Therefore, keeping in mind the current scenario of the country, it is the need of the hour that the country shall move into strict measures in improving the tax policy of the country and to reduce the country's expenses up to the level where they can achieve the budget surplus. The fiscal policy plays a critical role in the economic stability of the country. Therefore, it shall be improved and the budgetary constraints shall be reduced. In this way, the economy can grow and the country can prosper.

The government should take measures to strengthen the tax policy and the tax laws. The tax system is corrupted which needs to be taken care of. The tax collection process shall be transparent. However, in the current scenario of high budget deficit, the government shall discontinue providing subsidies, and move towards controlling the state expenses. This will have a positive impact on the fiscal position of the country. When the budget surplus occurs, the government needs to utilize that surplus to control the other economic deficits like trade deficit. The local currency has been adversely depreciated over a period of time due to higher external debt. It can be reduced by achieving self-sufficiency, by increasing the output level, strengthen the capital position of the country by encouraging the foreign investors and by stabilizing the interest rates in favor of the positive economic trend.

Further studies can be conducted where the fiscal policy can be analyzed through the performance of the key stakeholders' firms and financial institutions of the country.

Besides the impact of nationalization and privatization on fiscal policy can also be studied. The privatization is believed to be more productive and output levels are higher so how it will impact the fiscal policy process is also something that needs to be analyzed and researched. Fiscal policy can also be analyzed based on the performance of the equity market of the economy. That is to say, how the booming stock exchange impacts the fiscal policy process and vice versa.

REFERENCES

Afonso, António & Claeys, Peter (2007). "The dynamic behavior of budget components and output," Working Paper Series 0775, European Central Bank.

Agha, A. I., & Khan, M. S. (2006). An empirical analysis of fiscal imbalances and inflation in Pakistan. *SBP Research Bulletin, 2*(2), 343-362.

Alesina, A & R Perotti (1995). "Fiscal Expansions and Fiscal Adjustments in OECD Countries," NBER Working Papers 5214, August, National Bureau of Economic Research

Carlos Marinheiro (1998)," The Stability Pact and the Portuguese Fiscal Policy: the application of a VAR Model", Faculty of Economics, University of Coimbra

Catao, L. and E.M. Terrones (2003). Fiscal Deficits and Inflation. IMF Working Paper WP/03/65.washington, D.C.

Dario Caldara, Christophe Kamps (2008), "What are the effects of Fiscal Policy Shocks? A VAR Based Comparative Analysis", European Central Bank, Working Paper Series

Devarajan, S., Swaroop, V., & Zou, H.-f. (1996), "The Composition of Public Expenditure and Economic Growth", Journal of Monetary Economics, Vol. 37, pp. 313-344.

Easterly, W., & Rebelo, S. (1993), "Fiscal policy and economic growth: An empirical investigation", Journal of Monetary Economics, Vol. 32, pp. 417-458. http://www.nber.org/papers/w4499

Favero, C and F Giavazzi (2007), "Debt and the effects of fiscal policy", NBER Working Paper 12822, January, pp 26.

Florian Hoppner (2001), "A VAR Analysis on the Effects of Fiscal Policy in Germany", Institute for International Economics, University of Bonn,

Fowlie, K (1999), "Automatic fiscal stabilizers", Treasury Working Paper 99/7, 15.

Giavazzi, Francesco & Pagano, Marco (1990). "Can Severe Fiscal Contractions Be Expansionary? Tales of Two Small European Countries," CEPR Discussion Papers 417, C.E.P.R. Discussion Papers.

Kneebone, R. D., & McKenzie, K. J. (1999), "The Characteristics of Fiscal Policy in Canada", Canadian Public Policy, Vol. 25 No. 4, pp. 483-501.

Kneller, R., Bleaney, M. F., & Gemmell, N. (1999), "Fiscal policy and growth: evidence from OECD countries", Journal of Public Economics, Vol. 74, pp. 171–190.

Li, Q., & Resnick, A. (2003). Reversal of fortunes: Democratic institutions and foreign direct investment inflows to developing countries. *International organization, 57*(1), 175-211.

Makki, S. S., & Somwaru, A. (2004). Impact of foreign direct investment and trade on economic growth: Evidence from developing countries. *American Journal of Agricultural Economics, 86*(3), 795-801.

Mountford, A.; Uhlig, H. (2005), "What are the effects of fiscal policy shocks?" Humboldt-Universität zu Berlin Working Paper SFB Nº. 649.

Perotti, R. (1999), "Fiscal policy in good times and bad", Quarterly Journal of Economics, 114, 1399-1436.

Roberto Perotti (2004). "Estimating the effects of fiscal policy in OECD countries," Working Papers 276, IGIER (Innocenzo Gasparini Institute for Economic Research), Bocconi University.

Sandro, Raffaela, Stefano and Roberto (2008), "The Effects of Fiscal Policy in Italy: Evidence from a VAR Model", Social Science Research Network Papers,

Sarfraz, A., & Anwar, M. (2009). Fiscal Imbalances and Inflation: A Case Study of Pakistan. *Pakistan journal of social sciences (PJSS)*, *29*(1).

Shahid Ali and Naved Ahmad (2010), "The Effects of Fiscal Policy on Economic Growth: Empirical Evidences Based on Time Series Data from Pakistan", the Pakistan Development Review Paper 49:4 Part 2, pp 497-512.

APPENDIX

Table 1. Unit Root Test of CPI

Null Hypothesis: D(LNCPI,2) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.975471	0.0012
Test critical values:	1% level	-3.886751	
	5% level	-3.052169	
	10% level	-2.666593	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 17

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNCPI,3)
Method: Least Squares
Sample (adjusted): 4 20
Included observations: 17 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNCPI(-1),2)	-1.242833	0.249792	-4.975471	0.0002
C	-0.002605	0.008937	-0.291478	0.7747
R-squared	0.622692	Mean dependent var		-0.000807
Adjusted R-squared	0.597538	S.D. dependent var		0.058039
S.E. of regression	0.036820	Akaike info criterion		-3.655437
Sum squared resid	0.020335	Schwarz criterion		-3.557412
Log-likelihood	33.07122	F-statistic		24.75531
Durbin-Watson stat	1.889379	Prob(F-statistic)		0.000166

Table 2. Unit Root Test of Discount Rate

Null Hypothesis: D(LNDR) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.078753	0.0064
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNDR,2)
Method: Least Squares
Sample (adjusted): 3 20
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDR(-1))	-0.983999	0.241250	-4.078753	0.0009
C	-0.040886	0.043446	-0.941073	0.3607
R-squared	0.509747	Mean dependent var		-0.011878
Adjusted R-squared	0.479106	S.D. dependent var		0.251951
S.E. of regression	0.181841	Akaike info criterion		-0.466933
Sum squared resid	0.529056	Schwarz criterion		-0.368003
Log-likelihood	6.202401	F-statistic		16.63622
Durbin-Watson stat	1.947108	Prob(F-statistic)		0.000875

Table 3. Unit Root Test of Exchange Rate

Null Hypothesis: D(LNER) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.760230	0.0538
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNER,2)
Method: Least Squares
Date: 11/06/15 Time: 19:01
Sample (adjusted): 3 20
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNER(-1))	-0.641045	0.232243	-2.760230	0.0139
C	0.033976	0.020554	1.653011	0.1178
R-squared	0.322576	Mean dependent var		-0.007578
Adjusted R-squared	0.280237	S.D. dependent var		0.069980
S.E. of regression	0.059371	Akaike info criterion		-2.705596
Sum squared resid	0.056398	Schwarz criterion		-2.606666
Log-likelihood	26.35037	F-statistic		7.618872
Durbin-Watson stat	1.819361	Prob(F-statistic)		0.013938

Table 4. Unit Root Test of FDI

Null Hypothesis: D(LNFDI) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.092181	0.0453
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNFDI,2)
Method: Least Squares
Sample (adjusted): 3 20
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNFDI(-1))	-0.688580	0.222684	-3.092181	0.0070
C	0.064094	0.086808	0.738344	0.4710
R-squared	0.374061	Mean dependent var		0.030278
Adjusted R-squared	0.334940	S.D. dependent var		0.448016
S.E. of regression	0.365363	Akaike info criterion		0.928588
Sum squared resid	2.135840	Schwarz criterion		1.027518
Log-likelihood	-6.357288	F-statistic		9.561585
Durbin-Watson stat	2.053981	Prob(F-statistic)		0.006993

Table 5. Unit Root Test of GDP

Null Hypothesis: D(LNGDP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.282808	0.0042
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 18

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNGDP,2)
Method: Least Squares
Sample (adjusted): 3 20
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNGDP(-1))	-1.064570	0.248568	-4.282808	0.0006
C	-0.022066	0.099234	-0.222364	0.8268
R-squared	0.534104	Mean dependent var		0.005907
Adjusted R-squared	0.504986	S.D. dependent var		0.597100
S.E. of regression	0.420103	Akaike info criterion		1.207805
Sum squared resid	2.823784	Schwarz criterion		1.306735
Log-likelihood	-8.870248	F-statistic		18.34245
Durbin-Watson stat	1.980151	Prob(F-statistic)		0.000571

Table 6. Unit Root Test of Government Expenditure

Null Hypothesis: D(LNGOVTEXP) has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.411832	0.0289
Test critical values:	1% level	-4.004425	
	5% level	-3.098896	
	10% level	-2.690439	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNGOVTEXP,2)
Method: Least Squares
Sample (adjusted): 7 20
Included observations: 14 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNGOVTEXP(-1))	-3.140014	0.920331	-3.411832	0.0092
D(LNGOVTEXP(-1),2)	2.250391	0.903566	2.490567	0.0375
D(LNGOVTEXP(-2),2)	1.865106	0.719255	2.593107	0.0320
D(LNGOVTEXP(-3),2)	1.468364	0.546288	2.687894	0.0276
D(LNGOVTEXP(-4),2)	1.311049	0.366042	3.581694	0.0072
C	0.235189	0.099693	2.359132	0.0460
R-squared	0.793830	Mean dependent var		0.005441
Adjusted R-squared	0.664975	S.D. dependent var		0.546364
S.E. of regression	0.316243	Akaike info criterion		0.832916
Sum squared resid	0.800077	Schwarz criterion		1.106797
Log-likelihood	0.169591	F-statistic		6.160604
Durbin-Watson stat	2.613653	Prob(F-statistic)		0.012448

Table 7. Unit Root Test of Government Expenditure

Null Hypothesis: D(LNGOVTREV) has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic based on SIC, MAXLAG=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.890777	0.0123
Test critical values:	1% level	-4.004425	
	5% level	-3.098896	
	10% level	-2.690439	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNGOVTREV,2)
Method: Least Squares
Sample (adjusted): 7 20
Included observations: 14 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNGOVTREV(-1))	-3.236326	0.831794	-3.890777	0.0046
D(LNGOVTREV(-1),2)	2.332220	0.827221	2.819343	0.0225
D(LNGOVTREV(-2),2)	2.040346	0.641738	3.179407	0.0130
D(LNGOVTREV(-3),2)	1.510029	0.512058	2.948945	0.0185
D(LNGOVTREV(-4),2)	1.488785	0.355056	4.193095	0.0030
C	0.258866	0.078709	3.288882	0.0110
R-squared	0.855032	Mean dependent var		-0.000943
Adjusted R-squared	0.764426	S.D. dependent var		0.427907
S.E. of regression	0.207689	Akaike info criterion		-0.008026
Sum squared resid	0.345077	Schwarz criterion		0.265856
Log-likelihood	6.056182	F-statistic		9.436885
Durbin-Watson stat	2.601960	Prob(F-statistic)		0.003313

Table 8. VAR Model

Vector Autoregression Estimates
Sample (adjusted): 3 20
Included observations: 18 after adjustments
Standard errors in ( ) & t-statistics in [ ]

	LNCPI	LNDR	LNER	LNFDI	LNGDP	LNGOVTEXP	LNGOVTREV
LNCPI(-1)	0.425214	4.495219	-2.740858	-27.68848	0.704771	6.838769	2.878418
	(2.18342)	(7.60858)	(2.13227)	(6.68528)	(24.0696)	(19.9976)	(14.7530)
	[0.19475]	[0.59081]	[-1.28542]	[-4.14171]	[0.02928]	[0.34198]	[0.19511]
LNCPI(-2)	0.781402	-1.548034	2.944805	23.62826	3.662025	-3.319141	0.597544
	(1.98198)	(6.90661)	(1.93554)	(6.06849)	(21.8489)	(18.1526)	(13.3919)
	[0.39425]	[-0.22414]	[1.52144]	[3.89360]	[0.16761]	[-0.18285]	[0.04462]
LNDR(-1)	0.076066	-0.210758	0.153785	-0.242056	0.229336	-1.433755	-0.647350
	(0.16591)	(0.57815)	(0.16202)	(0.50799)	(1.82898)	(1.51956)	(1.12104)
	[0.45847]	[-0.36454]	[0.94915]	[-0.47649]	[0.12539]	[-0.94353]	[-0.57746]
LNDR(-2)	0.023770	0.489163	-0.040847	-1.435878	-0.386316	-0.787253	-0.852610
	(0.11138)	(0.38812)	(0.10877)	(0.34102)	(1.22780)	(1.02009)	(0.75256)
	[0.21341]	[1.26035]	[-0.37554]	[-4.21054]	[-0.31464]	[-0.77175]	[-1.13295]
LNER(-1)	0.235697	-0.152851	0.737714	5.204768	1.194543	-1.051839	-0.483769
	(0.36279)	(1.26421)	(0.35429)	(1.11080)	(3.99930)	(3.32271)	(2.45130)
	[0.64968]	[-0.12091]	[2.08224]	[4.68562]	[0.29869]	[-0.31656]	[-0.19735]
LNER(-2)	-0.409130	-3.275799	0.034001	-0.131155	-5.853273	-3.062867	-2.858561
	(0.44972)	(1.56714)	(0.43918)	(1.37697)	(4.95763)	(4.11892)	(3.03869)
	[-0.90974]	[-2.09030]	[0.07742]	[-0.09525]	[-1.18066]	[-0.74361]	[-0.94072]
LNFDI(-1)	0.069646	0.375508	-0.087576	0.181987	0.775357	-0.095397	0.108841
	(0.06908)	(0.24073)	(0.06746)	(0.21152)	(0.76154)	(0.63271)	(0.46677)
	[1.00817]	[1.55988]	[-1.29813]	[0.86039]	[1.01814]	[-0.15078]	[0.23318]
LNFDI(-2)	0.072789	0.232511	0.089249	0.331692	0.663109	-0.666645	-0.439882
	(0.04604)	(0.16044)	(0.04496)	(0.14097)	(0.50755)	(0.42169)	(0.31110)
	[1.58094]	[1.44920]	[1.98495]	[2.35289]	[1.30648]	[-1.58090]	[-1.41398]
LNGDP(-1)	-0.027732	-0.240517	0.175556	1.940166	-0.524849	-0.165824	-0.226590
	(0.13455)	(0.46888)	(0.13140)	(0.41199)	(1.48331)	(1.23237)	(0.90917)
	[-0.20611]	[-0.51296]	[1.33602]	[4.70931]	[-0.35384]	[-0.13456]	[-0.24923]
LNGDP(-2)	-0.124554	-0.635886	-0.047680	0.480173	-1.143964	0.525994	0.155644
	(0.10468)	(0.36479)	(0.10223)	(0.32053)	(1.15402)	(0.95879)	(0.70734)
	[-1.18981]	[-1.74313]	[-0.46639]	[1.49808]	[-0.99128]	[0.54860]	[0.22004]
LNGOVTEXP(-1)	0.016530	1.369413	-0.049858	-1.304631	-0.003071	0.424337	0.037127
	(0.21042)	(0.73326)	(0.20549)	(0.64428)	(2.31965)	(1.92722)	(1.42178)
	[0.07855]	[1.86758]	[-0.24263]	[-2.02496]	[-0.00132]	[0.22018]	[0.02611]
LNGOVTEXP(-2)	-0.196715	-0.828638	0.138022	-0.647057	-1.756254	-0.066085	-0.640855
	(0.23921)	(0.83358)	(0.23361)	(0.73243)	(2.63702)	(2.19090)	(1.61631)
	[-0.82235]	[-0.99407]	[0.59083]	[-0.88344]	[-0.66600]	[-0.03016]	[-0.39649]
LNGOVTREV(-1)	-0.067270	-1.658026	-0.062971	1.357214	-0.507648	-0.177540	-0.056413
	(0.24620)	(0.85793)	(0.24043)	(0.75382)	(2.71405)	(2.25490)	(1.66353)
	[-0.27324]	[-1.93259]	[-0.26191]	[1.80045]	[-0.18704]	[-0.07874]	[-0.03391]
LNGOVTREV(-2)	0.056589	-0.348361	0.006830	1.149006	-0.357072	0.553918	0.717060
	(0.25048)	(0.87286)	(0.24461)	(0.76694)	(2.76128)	(2.29414)	(1.69247)
	[0.22592]	[-0.39910]	[0.02792]	[1.49817]	[-0.12931]	[0.24145]	[0.42368]
C	3.036453	30.70488	0.897435	-33.06733	51.65350	22.16968	27.73367
	(4.33905)	(15.1203)	(4.23740)	(13.2855)	(47.8329)	(39.7407)	(29.3183)
	[0.69980]	[2.03070]	[0.21179]	[-2.48898]	[1.07987]	[0.55786]	[0.94595]
R-squared	0.998771	0.956790	0.996694	0.997153	0.899510	0.945939	0.968838
Adj. R-squared	0.993035	0.755145	0.981264	0.983865	0.430554	0.693655	0.823418
Sum sq. resids	0.004315	0.052402	0.004116	0.040456	0.524418	0.361990	0.197016
S.E. equation	0.037927	0.132164	0.037038	0.116126	0.418098	0.347366	0.256266
F-statistic	174.1161	4.744915	64.59556	75.04264	1.918112	3.749499	6.662307
Log likelihood	49.48268	27.01177	49.90940	29.34040	6.281643	9.617708	15.09267
Akaike AIC	-3.831409	-1.334641	-3.878822	-1.593378	0.968706	0.598032	-0.010297
Schwarz SC	-3.089433	-0.592664	-3.136846	-0.851401	1.710683	1.340009	0.731679
Mean dependent	-0.425262	-2.211563	4.187326	7.334176	1.993769	13.87798	13.68334
S.D. dependent	0.454436	0.267090	0.270589	0.914201	0.554054	0.627599	0.609841
Determinant resid covariance (dof adj.)		0.000000					
Determinant resid covariance		0.000000					

Table 9. VAR Granger Causality/Block Exogeneity Wald Tests

Sample: 1 20
Included observations: 18

Dependent variable: LNCPI

Excluded	Chi-sq	Df	Prob.
LNDR	0.302263	2	0.8597
LNER	0.986930	2	0.6105
LNFDI	4.094816	2	0.1291
LNGDP	1.420388	2	0.4915
LNGOVTEXP	0.723301	2	0.6965
LNGOVTREV	0.128913	2	0.9376
All	8.993623	12	0.7035

Dependent variable: LNDR

Excluded	Chi-sq	Df	Prob.
LNCPI	3.963605	2	0.1378
LNER	4.964937	2	0.0835
LNFDI	5.343960	2	0.0691
LNGDP	3.051937	2	0.2174
LNGOVTEXP	3.629110	2	0.1629
LNGOVTREV	3.857518	2	0.1453
All	20.13458	12	0.0646

Dependent variable: LNER

Excluded	Chi-sq	Df	Prob.
LNCPI	3.559977	2	0.1686
LNDR	0.942310	2	0.6243
LNFDI	4.956445	2	0.0839
LNGDP	2.415904	2	0.2988
LNGOVTEXP	0.350880	2	0.8391
LNGOVTREV	0.069792	2	0.9657
All	34.75194	12	0.0005

Dependent variable: LNFDI

Excluded	Chi-sq	Df	Prob.
LNCPI	18.02387	2	0.0001
LNDR	19.35958	2	0.0001
LNER	23.76842	2	0.0000
LNGDP	22.36107	2	0.0000
LNGOVTEXP	6.924919	2	0.0314
LNGOVTREV	5.352695	2	0.0688
All	138.4396	12	0.0000

Dependent variable: LNGDP

Excluded	Chi-sq	Df	Prob.
LNCPI	1.099329	2	0.5771
LNDR	0.103676	2	0.9495
LNER	1.396643	2	0.4974
LNFDI	3.222261	2	0.1997
LNGOVTEXP	0.503483	2	0.7774
LNGOVTREV	0.050513	2	0.9751
All	10.82005	12	0.5444

Dependent variable: LNGOVTEXP

Excluded	Chi-sq	Df	Prob.
LNCPI	0.784470	2	0.6755
LNDR	1.817275	2	0.4031
LNER	0.867480	2	0.6481
LNFDI	2.655765	2	0.2650
LNGDP	0.372603	2	0.8300
LNGOVTREV	0.065504	2	0.9678
All	14.41591	12	0.2749

Dependent variable: LNGOVTREV

Excluded	Chi-sq	Df	Prob.
LNCPI	1.628326	2	0.4430
LNDR	1.924775	2	0.3820
LNER	1.131877	2	0.5678
LNFDI	1.999668	2	0.3679
LNGDP	0.143265	2	0.9309
LNGOVTEXP	0.170917	2	0.9181
All	14.88606	12	0.2477

Development and supply strategy of cocoa commodity effect to cocoa farmers' revenue in Boalemo District

Abdurrahman Pakaya; Amir Halid*; Hermanto Payuyu

Agribusiness Study Department, Post Graduated Program,
Universitas Negeri Gorontalo, Indonesia

**To whom correspondence should be addressed. Email: amirhalid_ung@yahoo.com*

Abstract

This study purpose to analyze the influence of development strategy and supply chain of cocoa commodity to cocoa farmer income. This research conducted in Boalemo District with research method using stratified random sampling technique with data analysis used is multiple linear regression analysis. The result of this research stated that partially cocoa commodity development strategy in Boalemo District give positive influence to farmer's income but has not give significant influence to farmer's income. Partially supply chain gives positive effect to cocoa farmer income in Boalemo District, beside giving positive influence, supply chain also give significant influence to cocoa farmer income in Boalemo District, and for dummy of influential sub-district that is Tilamuta sub-district, followed by Sub-district Dulupi and after that Botumoito District. Simultaneously, development strategies and supply chains have a positive and significant impact on cocoa farmers' income in Boalemo District.

Keywords: *Development strategy, Supply chain, Income*

JEL Classification: Q12, Q13, Q18

INTRODUCTION

Cocoa is one of agricultural products in Indonesia that potential to contribute country foreign exchange, at the world cocoa level of Indonesia keep up the third position after Ivory Coast and Ghana. This is supported by Indonesia's planting areas that are still widely available, labor and cocoa experts. It is not excessive if this potential can still be improved. Cocoa (*Theobroma cocoa*) is one of the agricultural products that have a real and reliable role in realizing agricultural development programs, especially in terms of employment, regional development, farmer livelihood improvement, and increased income / foreign exchange.

In Gorontalo Province cocoa commodity is one of the commodities that become the driving force of the farming economy. This can be seen from the ever-increasing rate of production which compares year by year. Based on data from the Directorate General of Estate Crops of the Ministry of Agriculture, cocoa production of Gorontalo in 2014 amounted to 2,890 (tons), in 2015 its production decreased to only 2,060 (ton), but in 2016 its production rose to 2,636 tons (Dispan Gorontalo Province, 2017).

Boalemo District through the Agriculture and Estate Crops Office has implemented the mission "Developing regional superior commodities based on the region for the welfare and improvement of regional economics in the form of Million Cocoa Commodity Movement Program. Development of Cocoa Commodity

Commodity in Boalemo District is one of the efforts to increase farmer's income, improving the sustainability of agricultural land and increasing the production of export commodities. So from the side of sustainable agricultural business and the improvement of the regional economy becomes very important and strategic.

The One Million Cocoa Movement Program (GSK) is one of the flagship programs of Boalemo District launched in 2012 as an effort to realize independence and increase productivity of farmers through increasing the productivity of export commodities, especially cocoa for sustainable and sustainable agriculture development and increasing income and welfare.

The implementation of the One Million Cocoa Movement (GSK) Program in Boalemo District within 3 (Years) has been able to increase the cocoa plantation area from 2,832 Ha in 2012 to 4,262.57 Ha in 2014, the area of which is spread in seven sub districts in Paguyaman District 1,083.47 Ha; Wonosari 864.45 Ha, Mananggu 727 Ha, Dulupi 634 Ha, Botumoito 574 Ha, Paguyaman Coast 259.65 Ha and District Tilamuta 120 Ha (Department of Agriculture and Plantation of Boalemo District).

The target of the Cocoa Million Movement (GSK) program which is the cocoa development strategy is for the fiscal year 2015 for the development of Kakao Sambung Pucuk totaling 288,129 trees consisting of the Boalemo District Budgets 238,129 trees (466 Ha) and the Budgets of Gorontalo Province amounting to 50,000 trees (80 Ha). Activities financed through APBN TA. 2015 covering Rehabilitation of Cocoa Plants next to 300,000 trees and Intensification of Cocoa Garden area of 700 Ha (Department of Agriculture and Plantation of Boalemo District).

In addition, the support for the provision of infrastructure through the local government budget (APBD in Indonesian) includes; 1200 pieces of cutting scissors, 300 buckwheel scissors, Hand Speyer 245, Hand electric spreyer 133 pieces, 15 grass trimmers, 2160 liters organic fertilizer and NPK 5000 Kg fertilizer with total budget of GSK Program from APBD of Boalemo District Rp.4.866.707.700 and from State Budget (APBN in Indonesian) Rp.7.742.365.000 (Department of agriculture and plantation of Boalemo District).

For cocoa development area in Boalemo District based on cluster area consist of 9 clusters with potential area target of 8,560 Ha Cocoa Cultivation and already cultivated cocoa area 4,262.57 Ha. These clusters are scattered in all sub-districts in Boalemo District. The Cocoa Development pattern involves the planting of Cocoa Sambung Pucuk monoculture system, cocoa planting of monoculture system is done on vacant land no other plantation cultivation, cultivation of cocoa shoots under the coconut tree, cultivation of Cakao Sambung Pucuk with Cengkih plant, Patchouli or Corn. Several other development strategies are cocoa farmers receiving technical guidance on integrated crop management and integrated pest management (Department of agriculture and plantation of Boalemo District).

Cocoa production in 2012 only reached 514.18 Ton, but in 2013 it jumped to 826.49 Ton. This production continues to increase in 2014 of 1,123.19 Ton, but in the Year 2015 production decreased, only 1,041,29 which is influenced by weather and pest attack. This production fluctuation certainly needs to be observed in order to improve the production and productivity improvement in supporting the welfare of cocoa farmers in Boalemo District (Department of Agriculture and Plantation Boalemo District).

From the background above, the purposes of this research are 1) To analyze the effect of cocoa development strategy on cocoa farmer income in Boalemo District; 2) To analyze the effect of supply chain to cocoa farmer income in Boalemo District; 3) To analyze the influence of development strategy and supply chain income of cocoa farmers in Boalemo District, 4) To analyze the best in developing and increasing the income of cocoa farmers in Boalemo District.

LITERATURE REVIEW

Farmers face several challenges in agricultural supply chains in emerging economies that contribute to extreme levels of poverty. One common challenge is that farmers only have access to one channel, often an auction, for which to sell their crops. Recently, e-intermediaries have emerged as alternate, technology-driven posted-price channels. We aim to develop insights into the structural drivers of farmer and supply chain profitability in emerging markets and understand the impact of e-intermediaries. The develop an analytical model of a supply chain that allows us to study several key features of intermediated supply chains. We complement the model's insights with observations from a numerical study. The result in the absence of an e-intermediary, auctions cause farmers to either overproduce or underproduce compared to their ideal production levels in a vertically integrated chain. The presence of an e-intermediary with limited market share improves farmers' profits; however, if the e-intermediary grows too large, it nega tively impacts both farmers' and supply chain profits. Finally, as the number of farmers increases, farmers' profts approach zero, irrespective of the e-intermediary's presence (Ferreiera, 2017).

This study analyses the short food supply chain as a competitive strategy for a multifunctional and multi-value farm, since it makes the citizen-consumer closer to the farm and the territory, creating welfare and shared value and increasing the farm and territory Reputation. This research focuses on the variables that influence the creation and sharing of value in the short food supply chain, with the aim to evaluate the impact of this strategy on the farm competitive repositioning The results of this study allow to identify those strategic variables that have a major impact on shared value creation, within the strategy of short food supply chain and the new model of multifunctional and multi-value farm, and to provide useful information for policy makers, emphasizing the need for public intervention and reform in the field, aimed, in particular, at encouraging the development of a young and educated human capital, a greater adhesion to networks and the production of localized public goods (Nazarro, 2016).

The growth of smallholder tobacco production since 2000 has been one of the big stories of Zimbabwe's post–land reform experience. Yet the implications for agrarian change, and the consequences for new relations between farmers, the state, and agribusiness capital have rarely been discussed. The paper reports on work carried out in the Mvurwi area of Mazowe district in Zimbabwe with a sample of 220 A1 (smallholder) farmers and 100 former farmworkers resident in compounds on the same farms. By going beyond a focus on operational and business dimensions of contract farming, the paper concludes with reflections on the implications for understanding agrarian relations and social differentiation in those areas of Zimbabwe where tobacco growing is now significant, with lessons more broadly on the political economy of

contract farming, and the integration of agribusiness capital following land reform (Scoones, 2016).

Supply chain management can be defined as the integration of key business processes from end user to the original suppliers that provide products, services and information that add value for customers and stakeholders. The integration of all business processes with all stakeholders in the supply chain seems to make no sense apart from being, of course, a major waste of resources. In fact, in certain cases, the enormity of the task may make it impossible to overcome for a company whose supply chain presents a great complexity. Thus, it seems important that companies of all sizes find a way to manage more easily and effectively chains in which they operate. However, particularly in agricultural sector, integration of supply chain process has really brought significant impact on the efficiency of the overall procedures (Hussain, 2015).

This study examines the relationship between trade, investment and economic growth in India and China. The present study attempts to assess the contributions of not only foreign direct investment and exports as done by the previous studies but also incorporates domestic direct investment and imports. The study uses more comprehensive and recent autoregressive distributed lag (ARDL) bound testing approach to examine the existence of short-run and long-run relationships. The main advantage of this approach is that it can be used regardless of the stationarity properties of the variables in the sample. The study gives different results for both countries. In case of China, exports, FDI and domestic investment have positive impact on economic growth whereas for India only the variable of domestic investment has been found to be significant. China is a world leader in merchandise exports and its services exports have complemented its goods exports. The main weakness of Indian economy is the poor performance of manufacturing sector as a result of which India's merchandise exports are concentrated around a few categories. Though India is a leader in IT related services exports but these exports are unable to compensate for poor performance of merchandise exports (Malholtra, 2018).

Based on the previous study there are some key point of this research, the supply chain can be derived as the major of strategy to build an economic condition between farmer and the market to develop their profitability, there are some literature in this research:

Farmer Income is one of the main indicators to measure people's ability is to know the income level of the community. Revenue represents all money or other material achieved from the use of wealth or services received by a person or household for a certain period of time in an economic activity (Winardi, 1998). Every person who works wants maximum income or profit in order to meet the needs of his life. According Arsyad (2004), income is often used as an indicator of development of a country in addition to distinguish the level of economic progress between developed countries and developing countries. Revenue is a very important thing in determining the profit or loss of a business. Profit or loss is earned by comparing the income with expense or expenses incurred on the income.

Strategy definition is a way to achieve long-term goals. Business strategies may include geographical expansion, diversification, acquisition, product development,

market penetration, employee rationalization, divestiture, liquidation and joint ventures (David, 2004).

The definition of strategy is a unified, broad and integrated plan that links the company's strategic advantage with environmental challenges, designed to ensure that the company's main objectives can be achieved through proper implementation by the organization (Glueck & Jauch, 1989).

Strategy formulation is the process of preparing the step forward intended to build the vision and mission of the organization, set corporate strategic and financial goals, and design strategies to achieve these goals in order to provide the best customer value.Some steps that companies need to do in formulating strategies, namely: 1) Identify the environment that the company will enter in the future and determine the company's mission to achieve the desired vision in the environment; 2) Conduct an analysis of the internal and external environment to measure the strengths and weaknesses and opportunities and threats that will be faced by the company in carrying out its mission; 3) Formulate the key success factors of strategies designed based on prior analysis; 4) Determine measurable objectives and targets, evaluate alternative strategies by taking into account the resources it has and the external conditions it faces; 5) Choosing the most appropriate strategy to achieve short-term and long-term goals. (Dradjat, 2007).

Supply chain is a process process that starts from the collection of existing resources followed by management into finished products for subsequently distributed and marketed to end customers with regard to cost, quality, availability, after sales service, and reputation factor. The supply chain involves suppliers, manufacturers, and retailers synergistically and cooperate with each other directly or indirectly. (Wisner, Tan, and Leong, 2012).

A supply chain consists of all parties involved, directly or indirectly, in meeting customer demand. Supply chains include not only producers and suppliers, but also carriers, warehouses, retailers, and even customers themselves. From each organization, like a manufacturer, the supply chain covers all the functions involved in receiving and meeting customer demand. This function is comprehensive but not limited to new product development, marketing, operations, distribution, finance, and customer service (Chopra and Meindl, 2010). There is a close relationship between design and supply chain management (product, information, and funding) (Chopra and Meindl, 2010).

METHODS

This research conducted in Boalemo District, Gorontalo Province. The location was chosen because in general the farmers in the location mostly cultivated cocoa.

Research was designed as a survey study. The data used in research that is primary data and secondary data. Primary data were obtained from interviews and fizzy excision by farmers of cocoa farmers in Boalemo District. And secondary data is obtained from official reports from Gorontalo Central Bureau of Statistics, and other agencies that can assist in providing data.

The population in this study chose some districts of Botumoitu District, Tilamuta Subdistrict, and Dulupi Sub-district in Boalemo District which was determined by purposive sampling technique or intentionally because the five sub-districts have

conducted initial survey so it is worthy to be established as research area. The total population in the five districts is 472 peoples.

Farmers respondent in this research done by random sampling with population reach by 472 rice farmer. One way to get a representative sample is by a process called random sampling. In relation to the size of the sample, Slovin proposed a formula for determining the size of the sample, thereby collecting 83 samples from 472 cocoa farmers.

In identifying problems 1 and 2, multiple linear regression analysis was used to find out the influence of cocoa farmer's development and supply chain strategy to cocoa farmer income in Boalemo District. With the following formula:

$$\mathbf{Y = a + b_1X_1 + b_2X_2 + b_3D1 + b_4D2}$$

Y = Income
a = Constant
b = Independent Variable Coefficient
X_1 = Development Strategy
X_2 = Supply Chain
D_1 = Dummy Sub-District (1= Tilamuta, 0=other)
D_2 = Dummy Sub-District (1= Dulupi, 0=other)

RESULT AND DISCUSSION

Description of respondents characteristics

Respondents in this study are farmers who members of farmer groups spread in Boalemo District with 83 people.

Respondents characteristics by gender

Gender is sexual identity in a person. It can be explained that the majority of respondents are male, that is 79 people or 95.2% while women are only 4 people or 4.8%.

Respondents characteristics by age

Age is a long life of a farmer calculated by date of birth until the research is done. Based on research data in the field that age categopry still dominated by respondents aged 50-59 years with the number of 25 people or 30.1%, then age 40-49 years amounted to 22 people or 26.5%, age 30-39 years amounted to 17 people or 20.5%, and who age 60 or older as many as 12 people or 14.5%. While the number of respondents with age 20-29 years has the smallest number compared to other age categories that is 8.4%, as in Table 1.

Table 1. Respondents characteristics by age

Age	Frequency	Percent
20 – 29	7	8.4
30- 39	17	20.5
40- 49	22	26.5
50 – 59	25	30.1
60 or more	12	14.5
Total	83	100.0

Source: Field Survey, 2017

Respondents characteristics by education level

Education level is the level of education the last formal formal ever or being undertaken and educated nonformal ever followed. Level formal education is the level of education not the last one that has been and is followed by formal school. Level nonformal education is kind and the amount of training that has been followed by farmers in the past year. The level of formal education is measured by please educate the latest education farmers from the data in the field. Level formal education is distinguished in two categories, namely: level low formal education and level high formal education. Farmers with the last formal education level (≤High School) categorized level of education formal "low". Farmers with levels formal education> High School) are categorized level of formal education "high".

Table 2. Respondents characteristics by education level

Education Level	Frequency	Percent
Elementary School	27	32.5
Junior High School	16	19.3
Senior High School	11	13.3
Diploma / Graduate	3	3.6
Not in School	26	31.3
Total	**83**	**100.0**

Source: Field Survey, 2017

Based on the data in Table 2, showed that the low level of formal education is still highly visible in most respondents. Research respondents who have level of education only to elementary school graduate amounted to 32.5% and respondents who never received formal education amounted to 31.3%. While the respondents with junior high school education category amounted to 19.3%, and SLTA amounted to 13.3%. The highest level of education up to the diploma / bachelor level is seen in a small percentage of respondents with only 3.6%.

The influence of cocoa farmer's development and supply chain strategy to cocoa farmer income in Boalemo District

Multiple regression result showed in Table 3. Based on the result of multiple regression analysis interpretation below:

a. The constant of -2,094 (α=-2,094)
   The value is a constant value of cocoa farmers' income in Boalemo District Gorontalo Province if there is no influence from Cocoa development strategy and Cocoa supply chain.
b. Regression coefficient X1 0,108 (β1 = 0,108)
   Coefficient of variable regression Cocoa development strategy showed that every improvement (+) Strategy of cocoa development by 1 unit therefore Income of cocoa farmer of Boalemo District of Gorontalo Province will experience increase (+) equal to 0,108 unit with variable provision Cocoa supply chain in constant condition(*cateris paribus*).
c. Regression coefficient X2 0,307 (β2 = 0,307)
   Variable regression coefficient The cocoa supply chain shows that each increase (+) in the cocoa supply chain variables is 1 unit, the income of cocoa farmer of

Boalemo District of Gorontalo Province will increase (+) by 0.307 units with the variable provisions Cocoa development strategy in constant condition(*cateris paribus*)

d. Dummy Interpretation

Based on the results of the analysis by adding dummy variables districts where for dummy 1 for District Tilamuta given point 1 and other districts given the 0 number then for dummy 2 for Dulupi District given point 1 and other districts are marked 0. The analysis results show that the value of the constant is not significant shows that Botumoito District is not significant to cocoa farmer income then for Tilamuta and Dulupi sub-districts have a significant effect on farmer income cocoa.

Tabel 3. Regression model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	-2,094	1,581		-1,324	,189
Cocoa Development Strategy	,108	,038	,300	2,850	,006
Supply Chain	,307	,073	,426	4,217	,000
Dummy 1	3,417	,614	,504	5,568	,000
Dummy 2	2,257	,798	,267	2,829	,006

R^2 Test is used to know the influence of dependent and independent variable in this research from the total of influence of labor in family, labor outside family, land area and technology to rice production in Pohuwato, Gorontalo Province known from result of coefficient of determination (R^2) below :

Table 4. Coefficient of determination test result (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,690[a]	,476	,449	2,42995

Based on the Table 4, then the value of determination coefficient adjusted R2 of 0.449. This value means that as much as 44.9% of the income of cocoa farmers in Boalemo District, Gorontalo Province can be explained by the strategy of cocoa development and supply chain in Boalemo District, Gorontalo Province. While 55.1% is explained by other factors outside the model in the study. From these results can be seen that the addition of dummy variables in a district of this equation is very useful for the coefficient of determination so that variability variables seen from adjusted R2 has increased or the ability of independent variables in explaining the dependent variable there is an increase.

F test is used to test the regression coefficients together to test the model that influences the relationship between the independent variable and the dependent variable. The test of significance of regression equation to be obtained is done by using F test. Together (F test) between independent variables in this case between cocoa development strategy (X1), cocoa supply chain (X2), and income of cocoa farmer (Y).

Table 5. Simultaneous test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	418,643	4	104,661	17,725	,000[b]
	Residual	460,562	78	5,905		
	Total	879,206	82			

Based on the analysis results in Table 5 obtained the value of F_count of 17.725 with a probability value of 0.000, because the probability value is smaller than 0.05 then the value of Fhitung obtained is significant. So it can be said that there is a positive and significant influence between cocoa development strategy (X1) and cocoa supply chain (X2) and dummy of sub-districts collectively to the income of cocoa farmer (Y).

Known that there is influence simultaneously then conducted further testing to know the variables that have significant effect. For this purpose, the partial regression coefficient testing is done by using t test statistic. Determination of test results (acceptance / rejection of H_0) can be done by comparing t with significance. Test t or regression coefficient test partially used to determine whether the partially independent variables significantly affect or not to the dependent variable. In this research, partial test is used to find out how far cocoa development strategy (X1), cocoa development strategy (X2), land area (X3) and technology (D) partially influence cocoa farmer income (Y). As for partial analysis results can be seen in the Table 3.

Based on the results summary analysis of data processed above it can be described the following data below:

The effect of cocoa strategy development to farmers' income in Boalemo District

Based on the analysis obtained elasticity of cocoa development strategy of 0.108 and positive effect on the income of cocoa farmers in Boalemo district means if there is an addition to the strategy variables of cocoa development, the income of cocoa farmers in Boalemo will increase the increase of 0.108 with other factors considered fixed (cateris paribus) . Positive elasticity shows that cocoa development strategy is in rational area because cocoa development strategy can increase cocoa farmer income in Boalemo District.

Then based on t-test value obtained value significance Cocoa development strategy is smaller than probability value 0.05. So it can be concluded that the strategy of cocoa development has a significant effect on the income of cocoa farmers in Boalemo District, Gorontalo Province. Significant test results show that cocoa development strategy has an effect of (positive / good) increase on farmer's income although it still needs to be improved and improved.

The effect of supply chain to farmers' income in Boalemo District

Based on the analyzes obtained by the elasticity of the chain of suppliers of a larger size of 0.307 and positively affecting the Revenue in the Boalemo District, the increase in the value chain in the sub-districts of the rural population in Boalemo will increase the magnitude of 0.307 with other factors considered permanent (cateris paribus). Positive production elasticity indicates that the chain of coconut suppliers is on the rear of the supply chain so that it can increase the income of the local government in Boalemo District.

Then, based on the value of t is obtained, the significance of the supply chain is higher than the probability of 0.05. It can be concluded that the Chain of the supply of cocoa has a significant effect on the income of the local government in the District of the Province of Gontontalo. Significant results indicate that the chain of suppliers will give a good effect to the income of the farmers.

Interpretation of district dummy variables in equations

The result of the analysis found that probability for Botumoito sub-district (seen from constant) is 0,189 which mean not significant then for District of Tilamuta 0.000 meaning significant and for Dulupi Sub-district 0,006 which means that Sub-district give significant impact for farmer's income.

The results can further be interpreted that the best Sub-District for the ability of development strategy and supply chain in influencing the income of farmers that is in Tilamuta, then followed by Dulupi and after that District Botumoito. This shows that the average farmer in Tilamuta sub-district is able to optimize strategy in the development of good cocoa and supply chain so that the farmer's income becomes better than other sub-districts, then also supported by farmers with good knowledge because of the more optimal training and counseling. Meanwhile, for Botimoito sub-district problems in reluctance aspect of farmers in cocoa cultivation due to previous experience failure in cocoa cultivation.

Compare with the previous research, where the supply chain in the field of agriculture sector has so much influence of some factors, there are technology, farmers counseling, and some of practice for the farmer. But now, it changes by taking place in the wrld economy in recent decades, largely expanded current understanding of the role organization and market structure in a changing competitive market environment. Factors such as globalization and internationalization, increasing competition and focus on the end user, as well as the development of information and communication technology and e-commerce could not affect the modern market structure in the field of supply chain management.

It can be conclude that the best significant impact happen on farmers that living in a Sub-District than in a District. Because it take roles ad the end user of farmers activity of the cocoa commodity.

CONCLUSION AND RECOMMENDATION

Conclusion

Partially cocoa commodity development strategy in Boalemo District gives positive influence to farmer's income. Cocoa commodity development strategy implemented by local government of Boalemo District give significant influence to farmer's income. Partially supply chain gives positive effect to cocoa farmer income in Boalemo District. In addition to providing a positive influence, supply chains also have a significant effect on the income of cocoa farmers in Boalemo District.

Simultaneously (simultaneous), development strategies and supply chains provide a positive and significant impact on the income of cocoa farmers in Boalemo District. The significance level of influence for farmers' income tends to be more influenced by supply chain variables.

Farmers in Tilamuta sub-district are able to optimize strategy in the development of cocoa and supply chain so that the income of farmers is better than other sub-districts, then supported by farmers have experience in good cocoa cultivation system. Botumoito sub-district is problematic in the reluctance aspect of farmers in cultivating cocoa due to previous experience failure in cocoa cultivation.

Recommendations

The Local Government of Boalemo District of Gorontalo Province needs to evaluate the cocoa development strategy program, because according to the results of the research the cocoa development program has not maximally give a direct impact to the farmers' income sector.

The direct effect on farmers' income in Boalemo District is the availability of the marketing supply chain. Therefore, the Regional Government of Boalemo District is considered necessary in preparing a program that facilitates cocoa farmers in the marketing aspect with the appropriate and feasible price level. The government can intervene in the market by establishing an institution that serves to accommodate farmers' out put (seed cocoa) at the village level with a reasonable price treatment.

To give more leverage to the farmers' income sectors, it is better for local governments to synchronize and collaborate policies between joint and joint development and supply chain strategies. The effect of less than maximal revenue is due to the incomplete program policies, such as the cocoa development strategy program which is not equipped by the mentoring program in the supply chain.

The need for measures taken by the government in order to develop better cocoa, especially in Botumoito sub-district by providing an understanding in the cocoa cultivation system through technical guidance for more intensive cocoa farmers.

REFERENCES

Arsyad, Lincolin. (2004). *Ekonomi Pembangunan*. EdisiKeempat. Yogyakarta: STIE YKPN

David, F.R. (2004). "*Manajemen Strategis: Konsep. Edisi ketujuh*". PT. Prenhallindo, Jakarta

Dradjat, B., Agustian, A., & Ade, S. (2007). *Ekspor dan daya saing kopi biji Indonesia di pasar internasional: Implikasi strategis bagi pengembangan kopi biji organik*. Jurnal Penelitian Kopi dan Kakao, 32(2), 139–159

Hussain, safdar, Wasim Ahmed, Ambar Rabnawuz. (2015). *Integration and Effective Supply Chain management: A Review of Agriculture in Pakistan and China*. https://mpra.ub.uni muenchen.de/70380/MPRA Paper No. 70380, posted 12 May 2016 10:24 UTC. Fujian Agriculture and Forestry University, China, University of Sargodha, Pakistan, PMAS-Arid Agriculture University, Pakistan

Jauch Lawrence R. & Glueck William F. (1989*). Manajemen Dan Strategis Kebijakan Perusahaan.* Jakarta: Erlangga

Malholtra, neena, Deepika Kumari. (2018). *Trade, Investment and Economic Growth in India and China*. Jurnal Perspektif Pembiayaan dan Pembangunan Daerah Vol. 5. No. 4, April – June 2018. ISSN: 2338-4603 (print); 2355-8520 (online).

Nazarro, Concetta, Giuseppe marotta, Marcello Stanco. (2016). *Shared value and responsibility in agriculture: the short supply chain model*. Rivista di Economia Agraria, Anno LXXI, n. 1 (Supplemento), (2016). Firenze University Press

Scoones, Ian, Blasio Mavedzenge, Felix Murimbarimba, Chrispen Sukume. (2016). *Tobacco, Contract farming, and Agrarian Change in Zimbabwe*. wileyonlinelibrary.com/journal/joac. J Agrar Change. 2018;18:22–42

Sunil Chopra, Peter Meindl, (2010), *Supply Chain Management, 4th Edition*, Pearson

Wisner, Tan, Leong, (2012), *Principles of Supply Chain Management*, Cengage Learning

Partnership model for small industry in cluster perspective in encouraging regional development (case study on some small industries in Jambi City)

Erfit*; Yulmardi

Faculty of Economics and Business, Universitas Jambi, Indonesia

**To whom correspondence should be addressed. Email: erfitibrahim@yahoo.com*

Abstract

This study aims to analyze: 1) the profile of the small industry clusters in Jambi City, those are batik industry cluster, tofu/tempeh industry cluster and furniture industry cluster; 2) the collaboration/partnership between various business actors and other parties in small industry cluster in Jambi City works; 3) an effective partnership models for small industry clusters. This research is a collective case study (survey and case study). The analysis was carried out on the profile of the small industry cluster and the partnership between various industrial groups in the small industry cluster. The results of the study showed that Jambi City has potential for the development of small industries. It can be seen from the development of business and employment in small industries. Based on the partnership between industry groups, in Batik industry cluster and tofu/tempe industry cluster, it showed the existence of upstream partnership to the source of raw materials, downstream partnership to the consumers, and partnership with supporting industries. In terms of pattern, the partnerships are directed towards traditional partnerships which are based on trust. Meanwhile in the furniture industry cluster, there is no partnership at all, both upstream and downstream, as well as partnership with the supporting industries. However, the partnerships have not been effective. For this reason, it is necessary to build a partnership in small industry cluster that pays attention to the principle of mutual benefit, equality, legality, empowerment, and social capital.

Keywords: *Small industry cluster, effective partnership, regional development*

JEL Classification*:* L22, L26, L52

INTRODUCTION

MSMEs in general and small industries in particular are one of the drivers for regional economic growth until now. It can be seen from the role of MSMEs in their contribution to GRDP and employment opportunities for a region. However, in its development, small industries are still faced with various problems so that they have not been able to provide optimal contributions to the economy of a region. Various problems faced by small industries today are related to capital, market access and limited facilities and infrastructure for the development of small industries (Lestari, 2010).

Given the role of MSMEs and problems faced by MSMEs, especially of small industries, the government has made various efforts in order to encourage the development of these small industries, one of them through cluster approach. In general, Nugroho et al. (2008) defined industrial clusters as a network of interrelated industrial

associations (core industries which are the focus of attention, supplier industries, supporting industries, and related industries), institutions that produce knowledge/technology, bridging institutions, as well as customers who are connected to one another in the value-added chain. In a cluster perspective, small industries should be seen as a group of businesses from the upstream to the downstream that require cooperation/partnership. However, various studies concluded that partnerships between various parties in the industrial cluster are weak (Djamhari, 2006, Nugroho, 2008 and Sujadi et al., 2008). In agribusiness, various empirical studies also showed the ineffectiveness of upstream partneships in palm oil processing industry cluster (Basdabela, 2001, Tona et al., 2012, and Erfit, 2012). The lack of optimal upstream partnership is due to the perspective of partnerships that have been seen as economic relationships and not as social relationships as well (Erfit, 2012). Based on this, it is necessary to evaluate the existing small industry cluster partnership model so that an effective partnership model can be developed to encourage regional development.

RESEARCH METHODS

This research is a multi casestudy, means that it is combining surveys and case studies. In this study, three cases of small industry clusters were selected and it includes industry cluster of batik, tofu/tempeh, and furniture. This study used qualitative descriptive method.

The data in the study used primary and secondary data. Primary data was obtained through interviews with parties or business groups in small industry clusters including, business groups and business actors in the selected small industry clusters and other parties. Secondary data was obtained from government agencies including Bappeda (Development Planning Agency at Sub-National Level), Department of Industry and Trade, Cooperative Office at provincial level and Jambi City.

Data was collected through several methods. Those are structured interview by questionnaires and non-structured/in-depth interview with key informants. Observation of the collected data was done to check the validity of the data.

The study used descriptive qualitative and descriptive quantitative analysis methods. Qualitative descriptive method is the process of organizing and sorting data into patterns, categories, and basic description units so that theme and conclusions can be obtained (Moleong, 1993). Descriptive quantitative uses frequency distribution list and cross tabulation.

RESULTS AND DISCUSSION

Small industry cluster in Jambi City

Batik industry cluster

Jambi Batik is one of the main products for Jambi province in general and Jambi City in particular. It can be seen from the availability of natural, human, and cultural resources.

In terms of raw materials, most or about 90 percent of batik artisans, as the sample of the study, get raw materials from Java, including from Pekalongan, Solo, and Yogya. The rest of them get raw materials from Palembang or other artisans. Raw materials are usually purchased in cash and the artisans already have chosen one supplier as their main supplier of raw materials (subscription model). In relation to partnership, this subscription model is a form of partnership between batik artisans and suppliers of raw materials on Java Island. In this case, the partnership done is still in the traditional way,

which is only based on mutual trust between the parties. This kind of partnership is not based on a written contract.

Tofu/tempeh industry cluster

Tofu and tempeh are foods that considered as a source of protein made from soybeans. In terms of its business scale, most of tofu and tempeh products are produced by home industries or small industries. In terms of raw materials, the craftsmen obtained raw materials directly from soybean farmers, shops, and through tofu tempeh cooperative (KOPTI) of Jambi. The direct partnership of craftsmen and farmers will be able to boost the income of farmers, especially soybean farmers in Jambi province. According to Central Bureau of Statistics of Jambi province, it is estimated that the soybean production in Jambi province reaches 6,732 tons per year and 80 percent of it is used for tofu and tempeh production. Most of the purchases made are on credit, where payments are done after soybeans have been used up. As in the Jambi Batik industry, in relation to the partnership, the purchase on credit is also a form of partnership although it is a simple partnership based on mutual trust between tofu/tempeh craftsmen and soybean suppliers.

Furniture industry cluster

In Jambi City, furniture industry is considerable potential in terms of the number of business, of the labor that can be absorbed and the amount of investment, thanks to the availability of materials and labors to produce various kinds of furniture. In terms of raw materials, most furniture craftsmen obtain raw materials from Jambi and South Sumatra. Raw materials in general are purchased in cash; this is due to the very limited amount of raw materials for furniture. In terms of marketing, it is generally sold directly to consumers and with cash payments. However, as an assurance, the craftsmen usually ask for down payment. The profile of small industry clusters in Jambi City can be seen in the following table:

Table. 1. Profile of small industry clusters in Jambi City

No	Small industry	Raw materials	Marketing	Support
1.	Batik Industry	• 90% of raw materials come from Pekalongan, Solo, and Yogya, the rest come from Palembang • Raw materials are purchased in cash, credit, and subscription	• Directly to costumers • Batik studios • Stores	• Government assistance in the form of training • Capital assistance from banks • Cooperatives (*Koperasi*)
2.	Tofu/Tempeh Industry	• Mainly from Jambi • Raw materials are obtained directly from farmers, shops, and KOPTI. • Raw materials are purchased in credit, where payments are made after the raw material is used up.	• Directly to costumers	• Government assistance • Cooperatives • Capital assistance from banks
3.	Furniture Industry	• Raw materials come from Palembang and Jambi • Raw materials are purchased in cash.	• Directly to costumers	• Government and Banks in limited numbers

Source: Primary data

Partnership in small industry clusters in Jambi City and its effectiveness

To explain the course of partnership in each cluster, it can be divided into 3 groups, i.e. upstream partnership, downstream partnership, and partnership to supporting industries. The form of partnership involves the relationship (capital, marketing, and coaching), form of rules, and patterns.

Batik industry cluster

From the upstream partnership, there is a collaboration/partnership between batik artisans and raw material suppliers. It is proven by the purchase of raw materials on credit. In addition, raw material suppliers also help in product marketing of Batik artisans, especially artisans who get raw materials from fellow Batik artisans. The partnership is only based on trust between two parties. There is no written agreement or contract which regulates the rights and obligations of both parties. Referring to the partnership pattern, this partnership between Batik craftsmen and raw material suppliers is a traditional partnership. Related to this traditional partnership, especially in the field of agribusiness, Erfit (2009) explained that traditional partnerships are one form of partnership that plays a role in agribusiness activities which are generally formed autonomously or naturally in the community according to the needs of farmers. Agreements made are usually based on strong trust in one another and understand each other's needs or difficulties.

Next, the downstream partnership is occurred between Batik artisans and costumers. It can be seen from the marketing system of Batik artisans in selling their products. Basically there are two ways to sell their products. Batik artisans are selling directly to costumers through Batik studios or placing their products for sale to some shops in Jambi City. So there is a partnership in marketing.

We can see partnerships with supporting industries as well. Some artisans have received assistance from the government. It can be in the form of equipment, providing counseling and participating in exhibitions held by the government.

Tofu/tempeh industry cluster

In the upstream partnership in tofu/tempeh industry, raw materials are mostly purchased on credit, where payments are made after soybeans have been used up. Payment on credit in purchasing raw materials ia also a form of partnership, although it is a simple one that is based on trust between tofu/tempeh craftsmen and soybean suppliers. There is no written agreement between two parties, so it can be categorized into traditional partnership.

Furniture industry cluster

Sementara itu untuk klaster industri mebel, belum memperlihat adanya kemitraan baik kehulunya maupun kehilirnya serta dengan industri penunjangnya. Kondisi ini tentu perlu mendapatkan perhatian untuk pengembangan industri kecil dimasa yang akan datang khususnya industri mebel di kota Jambi. Berikut ini dapat kita lihat jalannya kemitraan yang ada pada klaster industri kecil.

Meanwhile for the furniture industry cluster, there is no partnership formed at all to upstream, downstream, and supporting industries. This condition certainly needs attention for the development of small industries in the future, especially the furniture industry in Jambi City. The partnership in small industry clusters can be seen in the following table:

Table 2. Partnerships in small industry clusters in Jambi City

No	Small industry	Partnership			Rules and pattern
		Raw materials	Marketing	Support	
1.	Batik Industry	Yes, purchase on credit and subscription.	Yes, through Batik studios and shops with consignment system	Yes, assistance from government and banks	Informal and traditional partnership
2.	Tofu/Tempeh Industry	Yes, purchase on credit.	No, products are sold directly to costumers	Yes, assistance from government and banks	Informal and traditional partnership
3.	Furniture Industry	No, purchase in cash.	Yes, costumers are required to pay for down payments	Yes, limited.	Informal and traditional partnership

Source: Primary Data

Based on the partnership of these industries, in the aspect of mutual benefit, in general it has not provided much benefit for small industry actors. The partnerships are not having much influence on the increase of income, productivity, skills, and capitals for small industries. Little benefits felt by small industries from partnerships is linked to the intensity of the partnership. In other words, the partnership is very limited. For example, partnerships of Batik artisans and tempeh craftsmen in obtaining raw materials on credit from their raw material suppliers are limited in number.

In terms of equality, in general, the partnerships have led to the equality. The decision making related to the partnership is carried out by deliberation or agreement between parties. For example, in the payment system for the purchase of raw materials, especially in Batik industry and tofu/tempeh industry, it is usually determined based on the agreement between small industry actors and raw material suppliers.

From the legal aspect, the partnership is informal, especially the partnership between Batik artisans and tofu/tempeh craftsmen with their raw material suppliers. In this case, the rules of the partnership are not stated in writing but are based on mutual trust from both parties. In other words, there is no Cooperation Agreement or contract between the two parties. In addition, each party also does not specify certain conditions. Based on this pattern, it is categorized as traditional partnership, solely based on mutual trust.

In terms of empowermen, partnerships are related to efforts to foster the various parties involved in small industries. In terms of guidance, the raw material suppliers do not provide guidance in running a business for small business actors who are considered as partners in relation to the system of selling raw materials on credit. This is due to the nonexistence of obligation and regulation for suppliers of raw materials to provide guidance to small business actors in the context of increasing human resources and strengthening bargaining positions, increasing participation and independence. However, in the limited number, especially in small industry of Batik and tofu/tempeh, the government has provided various forms of training and banks have provided capital loans. In the partnership, ideally, it's expected to give guidance or training, besides providing loans to MSMEs (Erfit and Yulmardi, 2012).

From social capital aspect, partnership can be seen in terms of togetherness, trust, personal relationships, and participation. In terms of togetherness, in general, there is a lack of togetherness values from the partnerships in small industrial clusters. Likewise personal relationships and participation are still lacking. It is due to the limited interaction between parties in small industry clusters. In terms of trust, it is valued relatively high. It can be seen from the partnership in these industrial clusters that are based on mutual trust.

Evaluation of an effective partnership model for small industry clusters in Jambi City

From various information relating to the comparability and the basic aspects of effective partnerships in small industry clusters, it is necessary to pay attention to several aspects of effective partnerships that have been neglected that make the partnerships in the cluster has not yet run properly. From these neglected aspects of effective partnership, various steps must be prepared to create an effective partnership model for small industry clusters.

Table 3. Neglected aspects of partnership and its ideal in partnership

No	Aspects of effective partnership	Neglected	Ideally
1.	Mutual benefit	Not many benefits for small businesses	Providing benefits, especially in increasing income, productivity, and independence
2.	Equality	There is equality between small industry actors and various parties in small industry clusters, especially with raw material suppliers	There is an equality for both parties in the partnership
3.	Legality	There is no legality since the partnership is based on mutual trust, so it's less binding	The partnership is regulated in written agreement (SPK/Letter of agreement), so it can bind the parties
4.	Empowerment	Still limited, not many efforts have been made by various parties for small businesses that lead to the empowerment	The partnership is ideally aimed at empowerment, so the guidance is needed, not only limited to providing capital assistance
5.	Social capital	Still weak, and not yet paying attention to social capital.	Partnerships must be built with social capital

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the partnerships in Batik industry cluster and tofu/tempeh industry cluster, there are upstream partnership to the source of raw materials, downstream partnership to the consumers, and partnership with supporting industries. In terms of pattern, the partnerships are directed towards traditional partnership, where it is based on trust. Meanwhile in the furnite industry cluster, there is no partnership existed, both to upstream, downstream, as well as with the supporting industries.

By comparing to the indicators of effective partnership, the partnerships in small industry clusters have not been effective. Effective partnership model in small industry clusters have to pay attention to the principle of mutual benefit, equality, legality, empowerment, and social capital.

Recommendations

Further research is needed (especially the legal aspect) so that a more effective partnership model can be implemented for small industry clusters in Jambi City. It can determine the roles of various parties in an industrial cluster in Jambi City.

REFERENCES

Bank Indonesia. 2005. Percepatan pertumbuhan sektor riil melalui pengembangan klaster UKM. Jakarta.

Bappeda. 2014. Jambi dalam angka tahun 2014.

Departemen Perindustrian. 2009. Peta panduan pengembangan klaster industri prioritas industri berbasis agro tahun 2010 – 2014. Jakarta.

Erfit dan Yulmardi. 2009. Rekonstruksi model kemitraan pada agribisnis hortikultura dalam upaya pengembangan wilayah sentra hortikultura (Tahun I. Studi tentang kemitraan pada agribisnis hortikultura studi kasus pada beberapa wilayah sentra hortikultura di Sumatera. Jambi.

Erfit. 2010. Pengembangan pola kemitraan pada agribisnis hortikultura. Disertasi Program Pascasarjana Universitas Andalas. Padang.

Erfit, Asdi A, Elfindri dan Rudi F. 2010. Analisis terhadap efektifitas kemitraan usaha pada agribisnis hortikultura. Jurnal Embrio. Fak. Pertanian Unitas. Padang.

Erfit dan Yulmardi. 2012. Model Kemitraan dengan Perspektif Ekonomi Kelembagaan di bidang Perkebunan dalam Mendorong Pembangunan Perkebunan Rakyat di Propinsi Jambi.

Erfit dan Yulmardi. 2014. Pengembangan Model Kemitraan Penyaluran Dana CSR Dalam Mendorong Pembangunan Pertanian Di Provinsi Jambi.

Endraswana, S. 2003. Metodologi penelitian kebudayaan. Gajah Mada University Press. Yokyakarta.

Komisi Pengawasan Persaingan Usaha RI. Evaluasi kebijakan perkebunan kelapa sawit. Jakarta.

Marijan, Kacung. 2005. Mengembangkan industri kecil menengah melalui pendekatan klaster. Jurnal Insan Fisip Unair. Surabaya.

Singarimbun, M dan Sofian Effendi. 1989. Metode penelitian survey. LP3ES. Jakarta.

Soetrisno N. 2009. Pengembangan klaster IKM/UKM di Indonesia pengalaman dan prospek. Makalah seminar –workshop pengembangan klaster UMKM di Surakarta.

Saptana et al. 2003. Pemantapan model pengembangan kawasan agribisnis sayuran Sumatera (KASS). Pusat Penelitian dan Pengembangan Sosial Ekonomi Departemen Pertanian. Jakarta.

Sumardjo, J. Sulaksana, dan W. A. Darmono. 2004. Kemitraan Agribisnis. Penebar Swadaya. Jakarta. 88 hal.

Strauss, A dan Corbin, J. 2005. Dasar-dasar penelitian kualitatif. Pustaka Pelajar. Jakarta

Approaches to building indices for the program-oriented development of settlements in the Ukrainian context

Maksym Filiak[1*]; Juliia Filiak

[1)] Lviv University of Business and Law, Ukraine
[2)] Lviv National University of Veterinarian Medicine and Biotechnologies, Ukraine

**To whom correspondence should be addressed. Email: mfilyak@gmail.com*

Abstract:
The focus of this study is to present an overview of Ukrainian scientific approaches to the development of monitoring and evaluation technical components, namely matrices, models, indicators and indices used in implementation of program-oriented approach to socio-economic development of settlements. The article describes scientific developments from two main fields (economic development and social development) and is grounded on the authors' previous research, to describe the main types of groups indicators of sustainable socio-economic development for Ukrainian settlements. The need for the study is pertinent given the absence of uniformity to approaches and the need for the research to develop practically applicable monitoring tools for the research.

Keywords: *harmonization indicator, program-oriented approach, strategic planning, labor resources*

JEL Classification: O18,O35, O38, R28

INTRODUCTION

The recent development in program-oriented approach focus on two main fields: economic development of productive municipal systems, and social development and the movement of productive forces within the settlement. Sustainable development is sometimes seen as a linkage to these two fields. Recent studies have formulated a number of sustainable -development indicators or markers to be used to monitor harmonization in implementation of socio-economic development strategies; however, the existing indices largely omit the issue of relations between the urban and rural parts of a territorial cluster; and do not take into account the aspect of movement of labor resources. The current study presents an evolution of these indexes where the indicated gaps have been partially filled.

A number of international research have focused on the indicators in the settlement development strategies. A study by Owen (2011) has investigated deeper on such factors as lacunarity and degree of vegetation in various types of settlements, in correlation with the indicators of quality of life and status in regional economics. Linard,, Gilbert, Snow, et al. (2012) have produced a study outlining research findings that linked together correlations of dispersity, patterns of settlements and accessibility conditions in Africa. Ismail and Gado (2013) have outlined some of the indicators of sustainable development of territorial settlements. A study by Kamran (2015) focused on identifying factors of influence on the quality of life indicators in the suburban residential areas near Islamabad.

Fitzgerald et al. (2015) have researched how a settlements sustainable development plans and policies can be monitored against the baseline; and have provided groups of socioeconomic indicators applicable to the settlements of Ireland. The current study is a complementing input into the system of knowledge on such indicators, which makes extensive use of the Ukrainian context and present some evolution as to grouping of indices.

REVIEW OF LITERATURE AND EVOLUTION OF DISCOURSE

As to the first field of research (economic development of productive systems in a city in the Ukrainian context), the following research can provide a deeper insight into the object of study.

Nikiforov and Babukh (2015) explore aspects of financial provision for the economic development of urban settlements. They devote considerable attention to the practical issues of financial support and the updating of the concepts of such development in the system of self-government in Ukraine. The authors propose a system for analyzing the revenue and expenditure parts of the city budget, as well as presenting the results of the assessment of the efficiency of budgeting in the territorial communities. In general, the analysis was carried out in the framework of fiscal decentralization. Considerable attention is paid to new opportunities for improvement of financing of the municipal development, which arose due to changes in the legislation of Ukraine. The authors propose a system for measuring, controlling and streamlining urban development in the financial aspect. In particular, a model of influence of financial development instruments and socio-economic development on individual cities of the region on the basis of professors' achievements was created based on the research of Harazishvili (2007). In contrast to traditional models that use correlation-regression analysis and are based on the approximation and simplification of past trends for predicting the future, this model uses methods of economic cybernetics and a systematic approach. Based on Keynesian and monetarist approaches, using the macroeconomic indicators, an index was created that determines the growth of gross value added (GVA) as a change in nominal and real value added. Subsequently, interpretations and calculations were carried out based on the model of the consolidated economic equilibrium.

Vyshyvanyuk (2012) in his monograph examines the challenges that arise during the regulation of the development of the socio-economic component of a small city, using the example in the Western region of Ukraine. The author determines the place of such urban development in the wider social system of the region. Acknowledging the processes of irreversible transformation of small cities, the author identifies the main ways of resource utilization, including the productive forces of such cities, especially against the backdrop of the reform of the administrative-territorial system and the formation of the communal property institute in the communities. The author has developed a model of an economic diagnosis of measures aimed at providing small towns with social services through the assessment of the implementation of relevant standards. The model is presented in the context of municipal strategic planning, which is part of a program-oriented approach. The author operates several determinants – that are regulators of the development of a small city, and the analysis of which is offered. The model proposed by the author is based on a systematic approach that propagates the unity of administrative, spatial planning and effective budgeting processes. The detailed interpretation of the

feasibility of the main points of implementation of the socio-economic development strategy of is presented.

O. Berdanova, V. Vakulenko, I. Valentyuk (2011) offer a comprehensive approach to urban planning. Links of spatial planning systems, as well as systems of strategic and operational planning of socio-economic development of settlements that are part of a program-oriented approach have been studied. Unlike some other works, more attention is paid to operational planning when implementing development strategies. The authors also emphasize the practical need for monitoring, which needs to be improved in practice for use in strategic planning of self-government bodies. The authors developed a model in the form of a program-oriented approach in the context of urban land management. The choice of the scope is due to the increase in recent years of the level of investment attractiveness of the land resources of Ukrainian cities, especially the large ones. The authors view these resources as a spatial basis for urban development. The model is presented in a strategic analysis format with key recommendations. The authors operate the key determinants of the effectiveness of such a strategy and place a significant part of its implementation on the bodies of the city authorities as subjects of land relations.

Yatsyshyn (2013) explored the development of urban settlements in the context of globalization. The author focuses on the impact of globalization on aspects of socio-economic development, studied within the framework of a program-oriented approach. The author carried out a factor analysis of the main globalization challenges faced by a large city. In this context, the author created analytical clusters or structural-logical models that represent chains of resources, factors and results, and are characteristic of a program-oriented approach.

For each of the clusters, a statistical analysis was carried out and key conclusions were drawn on the example of a major regional city (Lviv). Similar to the research within the POA framework, the author identifies the strengths and weaknesses of the construction and practical implementation of the strategies of the territorial community and the city. To overcome the disadvantages of planning mentioned in the work, the author proposes three types of mechanisms within the framework of the approach, which is quite in accordance with the use of the sets of tools for POA.

Kalashnikova (2013) exacerbated attention to the development of a large city. According to the author, in a big city, strategic development, provoked, possibly, as a reaction to the economic decline of the past decades, should become a priority. The author highlights the principles of effective strategies, among which are: adaptability, consideration of factors of influence of external forces, grounding on existing traditions, and modernization of approaches based on technologies. The author examines these processes at the intersection of the system, institutions, and using the convergence principles.

The author proposes a systematic approach that contains several tens of partial and several complex indexes (integral indicators) built based on simple socio-economic development indicators. In particular, the author identifies indicators of stimulants (push variables) and indicators of de-stimulants (limiting variables) for the definition of strategic steps. The example of Kharkiv (a major regional city) shows the dynamics of changes in these complex indices.

Kolodych (2012) explores the influence of the factors of sustainable development and the social component on urban development. The author believes that the system of development management at the level of the municipal authorities should integrate

subsystems of management of living standards and well-being of the population, which are productive forces and development tools for settlements, and which are also widely studied as part of the program-oriented approach. The author creates a scientific basis for the implementation of elements of social policy at the local level. She builds a logical-structural matrix, which integrates social factors and is based on causation analysis. Operating many indicators of municipal socio-economic development, the author proposes to use a formula that shows which indicators - positive or negative - prevail in social policy. This formula is supported by the scheme to apply a broader approach to strategic development.

Nazaruk (2010) explored the geographical, constructive and environmental subsystems of urban settlement development, analysis of which is also inherent in the POA through the system of indices. The author will build a study on examples of urban areas and identify priorities for their transformation in terms of the speed of the processes of change. According to the author, urbanization affects the relations of society and nature, and this factor should be considered in strategic planning. The author investigates the cycles of the city development, identifies determinants and regulators by analyzing the city's system in the light of geographical and constructive factors and nets, and formulates recommendations for improving the use of nature in conditions of rapid urbanization. The pendulum migration of labor resources as a factor of social load on the example of the major regional city is investigated, which is associated with an increase in the technogenic load on natural systems and the environment.

Challenges faced by social development and movement of productive forces within the settlement, namely indices and systems of movement of productive forces, is a closely related field of study, directly developing the instrumental side of program-oriented approach, including in the context of movement of labor and migration resources.

Matviishyn (2011) considers the place of the human capital management system and labor resources, including migrants, as part of the regional development strategy. The author describes plans and algorithms for workflow optimization in the management of labor resources within the context of the development of the region and the organization. According to the author's concept, the human resources management, regardless of their origin, should contribute to improving the quality of human capital of the organization and the region. Thus, the author relates the movement of labor resources directly with the development of the territory but sets the quality of strategic management as a predeterminant of the growth of welfare of the organization and the region. Thus, according to the author, strategic management is the key to the positive impact of human resources on the development of the territory. According to the author, the strategic integration of tasks from the socio-economic development of the territory with plans for the development of human capital is one of the key objectives of human resources management.

Olshevska (2007) deals more closely with the issue of the movement of human resources across borders as a phenomenon characteristic of the twentieth century, in the context of the threats and challenges of socio-economic development of regions and countries of the world. The author suggests that high-quality human resources are a determinant of the international competitiveness of those states that have moved to a large extent into the post-industrial economy. The author closely relates the movement of human resources and the strategy or policy of its regulation, while distinguishing two types of such documents, namely macroeconomic policies and social policies, which

equally affect the phenomenon of migration. The author agrees that the study of the impact of migration resources and socio-economic development of the territory has been highly relevant for Ukraine, but she studies these interdependencies in the normal socioeconomic development scenario rather than in the crisis context. At one time, the author substantiated the necessity of introducing protectionist policies and restraining on migration of labor resources abroad, as the negative impact on Ukraine's international competitiveness was revealed.

Karpenko (2010) defines the state of development of rural areas in Ukraine as a protracted, long-term crisis and proposes to introduce a comprehensive approach to their restoration, including using the tools of sustainable development. The author identifies the impoverishment of the population as one of the factors of the territory's crisis. Sustainable development is closely linked to the harmonization of productive forces and is seen it as a way out of the crisis, a sign of such progress is the satisfaction of the necessary needs of all members of society. Thus, the author further emphasizes the need to increase the degree of organization of the socio-economic system as a factor for sustainable development, which helps in overcoming the crisis.

Yarotskiy (2011) has studied a complex of indicators of labor resources and the key factor which is employment. The author identifies a clear link between economic crises and the growth of domestic unemployment on the one hand, and worsening welfare of labor and uncontrolled migration (outflow) abroad - on the other hand. According to the author, the negative effect of these phenomena is the deterioration of the quality of labor resources and the reduction of the reproducibility of the workforce. The author stresses the necessity of a comprehensive assessment of the identified links and allocates the economically active population as the main subject of the study of labor resources and the marker modification in the evolution of these resources.

Yakovenko and Rosenko (2011) examine the structure and constituent factors of human capital, which has a close correlation with labor resources. Acknowledging the complications in the development of human capital in Ukraine, the authors suggest ways to overcome them. At the same time, they determine the quality of human capital as one of the factors of the competitiveness of the territory and its enterprises. In the work, great importance is devoted to investment strategies in the development of human capital if it is recognized among the most valuable resources of the territory the state. The authors define such investment as a method of accumulation of high-quality human capital against the background of its occasional outflow.

Reshetylo, Mischenko and Shubna (2014) explore performance factors of spatial allocation of human resources and their effective use. According to the authors, allocation of human resources, which has a direct connection with migration is one of the key factors of the spatial asymmetry. The authors consider the concept of human capital, assigning it the characteristics of the quality of labor resources. The authors also explore the relationship of the placement of human resources and human capital as their characteristics depending on the key indicators of economic growth in the region.

Burmaka and Burmaka (2011) explore practical issues of human capital management of an enterprise and attribute the development of the enterprise to the motivation of its employees. Thus, methodological point of view, the research leads to a thesis on the motivation of labor resources, which has an attachment to the economic object and source of workplaces, and which (motivation) is considered as a key factor in the territorial loyalty of labor resources, especially their employed part. The authors

emphasize the need for the development of motivation for workers, including the managers and innovators at an enterprise.

Aleksandrov (2012) investigated the factors of human capital quality in Ukraine, and offers ways to improve, substantiating the positive impact of human capital growth on the economic indicators of the economy. The author believes that the parameters of social freedom, responsibility and legal awareness, among others, are the ones that determine the features of a good worker, and at the same time serve as markers of the most productive and thus valuable employees. These parameters of the quality of human capital also affect the migration of the population and the formation of the labor market both inside the country and abroad.

Kravchenko (2015) combines the principles of social policy and the principles of development of rural communities in Ukraine. The author considers it appropriate to intensify the development of the village, and for this purpose, firstly, the role of the state in the development of the village through social policy should be increased, and secondly, the level of participation of citizens (labor resources) in the decision-making processes in the countryside should be enhanced. Thus, the author highlights two important factors that hamper the development of human resources in rural areas of Ukraine.

Petrushenko (2014), while continuing the broad research in community development, considers aspects and the structure of the financial policy of the development of territorial communities, with a special emphasis on local development. According to the author, civil society as a motive for citizens participation at the level of the local rural community is one of the key players in the policy of increasing the production of common local public goods in Ukraine. The author considers the involvement of the population to participate in the formation of financial policy at the local level as a significant factor in the growth of the quality of human capital of the territorial communities of the country.

Romanenko (2015) presented the statistical measurement of Ukrainian labor migration. In her work, the author defined the means of studying the migration of labor resources as a structural phenomenon, recommended a system of indicators for statistical study of the structure of migration, and also assessed the dynamics of migration of the population of Ukraine and their financial resources.

METHODS

The study analyzed the 2015-2018 data in the indicated fields of research to develop indices suitable for practical use. The following is a deeper research on the composition, scheme and variables of several major groups of indices which have been identified as important markers of successful socio-economic development of a territorial cluster, where large cities have socio-economic interactions with the rural areas.

The research was aimed at: developing groups of quality complex indicators (indices) which will allow to assess the stage of strategic development of a settlement or amalgamated community in various functional fields, as a linkage between long-term and project planning systems.

Research hypothesis stated that most of indicators used in real, field strategies are out of date and cannot objectively assess strategic development. Also, most indicators can be improved and grouped into indices, which can be further improved based on the existing theoretical research. Asa consequence, these indices will from a structural block in a logical structure of program-oriented approach to socioeconomic development of

settlements, which, most importantly, should emerge as a linkage between long-term forecasting and project-level and operational management at a settlement level.

Inn terms of the methods, as the research was developed by 2 authors, a part of the research originated from studies of migration and labor resources of the same period, which appeared relevant for this field of study. The study used desk research as well as empirical research of the documents used in practice. The desk research developed argumentation based on existing and known socioeconomic trends for Ukraine and developed elements of some indices (12 separate findings produced in total). The empirical component relied of analysis of the existing strategic -level plans and analytic reviews related to amalgamated communities.

Research procedure, specifically, included empirical analysis of groups of strategic documents that were developed in 2 eastern regions of Ukraine during 2015-2018, namely: 7 Strategies for socioeconomic development of amalgamated territorial communities; 7 Organizational development plans of amalgamated territorial communities; 7 Analyses of socio-economic development of amalgamated territorial communities; 4 monitoring and evaluation plans of socioeconomic development strategies, 20 Evaluation surveys of capacity assessment of management of amalgamated territorial communities, and 10 Financial profiles of amalgamated territorial communities. These documents were proportionally dispersed in 2 research regions where administrative reform was ongoing. Based on the existing approaches to building indicators, the existing indicators from the documents were analyzed against the factors of composition and grouped. Some additional recommendations were provided, related to various types of indices that accompany the respective strategic documents.

RESULTS AND DISCUSSION

The basic description of indices was taken from the authors' previous studies (see, for example, Filyak and Zavadovska (2016); Zavadovska and Filyak (2016); Filiak (2018) as well as Zavadovska (2016), and they have been further developed and specified below. All groups of indices are a part of the program-oriented approach to economic development of settlements and are to be used in complex assessments of efficiency of strategy implementation. The indices are designed to be employed to assess progress of development of Ukraine's amalgamated territorial communities (hromadas) which currently undergo a decentralization reform; but can be also used to municipal and rural territorial entities in other regions.

Table 1. Grouping of principal indices for strategic assessment of an amalgamated community

Main groups of indices	**Types of index composition and methods of calculation**	**Purpose and ways of practical use**	**Objects/data to analyses for calculation of variables**
General	4 or 5 principal multifactor indices, with variables composed of 1 socioeconomic dependency, and graded at max and min.	Provide general understanding of the settlement's potential for development and clarify the necessity for further evaluations. Assess settlement's long-term prospects.	Data gathered by document analysis and interviews with key staff and major informants of a settlement

Main groups of indices	**Types of index composition and methods of calculation**	**Purpose and ways of practical use**	**Objects/data to analyses for calculation of variables**
Socioeconomic development -related	Variables formed as correlations of generalized major features of model socioeconomic development plans. Variables grouped into indices by strategic directions.	Assess progress and challenges along main venues of implementation of a settlement's 7-year strategy.	Strategies for socioeconomic development of amalgamated territorial communities (hromadas)
Organizational development-related	Variables formed as generalized major features of model organizational development plans. Variables grouped into indices by planning directions.	Assess progress and challenges along main venues of implementation of a settlement's 7-year organizational development plan.	Organizational development plans of amalgamated territorial communities (hromadas)
Entropy-related	Variables representing the weakest points of a settlement's socioeconomic standing, grouped into thematic indices (up to 6 "diamond" or "star" indices, with up to 9 variables each)	Identify the degree of influence of the settlement's weakest points on its strategic development	Analyses of socio-economic development of amalgamated territorial communities (hromadas)
Order of management-related	Variables representing the weakest points of a settlement's managerial capacity, grouped into thematic indices (up to 6 "diamond" or "star" indices, with up to 9 variables each)	Identify the baseline and, further, assess targets for the growth of management potential of a settlement	Evaluation surveys of capacity assessment of management of amalgamated territorial communities (hromadas)
Financial development - related	Indicators of budget efficiency, grouped into indexes by thematic areas of a financial profile. Sometimes also variables showing major correlations of budget efficiency.	Identify the baseline and, further, assess targets for the growth of financial sustainability of a settlement	Financial profiles of amalgamated territorial communities (hromadas)

Main groups of indices	Types of index composition and methods of calculation	Purpose and ways of practical use	Objects/data to analyses for calculation of variables
Sustainable development-related	2 groups of variables, one assessing the city's influence on a village, and another assessing the village's influence on a city (within the territorial cluster, or amalgamated community)	Assess level of harmonization in implementation of the settlement's strategic documents along the principles of sustainable development	Sustainable development strategies and operational plans of amalgamated territorial communities (hromadas)

Source: authors' research

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

For complex assessments of progress of socio-economic development of settlements at strategic level, "diamond" or "star" indices could be used, formed by 6 to 9 variables each, with a minimum mark at Zero and maximum at Five. The Zero mark is called "the minimum margin" while the Five mark is called "the maximum margin". Usually the mark cannot fall below Zero and is rather unrealistic to rise beyond Five within the timing of a strategic document (7-8 years). The indices are used within the settlement's M&E framework and their annual tracking allows to observe the dynamics of strategic development of a settlement against a pre-defined baselines and targets. The Entropy-related and Order of management-related indices differ because they assess the level of order vs. chaos in the settlement's strategic development and management order. The Sustainable development-related indices are peculiar as they are designed to assess how the major elements of a territorial cluster (including the major city and several villages) interact with each other.

Recommendations

Recommendations related to the composition of a harmonization index are: a) Have a variable to analyze the revenue and expenditure parts of the budget; b) Have a formula to assess results of evaluation of budgeting efficiency; c) Be built as a system of coordinates allowing to explore opportunities to improve funding; d) Enable assessment of the impact of instruments and financial development on the socio-economic; e) development of settlements, using a systems approach; f) Enable assessment of added value as a result of development, using economic equilibrium/harmonization models.

Recommendations related to the composition of a regulatory index are: a) Enable to recommend on the main ways of using resources, including productive forces of cities; b) Include a variable to assess measures of the provision of a small city with critical services; c) Enable the user to compare progress on various dimensions, e.g. administrative, spatial planning and effective budgeting; d) Include variables that show correlations among spatial planning systems, and systems of strategic and organizational planning of socio-economic development of the settlement; e) Include a set of markers to

monitor at least the most critical areas of performance; f) Include a variable dedicated to cost of land as a resource related to a settlement; g) Enable the user to see correlations between land as an investment resource and the city's (hromada's) expansion potential.

Recommendations related to the composition of a balancing index are: a) Include a variable characterizing impact of major global challenges on a settlement; b) Use logic models and chain of resources, factors and results to correlations; c) Enable the user to notice strengths and weaknesses of a settlement's development plan, after analyzing the above correlations in dynamics; d) Include a variable to show dangers of falling into economic decline and offer grading to solutions like enforced growth; f) Include not too many simple socio-economic development variables, to facilitate understanding; g) Include a group of push variables and a group of limiting variables.

REFERENCES:

Alexandrov, D.V. (2012). *Socio-psychological peculiarities of human resources in Ukraine*. Problems of management of production and economic activity of business entities: Scientific Works VI International scientific conference of young scientists, April 19, 2012, DonNTU (Donetsk). 274 p.

Berdanova O. V., Vakulenko V. M., Valentyuk I. V. et al. (2011). *Planning of social and economic development of the city.* NAPA (Kyiv). 160 p.

Burmaka M.M., Burmaka T.M. (2011). *Management of enterprise development on the example of enterprises of the construction industry*).KhNADU (Kharkiv). 204 p.

Filiak, M.S. (2018). *An overview of the determinants of the cluster system of settlements in accordance with the territorial spatial organization*. Scientific studies of the Tavrisky national university n.a. Vernadsky, Series: Economics and Management.vol. 29 (68). 43-48

Filyak, M. S. and Zavadovska, Y. Y. (2016). A survey of results of efficiency of integration of internally displaced persons in the social structure of the host communities in the regions of Ukraine. Prychornomorski ekonomichni studii, vol. 7, 197–201.

Fitzgerald B.; O'Doherty T., Moles R. and O'Regan B. (2015). *Quantitative Evaluation of Settlement Sustainability Policy (QESSP); Forward Planning for 26 Irish Settlements.* Sustainability 2015, 7, 1819-1839; doi:10.3390/su7021819. https://www.mdpi.com/2071-1050/7/2/1819/pdf

Ismail, Ayman and Gado, Hisham. (2003). *Sustainable Settlement Development Indicators.* Conference: Arab Regional Conference on Improving Living Conditions Through Urban Sustainable Development, At Conrad Hotel– Cairo - Egypt.

Kalashnikova H.I. (2013). *Strategic directions of social and economic development of a large city: author's abstract. 08.00.05 - Dissertation for obtaining the scientific degree of the candidate of economic sciences.* Cherkasy state technological university (Cherkasy). 253 p.

Kamran, Jalal (2015). *Investigating the affecting factors on quality of life in informal settlements' neighborhoods, with an emphasis on the Islamabad neighborhood in Zanjan.* Ciência eNatura, Santa Maria, v. 37 Part 1 2015, 286−297. https://periodicos.ufsm.br/cienciaenatura/article/.../20859/pdf

Karpenko V.V. (2010). *Ratio of concepts of "sustainable" and "integrated" development of rural communities*. Public administration: theory and practice. Electronic collection of scientific papers. Vol. 2 (4).

Kharazishvili Yu.M. (2007).*Theoretical fundamentals of system modeling of socio-economic development of Ukraine*. Polygraph Consulting Ltd. (Kyiv). 324 p.

Kolodich, E. V. (2012) *Ensuring Sustainable Development of the Social Sphere of Modern Cities: author's abstract. 08.00.05- Dissertation for obtaining the scientific degree of the candidate of economic sciences.* Cherkasy state technological university (Cherkasy). 20 p.

Kravchenko T.A. (2015). *Development of the village with the help of village communities: innovations in public policy in Ukraine.* Current problems of public administration. -. - Nr 1. - P. 87-95

Linard, C., Gilbert, M., Snow, R. W., Noor, A. M., & Tatem, A. J. (2012). *Population Distribution, Settlement Patterns and Accessibility across Africa in 2010*. PLoS ONE, 7(2), e31743. http://doi.org/10.1371/journal.pone.0031743

Matviishyn E.G.(2011). *Strategic Human Resource Management: A teaching manual.*. NAPA (Kyiv) 222 p.

Nazaruk N. N.(2010). *Structural and geographic bases of development and functioning of social-ecological systems of a large city: author's abstract. 11.00.11-Dissertation for obtaining the scientific degree of the candidate of geographic sciences.* I. Franko LNU (Lviv). 32 p.

Nikiforov P.O., Babukh I.B. (2015). *Financial provision of social and economic development of cities.* Chernivtsi: Technodruk,. - 204 p.

Olshevska I.P. (2007). *International migration of human resources: author's abstract. 08.00.02 - Dissertation for obtaining the scientific degree of the candidate of economic sciences.* Kyiv. 20 p.

Owen, K. (2011). *Settlement indicators of wellbeing and economic status – lacunarity and vegetation.* Conference: Pecora 18 –Forty Years of Earth Observation.Understanding a Changing World November 14 – 17, 2011, Herndon, Virginia. http://www.asprs.org/pecora18/proceedings/Owen.pdf

Petrushenko Yu. M.(2014). *Socio-economic essence and financial self-sufficiency of territorial communities.* Scientific herald of Chernivtsi university. Nr. 710-711. Economy. -: ChNU (Chernivtsi). 45-48.

Reshetylo V.P.(2014). *Labor resources of the regions: spatial placement and increase of efficiency of use: monograph*.Kharkiv National University. 157 p. ISBN 978-966-695-322-6

Romanenko Iryna Aleksandrovna (2015). *Statistical analysis of labor migration. Specialty 08.00.10 – Statistics. Dissertation for obtaining the scientific degree of the candidate of economic sciences.* Kyiv. UDC 311.2: 331.556.46 (043.3)

Vyshyvanyuk M. M. (2012.) *Socio-economic development of small cities of the region: problems, tendencies, directions of regulation.* Institute for Regional Studies of the National Academy of Sciences of Ukraine (Lviv). 252 p.

Yakovenko R.V., Kozenko R.O. (2010). *Problems and prospects of human capital development.* News of the KNTU. Economic sciences, Vol. 17. 447-451

Yarotskiy V.I. (2011). *Economic-statistical research of labor resources of Ukraine.* Theory and Practice of Public Administration.Vol. 4 (35). 1-8

Yatsyshyn Y.S.(2013). *Socio-economic development of a large city in the context of globalization challenges: author's abstract. 08.00.05- Dissertation for obtaining the scientific degree of the candidate of economic sciences.* Cherkasy state technological university (Cherkasy). 20 p.

Zavadovska, Y. Y. (2016). *Efficiency management in territorial projects of support to forced migrants.* Scientific Messenger of the LNUVM BT. Series: economic sciences, vol. 4, 183–188.

Zavadovska, Y. Y. and Filyak, M. S. (2016). *Migration flows of population during the crisis: the impact on social and economic development in the regions of Ukraine*. Spolom(Lviv).

Impact of small business management on optimizing business performance (Study on small-scale cake businesses in Sarolangun District)

Candra Mustika*; Sigit Indrawijaya; Zamzami

Faculty of Economics and Business, Universitas Jambi, Indonesia

**To whom correspondence should be addressed. Email: candra.mustika@yahoo.com*

Abstract

The purpose of this research is to analyze the corporate governance of Small and Medium-sized Enterprises (SMEs) in Creative Industry from the aspect of industrial profile, financial management, human resources management, operational management and marketing management in Sarolangun District. The population in this study was a group of Small and Medium Industries in Sarolangun District. This study examined 100 companies belonging to the SMEs. Primary data collection is carried out using questioner instrument and Focus Group Discussion techniques by involving stakeholders including business actors, government, academics and consumers. Descriptive analysis approach and statistical analysis/verification also used in this study. SWOT analysis is used for quantitative approach on the other hand matrix were used for qualitative approaches. The weighting and categorization of the results of the research variables suggests that financial management is in good category, marketing management is in good category, human resource management is in good category, operational management is not in good category and lastly business performance is in good category. The results of the SWOT diagram prove that the management position of the small-scale cake maker in Sarolangun District is currently in quadrant I, meaning that small-scale cake-making businesses in Sarolangun District already have the power and opportunity to improve business performance, thus the right strategy to improve the current business performance is through aggressive strategy.

Keywords: *management, small enterprises, business performance*

JEL Classification*:* M21, L25, L26

INTRODUCTION

The contribution of small businesses in Indonesia is very large. Indonesia's Gross Domestic Product (GDP) continues to increase every year. Small businesses play a huge role in efforts to improve the economy in both developed and developing countries. In developed countries, small businesses are very important because the business group absorbs the most workforce and also on the other hand its contribution to the formation or growth of gross domestic product (GDP) is the biggest compared to the contribution of businesses big.

The platform in government policy to encourage small and medium enterprises in Indonesia is through the Law No. 20 of 2008 concerning Micro, Small and Medium Enterprises, in this effort needs to be carried out comprehensively, optimally, and sustainably through the development of a conducive climate, providing business opportunities, support, protection and business development to the widest possible

extent. Small businesses are expected to be able to improve their position, role and potential, as contributed by large businesses in realizing economic growth, equity and increasing people's income, creating jobs, and alleviating poverty.

Efforts that have been made by the government and other elements in society to encourage the community's economy towards a better one have been carried out, especially in terms of funding. However, the problem faced is not solely a matter of funds even though funds are still needed by small businesses. The fact that we see that most small businesses are very difficult to develop and can barely survive. Other factors such as the management of the customer, input, process, and relatively low output quality are thought to be the causal factors. Therefore, for small businesses to be optimal, management implementation must be pursued so that it can ultimately have an impact on improving business performance for small businesses.

In an effort to improve the performance of businesse, it is necessary to conduct proper management of small businesses in Sarolangun District, especially for the cake industry. For this reason, studies must be carried out to provide an overview to what extent the impact of small business management on business performance improvement in Sarolangun District.

This research is examines the impact of small-scale business management in terms of financial, human resources, operations and marketing management so that a comprehensive management system can be formulated to improve the performance of small businesses, especially cake makers in the Sarolangun District.

LITERATURE REVIEW

According to Law No. 9 of 1995, small businesses are economic activities carried out by individuals or households or an entity, aiming to produce goods or services commercially traded, which have a net worth of at most Rp. 200 million, and have annual sales value of Rp. 1 billion or less.

Whereas based on the Decree of the Minister of Industry and Trade No. 589/MPP/KEP/10/1999 explained that small industry is an industrial business activity that has an investment value of up to Rp. 200.000.000 (two hundred million) excluding land and buildings for business. Whereas small and medium industries are industrial businesses with a value of investment of up to Rp. 1.000.000.000 (one billion) excluding land and buildings for business.

In Presidential Instruction Number 10 of 1999, it is stated that the characteristics of medium-sized businesses are as follows: have a net worth greater than Rp. 200,000,000 (two hundred million rupiah) up to a maximum of Rp. 10,000,000,000 (ten billion rupiah), not including land and building of business premises; owned by Indonesian Citizens; stand alone and not a subsidiary or branch of the company owned, controlled or affiliated directly or indirectly with large businesses; in the form of an individual business entity, a business entity that is not a legal entity and or a legal entity.

In Indonesia the characteristics of small businesses are divided into two parts. The first is the unique characteristics and advantages of the small business. Some of the characteristics of this business include: (1) the scale of small businesses both in terms of capital, labor and market, generally in rural areas, small towns or large suburbs with private ownership status, (2) the status of private and family owned businesses, (3) Labor sources originate from a socio-cultural environment (ethnic or geographical), (4) work patterns are often part-time or in the form of a side business, (4) simple and limited business management in adopting technology, (5) very dependent on sources of own capital, (6) often do not have a business license and business requirements are not

met, (7) corporate strategies often depend on the environment (Sucherly, 2003).

Prawiranegara (1998) argues that small businesses play an important role in driving Indonesia's economic growth. There are several reasons underlying this statement, including: (1) quantitatively their numbers are quite large, the majority of them directly serve the daily needs of the wider community. In developed countries, the average SMEs is more than 90 percent of all business units. Second, their total assets have a significant contribution and potential to the national economy.

Some research results found that there were various problems faced by SMEs in their efforts to develop themselves. UIEU SMEs Study Center, May 2008 explained that out of 30 SMEs coached by UIEU SMEs Study Center found that the order of small business problems was: financial management, marketing, labor and production.

Meanwhile, according to Tambunan (2004), stated that even though the amount of capital flows is large enough to small businesses, if it is not followed by guidance, especially on how to use the assistance received, small businesses tend to be unsuccessful. In terms of finances, there are actually many parties that have helped small businesses. In the financial context, various parties must understand that the problems of small businesses are not solely related to financial or capital issues. Many also have problems outside the capital sector. In this context, what is needed by small businesses like this is not only capital, but coaching.

According to Crowther and Seifi (2010), there are 4 (four) principles of good corporate management, namely: transparency (transparency), which means companies must be transparent with all governance procedures; accountability, which means the structure of the financial statements must be clear; responsibility, which means that someone must be responsible for actions taken; fair (fairness), which means that the company system must run fairly, namely not taking sides with anything and without prejudice with anyone.

According to Lumpkin and Dess (1996), performance is a multidimensional concept and the relationship between entrepreneurial orientation and performance can depend on the indicators used to access performance. Many empirical studies have reported the many different performance indicators (for example the studies of Venkataraman and Ramanujam, 1986); generally is the difference between the size of financial performance and non-financial performance. Non-financial performance measurement measures the business goals (goals) such as satisfaction and the level of success in the global scope that can be achieved by the owners or managers; financial performance indicators measures factors such as sales growth and ROI. According to Murphy, Trailer and Hill (1996), with regard to financial performance, there is often a low convergence between different indicators.

Business performance variables have indicators of sales growth, capital growth, labor growth, market growth and profit growth. Business performance is described as an achievement obtained by a business organization (Musran Munizu, 2010).

According to Zahra and Covin, (1995), the main conceptual regarding the relationship between entrepreneurial orientation and performance focuses on the financial aspects of performance. Businesses that have high entrepreneurial orientation can target premium market segments, set high selling prices and occupy a market position that is superior to its competitors, which will certainly generate greater profits and can be quickly to expand.

Muzzafar et al., (2009), explores the performance of successful small business enterprises characterized by innovation behavior and risk takers. There are three categories that influence the success of this business such as the characteristics of the

entrepreneur, the initial behavior and overall corporate strategy.

To support this second year research, the first year research has been carried out which results in financial management, human resource management, operational management and marketing management carried out together by cake makers in Sarolangun District have a significant influence on business performance variables, as well as partially all research variables (X1= financial management, X2= human resources management, X3= operational management and X4= marketing management) have a significant effect on Y (the performance of cake businesses).

Research results related to SMEs have been widely carried out by researchers both at national and local levels. Several studies that have been conducted relating to Small and Medium Enterprises (SMEs) in Sarolangun include research conducted by Ade Octavia et al (2012), concerning Evaluation of Micro, Small and Medium Enterprises Receiving Government Assistance and Strategies for Increasing Business Competitiveness in the context of Encouraging the Economy of Jambi Province, concludes that capital is not the only inhibiting factor in the development of cooperatives.

Research conducted by Dahmiri et al (2013) on improving the competitiveness of Small and Medium Enterprises in Sarolangun District concluded that the level of competitiveness of Small and Medium Enterprises in Sarolangun District were still low. The competitiveness indicator includes access to businesses, markets, human resources and technology.

Good governance principles for corporations includes transparency, accountability, responsibility and fairness. The governance of SMEs, especially cake makers in Sarolangun District, has not yet used the principles of corporate governance. Therefore, cake businesses can grow and develop without dealing into bigger problems, it is necessary to adopt the principles of corporate governance (Crowther and Seifi, 2010). Whereas (Mulbert, 2010) and Stapledon (1997) explain that corporate governance includes shareholders, management led by the Chief Executive Officer (CEO) and the board of directors.

RESEARCH METHODS

Data source and method of data collection

Primary data is obtained directly from the field survey, namely the SMEs managers/actors, as well as from stakeholders related to other creative industries. Secondary data is obtained from the Department of Industry and Trade of Jambi Province and Regency/City, the Office of Cooperatives and SMEs of Sarolangun District, the Central Statistics Agency, the Department of Tourism and literature studies. Data collection is done by structured interviews, observations and documentation.

Population and sample

Population is a collection of all elements, in this case is defined as the object of research (Supranto, 1994). The population in this study is a group of Small and Medium Industries in Sarolangun District.

The sampling technique used in this study is purposive sampling. A purposive sample is a sample that is carefully chosen so that it is relevant to the research. Sampling with this aiming technique is good because it is in accordance with the researchers' own considerations so that it can represent the population. The advantage lies in the accuracy of the researcher choosing the data source according to the variables studied. (Sutrisno, 1992).

Provisions on the number of samples based on the opinion of Singarimbum (2008) which said the smallest sample is ≤ 30. This study will examine 100 companies belonging to the Small and Medium Industry (SMEs) group, with 100 respondents in which each company consists of 1 respondent, the owner business.

Data analysis method

Primary data collection was carried out with Focus Group Discussion (FGD) techniques involving stakeholders including business people, government, academics and consumers. The data collected were processed, by doing data tabulation first, data collection is done through questionnaires, to test validity the questionnaire were carried out by two types of testing, namely the test of validity and test of reliability. In analyzing and interpreting data and information in this study, the author uses a descriptive analysis approach and statistical analysis/verification method.

RESULTS AND DISCUSSION

Overview of respondent

Data from the Industry and Trade Office of Sarolangun District in 2015, the number of Small Businesses especially Cake Producers in Sarolangun District were counted as many as 96 units. Referring to the opinion of Arikunto (2002), if the subject is less than 100 respondents, it is better to take it all so that the research is categorized as population.

The majority of the businessmen in the cake-making business in Sarolangun District are men amounting to 85%, whereas women are only 15%. Various of chips and crackers dominates the cake industy by 58%, and as many as 51 people or 52% of the total respondents of cake producers businesses were located at Sarolangun District, whereas 88% of the cake businesses only consist of 1-5 employees.

Small enterprises management towards improvement of business performance

Based on Figure 1, which explains the supporting factors of small business management in improving business performance on average is at the number 2.9 or categorized as good. It was found that the financial management factors and small business marketing management in the cake crafters were in good condition, meaning that in running a small cake maker business in Sarolangun District had operate financial management which included managing business capital sources, small business models, low operating costs, having assets that are used for business, recording revenue and expenditure of business finance, which suggests in accordance with good business governance. Likewise in marketing management which includes presenting good products and quality pricing that is able to compete in the market, executing product promotion to attract customers and determining the right place to sell its products, it has also been done by cake makers quite well.

The human resource management factors include human resources planning both from recruitment, selection and placement of human resources, determining the wages of workers, utilizing labor from the family environment, still have not been implemented by cake makers businesses. Likewise, the factors of business operational management which include determining production capacity, determining strategic business locations, making business layout but being non-permanent and determining the basis of work flow but still simple, have also not been carried out by the cake makers in Sarolangun District.

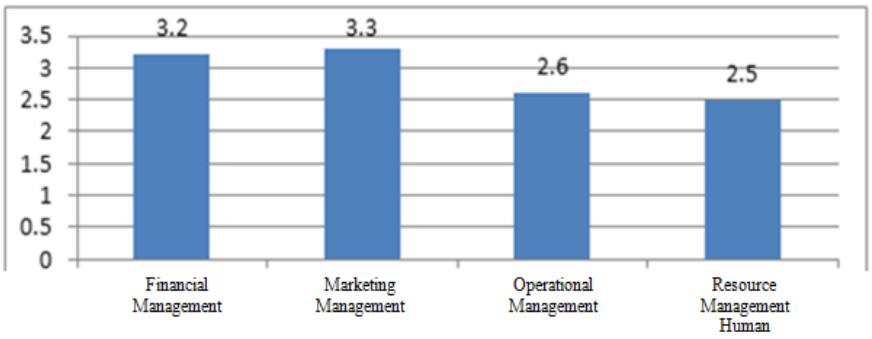


Figure 1. Factors of good management in improving business performance

However, when viewed from the business performance factors that have been achieved by the cake craftsmen include earning profit, there has been a development of turnover and the size of business which is marked by an increase in the number of assets, capital and labor, has entered the category of good, meaning the small-scale cake-maker business is quite successful in achieving good business performance.

Managing small enterprises to improve business performance

The constraint that still faced by small-scale cake-making businesses in Sarolangun District in improving business performance are in the human resource management and operational management. HR management is still a constraint, among others, the lack of good HR planning, including recruitment, selection and placement of human resources, labor wages and very family-dependent of workforce which lacking of quality. Operational management which is also a constraint for cake makers, among others, is the lack of management of production capacity, unlclear strategy of business locations, no business layout and unclear work flow.

The business challenges in the future are getting tough, the Asean Economic Community is a signal that businesses must immediately rise and must be able to compete globally. To face the challenges of the Asean Economic Community, small businesses must be able to create quality products and good business performance. From the current small business conditions, it is necessary to make an internal and external factor analysis, where internal conditions describe strengths and weaknesses and external factors involve threats and challenges and are given weight to see whether the strength is greater than weakness and vice versa. The purpose of this analysis is to improve the performance of small-scale cake makers. Furthermore, internal and external factors can be seen in Tables 1 and 2.

Table 1. Internal factors which explains strengths and weaknesses of small-scale cake businesses

No.	***Strength***	**Value**	**Rating**	**Score**
1.	Raw material availability	0,1	4/4	0,4
2.	Labour availability	0,1	4/4	0,4
3.	Creativity	0,25	3/4	0,75
4.	Capital power	0,05	3/4	0,15
Total strengths from internal factors				1,70
No.	***Weakness***	**Value**	**Rating**	**Score**
1	Business knowledge	0,2	3	0,6
2	Tech savvy	0,2	2	0,4
3	Product quality standart	0,1	4	0,4
Total weaknesses from internal factors				**1,4**

Differences between O - T = 1.6 – 1,5 = 0,3

Table 2. External factors which explains opportunity and threats of small-scale cake businesses

No.	*Opportunity*	Value	Rating	Score
1	Capital support	0,15	4	0,6
2	Opportunity of new market	0,05	3	0,15
3	Access to technologies	0,05	3	0,15
4	Conducive Business environment	0,25	4	1,0
Total opportunity from external factors				1,9
No.	***Threat***	**Value**	**Rating**	**Score**
1	Competitive pricing	0,2	3	0,6
2	Competitive product quality	0,15	3	0,45
4	Competitor's product variety	0,1	4	0,4
5	Competitor's technological advantage	0,05	4	0,2
Total threat from external factors				**1,65**

Differences between O - T = 1,9 – 1,65 = 0,25

Based on the condition of internal factors in Table 1 and external factors in Table 2, it can be seen at this time that the position of small-scale cake makers has the advantages and opportunities described in the figure 2. From the results of the SWOT diagram, we obtained that the management position of the small-scale cake maker in Sarolangun District is currently in quadrant I, meaning that small-scale cake-making businesses in Sarolangun District already have the power and opportunity to improve business performance, thus the right strategy required to improve the business performance is an aggressive strategy.

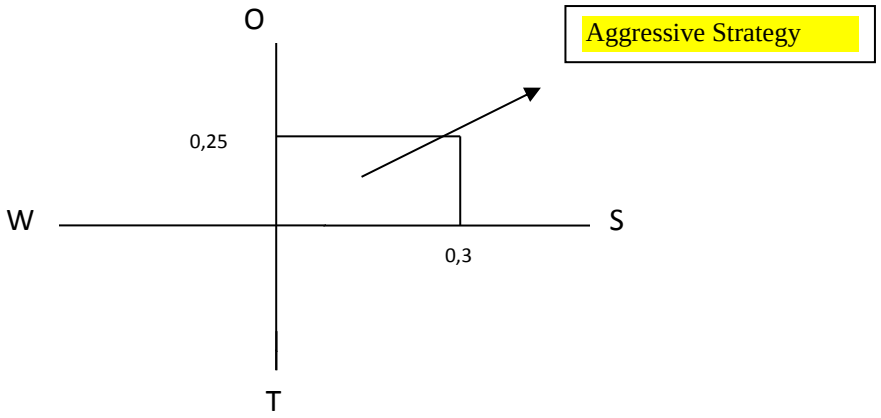


Figure 2. SWOT diagram of cake making industry for small enterprises management

Apart from the SWOT diagram, we also formulate it into the SWOT matrix, which can be seen in the following table:

Table 3. Combined strategy formula SWOT Matrix

IFAS / **EFAS**	**Strength (S)**	**Weakness (W)**
Opportunities (O)	Strategy (SO) : = 1.70 + 1.90 = 3.60	Strategy (WO) : = 1.4 + 1.90 = 3.3
Threats (T)	Strategy (ST) : = 1.7 + 1.65 = 3.35	Strategy (WT) : = 1,4+ 1.65 = 3.05

IFAS : Internal strategic factor analysis summary
EFAS: External strategic factor analysis summary

The SWOT matrix strategy in the table shows that small-scale cake-maker businesses in Sarolangun District need to utilize the SO strategy that has the highest score of 3.60, followed by ST strategy = 3.35, WO strategy = 3.3, and WT strategy = 3.05.

The results of the SWOT analysis in Figure 2 where the position of the small-scale cake-making business in Sarolangun District is in quadrant I, meaning that small-scale cake-making business has the advantage of strength-side and can be used to explore opportunities. Therefore, small-scale cake crafters must carry out aggressive strategies. Thus an aggressive strategy through internal factor analysis and external factors analysis can be formulated as follows:

Table 4. Aggressive strategy through internal and external factors analysis

Internal / **External**	**Strength (S)** 1. Raw material availability 2. Labour availability 3. Creativity 4. Capital power	**Weakness (W)** 1. Business knowledge 2. Tech savvy 3. Product quality standart
Threat (T) 1. Competitive Product Pricing 2. Competitor's Product Quality 3. Competitor's Wide Variety of Products 4. Competitor's technology	**Managing ST** 1. Government creating clusters for small enterprises 2. Government and private supports continuous development for small enterprises 3. Government and private provides capital support for small cake businesses	**Managing WT** 1. Government provides market access to increase income for cake businesses 2. Provides technological support and knowledge to adapt in the changing environment 3. Provides specific services for Product Certification and business license for small cake businesses
Opportunity (O) 1. Capital Support 2. New market opportunities 3. Access to technology 4. Conducive business environment	**Managing SO** 1. Develop local potential in the utilization of local raw materials and manpower 2. Creating conducive business environment	**Managing WO** 1. Improve supporting and training methods to face competitive market 2. Incentivize cake businesses to be more creative and innovative to increase competitive advantage.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The majority of the businessmen in the cake-making business in Sarolangun District are men amounting to 85%. Various of chips and crackers dominates the cake industy by 58%, and the 52% of cake industry distribution is in Sarolangun District, whereas 88% of the cake businesses only consist of 1-5 employees. Weighting and categorization of the research result suggest that financial management is good, marketing management is good, human resource management is good, operational management is not good and business performance is quite good.

From the results of the SWOT diagram, information was obtained that the management position of the small-scale cake maker in Sarolangun District is currently in quadrant I, meaning that small-scale cake-making businesses in Sarolangun District already have the power and opportunity to improve business performance, for that the right strategy for improving business performance is to utilize an aggressive strategy.

Recommendations

The actors of the cake-making business in Sarolangun Regency always try to improve all the variables of good management of financial, HR, marketing management even though the current category is quite good. Operational management as a variable is a concern because this variable is not good enough and must be improve in the future. Other researchers are advised to include other variables so as to produce more accurate, more varied and more profound findings relating to business performance.

REFERENCES

Arikunto, S. (2010) Prosedur penelitian suatu pendekatan praktik. Jakarta: Rineka Cipta

Crowther, D., Seifi, S. (2010). Corporate Governance and Risk Management.*Ventus Publishing ApS.*

Dahmiri (2013), Upaya peningkatan daya saing Usaha Kecil dan Menengah di Kabupaten Sarolangun. Sarolangun Jambi.

Instruksi Presiden Republik Indonesia. Nomor 10 Tahun 1999. Tentang. Pemberdayaan Usaha Menengah.

Jogiyanto, 2010, Sistem Informasi Strategik untuk Keunggulan Kompetitif, Penerbit Andi Offset, Yogyakarta

Lumpkin, D.T, Dess, GG (1996), "Clarifying the entrepreneurial orientation construct and iinking it to performance", Academy of Management Revzew, Vol. 21, pp. 135-72.

Mulbert, P. O. (2010). Corporate Governance of Banks after the Financial Crisis-Theory, Evidence, Reforms. *ECGI Law Working Paper*.

Muzaffar, Ahmed T, (2009), entrepreneurs of the street, an analytical work on the street food vendor of dhaka city, International Journal Of Business management, vol.4 No.2.

Murphy, B.G., Trailer, W.J., and Hill, C.R., 1996. Measuring Performance in Organizational Level Analysis. Journal of Business Reserch, Vol. 36, 15-23.

Munizu, M. (2010). Pengaruh Penerapan Praktik Total Quality of Management (TQM) Terhadap Kinerja Kualitas (Studi Persepsi Karyawan pada PT. Sermani Steel Makassar). Skripsi. Fakultas Ekonomi Universitas Hasanuddin.

Octavia. A. et.al (2012), Evaluasi Usaha Mikro Kecil dan Menengah Penerima Bantuan Pemerintah dan Strategi Peningkatan Daya Saing Usaha Bersangkutan Dalam Rangka Mendorong Perekonomian Provinsi Jambi.

Prawiranegara AS, 1998, Kebijaksanaan Pembinaan Pengusaha Kecil Khususnya Tentang Organisasi Usaha di Indonesia", dalam Jurna l Ilmu-Ilmu Sosial, *Pengusaha Kecil : Penting dan Kompleksitas Masalahnya*, Jakarta : PAU-IS-UI, November 1994.

Rangkuti, F, 2006, " Analisis SWOT Teknik Membedah Kasus Bisnis,PT. Gramedia Pustaka Utama, Jakarta.

Singarimbun, Peter H dan Chris M. 2008. "Penentuan Variabel dan Hubungan Antar Variabel". in Singarimbun, Masri dan Sofian Effendi (ed.). Metode Penelitian Survei. Edisi Revisi. Cetakan ke-19. Jakarta: Pustaka LP3ES (hal. 122-146).

Sutrisno, H, 1992, Statistik 2, Yogyakarta, Penerbit Andi, Yogyakarta

Sucherly (2003), Peranan Manajemen Pemasaran Stratejik dalam Menciptakan

Keunggulan Posisional serta Implikasinya terhadap Kinerja Organisasi Bisnis dan Non Bisnis (Pendekatan 5-A). Orasi Ilmiah. Universitas Padjajaran, Bandung.

Supranto, J. 1994. Statistik: Teori dan Aplikasi Jilid 2 (cetakan 5). Jakarta: Erlangga

Stapledon, G.P. (1997). Institutional Share holders and Corporate Governance. *Otago Law Review*, Vol.9, No.1, pp. 177-179.

Tambunan, M (2004). Melangkah ke depan UKM dalam Perekonomian Indonesia di masa depan, Makalah pada Debat Ekonomi ESEI, 2004, Jakarta Convention Centre, 15-16 September 2004.

Undang-Undang Nomor 20 Tahun 2008 Tentang Usaha Mikro Kecil dan Menengah, Depkumdang dan HAM, Jakarta

Undang Undang No. 9 Tahun 1995. Tentang: Usaha Kecil. Oleh. : Presiden Republik Indonesia. Nomor. : 9 Tahun 1995 (9/1995). Tanggal. : 26 Desember 1995 (Jakarta). Sumber. : LN 74; TLN 3611. Presiden Republik Indonesia.

Venkatraman, N. And V. Ramanujam, 1986. Measurement of Business Performance In Strategy Reasearch: A Comparison Approaches, Academy of Management Review, Vol. 11, pp.801-814.

Zahra, S.A., & Covin, J. (1995). Contextual Influences on the Corporate Entrepreneurship-Performance Relationship: A Longitudinal Analysis. Journal of Business Venturing, 10, 43-58.

Methodological aspects of universities' R&D comercialization in Ukraine in the context of the Quadruple Helix Model

Nataliya Kholiavko*; Tetyana Shestakovska

Chernihiv National University of Technology, Ukraine

**To whom correspondence should be addressed. Email: natasha290186@ukr.net*

Abstract

The necessity of the formation and development of the mechanism of commercialization of the researches results of HEIs in Ukraine has been substantiated. The present state of the process of commercialization of the researches results of HEIs in Ukraine has been analyzed. The problems and strategic guidelines for improving the mechanism of commercialization of the researches results of HEIs in Ukraine have been identified. The components of the mechanism of commercialization of the researches results of the HEIs in Ukraine in the context of implementation of the "Quadruple Helix" model (HEIs - business - government - civil society) have been determined, which is focused on the integrated management of innovation activity, in particular, on the process of formation, transfer and realization of scientific developments, the creation of high-tech technologies on their basis. The classification of the researches results of HEIs, which are the objects of commercialization, has been offered.

Keywords: *Commercialization, HEIs, Organizational and economic mechanism, Quadruple Helix Model*

JEL Classification: L21, L31, L32, M14

INTRODUCTION

The current global trend of development of the world's leading countries is the formation of a new type of economic system - the information economy. The characteristic features of information economy are: the transformation of knowledge and information into productive power; the growth of the role of intellectual and information resources in the economy development; the expansion of the knowledge-intensive sector of economy; the increase in the share of workers employed in the science-intensive sector of economy; active implementation of information and communication technologies; raising the level of innovation activity of business entities; the development of innovative consciousness; the increase in the share of high-tech products in the gross domestic product of the country; the expansion of the information services; the modernization of approaches to the organization of entrepreneurial activity; the formation of a global information space, etc. The development of entrepreneurship in such conditions faces a number of challenges, first of all, changing the factors of competitiveness of economic entities. The high competitive positions require innovation activity, flexibility and adaptability of enterprises to the changes of dynamical economic environment. The economic entities' innovation activity is largely based on the efficiency and intensity of research activities

of higher education and research institutions of the country. The gaps between the elements of the Quadruple Helix model (higher education sector – business enterprise sector – government sector – private non-profit sector) reduces the processes of research results commercialization in the real sector of the national economy.

LITERATURE REVIEW

Today, one of the tasks of the Ukrainian economy is the development of industrial knowledge-intensive production and the formation of stable market relations for obtaining domestic competitive products. Due to the rapid growth of the market of scientific and technical products and the high level of competition in this market, the search for the ways to commercialize the researches results of HEIs becomes an expedient solution. The commercialization of the researches results is an important source of the formation of the revenue part of the university budget, as well as the factor of attraction of investments in its research and teaching activity.

The gaps between the elements of the Quadruple Helix model (higher education sector – business enterprise sector – government sector – private non-profit sector) reduces the processes of R&D results commercialization in the real sector of the national economy. The Quadruple Helix model is the development of Henry Etzkowitz's Triple Helix model (universities – firms – public organizations). We agree with scientists who propose to widen Triple Helix adding the civil society (or private non-profit sector – Eurostat, Eurocommision) as one of its important elements (for example R.Arnkil, A. Jarvensivu, P.Koski, T.Piirainen from Institute for Social Research at University of Tampere, Final Report on Quadruple Helix Research for the CLIQ project, 2010).

The theoretical and applied principles of the study of the Quadruple Helix model are laid down by E. Carayannis and D. Campbell (2009-2016). Yawson R. (2009) substantiates the importance of including of public to the Helix. Park H. Woo (2014) proves the lack of sensitivity of the Triple Helix model to the challenges of XXI century; therefore the scientist justifies the extending of the Triple Helix model to the Quadruple Helix.

Issues of commercialization in the spheres of higher education and science are gaining increasing scientific interest not only in Ukraine but also abroad. In 2016 a group of scientists (McAdam, M., Miller, K., & McAdam, R.) published the article devoted to the study of Quadruple Helix relationships of university technology commercialization. On the bases of empirical studies the researchers concluded that at the micro-level the influence on the commercialization processes is made by the set of specific interrelationships between the Model's subjects. Also, the authors put the attention on the variation of the interaction depending on the type and profile of the university and on the phases of the innovation cycle; stressed the complexity of organization of effective cooperation of stakeholders in the realization of commercialization processes ((McAdam, M., Miller, K., & McAdam, R., 2016).

Ukrainian scientists (Samilo, A.V., Rostin, O.V. & Kupchak, M.Ya.) propose to consider the commercialization of the researches results as a return of costs for the creation of scientific researches results, obtaining additional revenues to the special fund of estimates in order to accelerate the introduction of positive results of the science in to practice, the formation of favorable economic conditions for development (Samilo, A.V., Rostin, O.V. & Kupchak, M.Ya., 2013). I. Mazur defines the commercialization of scientific developments as a way of transforming the object of intellectual property

(innovative product, innovative technologies) into commodity, its embodiment in production and obtaining from this commercial result (Mazur, 2013).

We support the position of the scientist T.M. Bogolyb, who, under the commercialization of the researches results, considers the process of transformation of research results that retain their market relevance and demand` into products and services on the market in order to generate revenue from their sale, licensing or independent use. In its turn, the process of commercialization involves the search, evaluation and selection of innovations for financing, raising funds, legal consolidation of rights to a future intellectual property, the introduction of innovations in production, as well as the subsequent modification and maintenance of the object of commercialization (Bogolib, 2014).

The results of the analysis of scientific researches and the practice of activity of domestic HEIs confirm the existence of a number of problematic aspects in the implementation of the process of the commercialization of scientific researches results, which sets us the task of developing scientific and methodological foundations and the mechanism of the commercialization of the researches results of HEIs in Ukraine. The main problem of the implementation of scientific developments is the lack of links between scientific and educational organizations, business, the state and public institutions. According to the scientists, in particular M.V. Fedorova and E.V. Peshina, a promising form of production of knowledge and scientific developments should become "pentaspiral" (science-education-business-government- civil society), an important task of which is the integrated management of the processes of innovation (production, transfer and use of scientific knowledge, the formation of the science-intensive technologies on their basis) (Fedorov, Peshina, 2012).

MATERIALS AND METHODS

The key issues of the commercialization of the researches results of HEIs in Ukraine include: non-regulation of provisions of the regulatory framework on the commercialization of scientific researches results; organizational and economic collisions in the functioning of the mechanism of using the researches results in economic circulation; the absence of a system for assessing the market value of the researches results; insufficient level of qualification of specialists on the issues of commercialization of scientific researches results; the lack of well-established infrastructure, which should provide solutions to the issues of the commercialization of researches results of HEIs, and others.

The research methodology included the collection of statistical and reporting data on the commercialization of HEIs' R&D results from official sources. In the process of research, general scientific and special research methods have been used, in particular: 1) theoretical generalization, comparison and morphological analysis - in the process of formation of the conceptual-categorical apparatus of the research; 2) system analysis - to formulate the conceptual foundations for constructing the components of the mechanism of the commercialization of the researches results of HEIs in the context of the implementation of the model "Quadruple Helix"; 3) regulatory and legal monitoring - to assess the compliance of the institutional environment with the conditions of implementing the organizational and economic mechanism of commercializing the researches results in Ukraine.

The purpose of the article is to justify the problems of the commercialization of the researches results of HEIs and the development of methodological approaches to the

formation of an effective mechanism for the commercialization of the researches results of HEIs in Ukraine using a model «Quadruple Helix».

RESULTS AND DISCUSSION

The economic essence of the researches results implies that commercially-attractive knowledge can acquire a commodity form, because an intellectual property protected by law can bring significant profits to its owners. In today's market conditions, the knowledge economy, based on the researches results, has become a key factor in the evolution of production processes, a key to the success and stability of the country's economic development. Taking into account such aspects, the European countries are working to create a transnational powerful economy, based on modern technologies. Therefore, taking into account the orientation of the domestic economy to the deepening of constructive socio-economic, normative-legal, and scientific-technological relations with the European Union, the issue of formation and development of the national market of knowledge becomes of special urgency. Ukraine is rich in its scientific and technical potential, which needs to be effectively used through the formation, popularization and commercialization of researches results of HEIs, which will contribute to a significant increase of the state's competitiveness on the world market of goods and services. In its turn, Ukraine's leadership on the global market is hampered by a socio-economic instability, chronic underfunding and brain drain. Under conditions of market economy, Ukraine did not pay sufficient attention to the development of scientific researches.

Having formally established new economic rules with the proclamation of independence, Ukraine continued its way for a long time on the basis of the mental approaches established in the Soviet period. Usually the customer and the owner of the researches results was the state, in its turn, the work of scientists was marked only by moral rewards. Therefore, the researchers did not have the necessity, and often the opportunity, to set themselves the goal of commercializing the results of their scientific achievements and present them on the market. As a result of this situation, modern scholars of HEIs, do not know how to market their own product. The result of such tendencies was a significant decline in the scientific and technical potential of the domestic industry.

The question of determining the owner of the researches results deserves particular attention since the domestic legislation contains a number of differences in this direction. At present, two entities applying for their commercialization (directly the inventor and his employer) are involved in the formation of the researches results of HEIs. Such circumstances affect the important issues of the legal regulation of material incentives of the scientists in the process of creating scientific products and inventions, as well as the peculiarities of evaluating the results of such activities. Scientific goods are generally understood to mean any scientific, educational, etc. products in the form of scientific monographs, dissertations, articles, reports, textbooks, teaching aids, deposited manuscripts, etc. The situation with scientific and technical inventions remains unclear.

The Law of Ukraine "On Copyright and Related Rights" defines the notion of the official work, which is considered as the work created by the author during performance of official duties, in accordance with his official duties or in accordance with an employment contract (contract) between him and the employer (The Law of Ukraine «About copyright and related rights», 1993) But one should pay attention to the

fact that labor agreements between the HEIs and scientific and pedagogical workers, as a rule, do not specify the scope and criteria of the scientific works to be created by a scientist. In addition, HEIs actively use the scientific assets of their own team for free. Taking into account the provisions of Article 429 of the Civil Code of Ukraine, according to which non-proprietary intellectual property rights belong to the author's work, and property ones besides him also belong to a legal entity or individual, the employer, unless it is otherwise established by the contract, it is obvious that in the legal plane this question is not clearly resolved, and hence the problem still remains open. In accordance with Part 1, Article 9 of the Law of Ukraine "On the Protection of the Rights to Inventions and Utility Models", the employer of the inventor has the right to obtain a patent for a service invention. There is a general competition (Part 2 of Article 429 of the Civil Code of Ukraine) and a special one (Part 1, Article 9 of the Law of Ukraine "On the Protection of the Rights to Inventions and Utility Models") of the norm, which according to the rules should be overcome in favor of a special rule. However, in this case, this rule does not work in the light of Article 4 of the Civil Code of Ukraine, which states that the Civil Code of Ukraine is the main act of the civil law, that is, the priority has Article 429 of the Civil Code of Ukraine (The Civil Code of Ukraine, 2003).

A similar situation exists with regard to the registration of the intellectual property treaties. In accordance with Part 2 of Article 1114 of the Civil Code of Ukraine there is a law to transfer the exclusive proprietary rights of intellectual property, which, in accordance with the Civil Code or other law, are in force after their state registration. That is, the rights to the objects of patent law come into force from the moment of their registration. In its turn, the patent legislation establishes the faculty of such registration (part 8 of Article 28 of the Law of Ukraine "On Protection of the Rights to Inventions and Utility Models"), therefore it is also necessary to apply the provisions of the Civil Code, which requires the regulation of the current legislation.

Such circumstances cause the remoteness of the national science from the real sector of the economy. That is, between the researches results and business, it is necessary to radically change relations, first of all, through the formation of a new style of organization of production, in which science will be integrated with it, namely, production will acquire a knowledge-intensive nature. To resolve this issue, it is necessary to establish an effective organizational and economic mechanism for the commercialization of the researches results of HEIs in Ukraine, first of all, due to the formation and efficient operation of the system of transfer of knowledge and technologies. From the position of the current national legislation, technology transfer is defined as the transfer of scientific researches results, which is drawn up by concluding between the natural or legal persons of the relevant agreement, which establishes, changes or terminates property rights and obligations regarding the researches results or their constituents (The Law of Ukraine «On state regulation of activities in the field of technology transfer», 2006).

Today, the organizational and economic mechanism of commercialization of research results in Ukraine includes the system of the Network of Regional Innovation Development Centers of the State Agency of Ukraine for Investments and Innovations (STT INDEV). This network is a part of the nationwide innovation infrastructure of Ukraine, which is a set of information and communication networks, hardware and software, which provides a non-profit basis for the activities of enterprises, institutions, organizations of all forms of ownership, in all regions of Ukraine regarding technology

transfer, based on a single normative and methodological basis. The purpose of the activity of the STT INDEV is to develop the innovation infrastructure of the national economy and to facilitate the commercialization of the researches results , which provides for their transfer from the HEIs to the business sector.

The Ukrainian integrated system of technology transfer, which is intended to accumulate and provide operational information exchange of the researches results between the HEIs and consumers, plays an important role in ensuring the organizational and economic mechanism of commercialization of the scientific research results in Ukraine. The purpose of creating such a system is to ensure the openness of access to the information on the researches results that is of commercial value in the context of the development of information resources and services that facilitate the objective perception of Ukraine in the world community as well as the strengthening of trust in various areas of the international cooperation.

In Ukraine, in 2009, under the State Research Institute "Ukrainian Institute of Scientific and Technical Expertise and Information" (UkrINTE), a National Technology Transfer Network (NCTT) was established, which operates according to the methodology and model of the European network of relay-centers (Innovation Relay Senters - IRS network - since 2008 EEN) and the Ukrainian network of technologies transfer UTTN. The role of this network consists in the consolidation of information resources of state, public, private innovative structures of Ukraine, enterprises, institutions and organizations in a single technology transfer network and the further integration of NMTT into the European network of EUN. Among the main tasks of the National Technology Transfer Network is the commercialization of the results of research in HEIs (the establishment of interconnections between the HEIs and business, the search for partners and investors for the mutually beneficial commercialization of research results, and the establishment of constructive relations with the international technology transfer networks).

In the long term, it is foreseen to establish a clear organizational and economic mechanism of the commercialization of the researches results in the HEIs, as currently the process of moving to the market of research results in Ukraine is a topical issue of higher education. As the cooperation of the HEIs with business leads to the fact that all copyrights to the researches results receives business because of the lack of funding in the HEIs to protect these rights.

The study of foreign experience in commercializing the researches results has made it possible to identify the peculiarities of the functioning of the research universities that pursue an active policy of joint research with industrial corporations and state research laboratories, forming alliances and participating in public-private partnerships. An innovative infrastructure is created, around these HEIs, which is represented by such objects as research parks, technology parks, science parks, technology transfer centers, centers for the commercialization of research results, technopolises, venture funds and investment companies.

During the last few years, significant steps have been taken in Ukraine to create favorable conditions for the commercialization of research results. There are 16 techno-parks in Ukraine (8 of which are permanent ones). The following industrial parks are the most successful: "Semiconductor technologies and materials, optoelectronics and sensory technology", "Institute of Electric Welding named after Ye.O. Paton", "Institute of Single Crystals","Kyiv Polytechnic","Institute of Technical Thermophysics", "Ukrinfotekh", "Intelligent Information Technologies". The peculiarity of the

functioning of national technology parks is that in our country, unlike other countries, there are almost no venture technoparks (Bay, Doskonala, 2012; Industrial Property in Figures: Performance Indicators of the State Intellectual Property Service of Ukraine and State Enterprise "Ukrainian Institute of Intellectual Property", 2015).

In order to stimulate innovation processes in Ukraine, 24 centers of innovation and technology transfer; 108 scientific and educational centers; 34 educational research-and-production complexes; 1 investment (innovation) venture fund; 6 non-bank financial and credit institutions; 27 research and development enterprises; 7 consulting centers on innovation activities; 10 innovation and technological clusters; 22 innovative centers; 23 innovative business incubators; 38 centers of commercialization of the objects of intellectual property rights; 17 enterprises of the STI system; 1 industrial park; 8 national contact points of the Seventh EU Framework Program for the Research and Technological Development; 9 science parks; 27 regional investment and development centers; 7 public organizations on innovation issues; 61 another innovation structure were also created (Statistical information: innovative activity, 2016).

However, due to the considerable formalism, bureaucratic, socio-economic and regulatory barriers, the functioning of the organizational and economic mechanism of commercialization of the researches results in the HEIs in Ukraine, takes place through the slightest opposition. At present, the number of registered inventions is significantly lower than the number of applications for utility models, which are simpler in design and execution, but also significantly lower in terms of commercial returns. During 2011-2016, all national HEIs received over 36 thousand patents for inventions and utility models, but inventions amount to only 5,500. The first place is taken by the National University of Food Technologies (462 inventions over the last 5 years). The second place belongs to the National University of Bioresources and Natural Resources of Ukraine (249 inventions) (Statistical information: innovative activity, 2016).

The key problem of establishing an effective organizational and economic mechanism for the commercialization of the results of researches in the HEIs is insufficient support from the state. In Ukraine, the first steps have been taken to form effective mechanisms of cooperation between the HEIs and business. Thus, the Kyiv National Taras Shevchenko University, with the aim of establishing effective work with external, first of all, European, technology markets since June 2011, has become a member of the Consortium of EEN-Ukraine. As a part of this collaboration, he represents the best Ukrainian innovation developments in the Network of the European Enterprises (EEN), which is one of the key European tools for establishing contacts between the researches results and business. By now, the university has hosted 32 proposals (21 own and 11 from other HEIs and the National Academy of Sciences of Ukraine), which represents about 50% of the projects presented on the network of UES. However, the country has yet where to strive for, because compared with other countries, these results are rather low (Table 1).

Thus, in Ukraine, there are all grounds for the development of the organizational and economic mechanism of commercializing the researches results, but it is necessary to take into account the lack of links between the scientific and educational sphere, business, government and society. We propose to consider the mechanism of commercialization of the researches results es of HEIs as a set of elements of the organizational structure and a set of economic, managerial, motivational and other methods, rules, procedures, which are provided by three functional areas: resource,

commercial and the direction of strategic planning of the process of commercialization of scientific researches results.

Table 1. Presented profiles in the EEN database (commercial offers, business inquiries, technological inquiries) in 2016

	Ukraine	Sweden	France	Germany	Poland	UK
Total in the database	52	164	607	615	770	943
Business offers	17	88	339	289	589	638

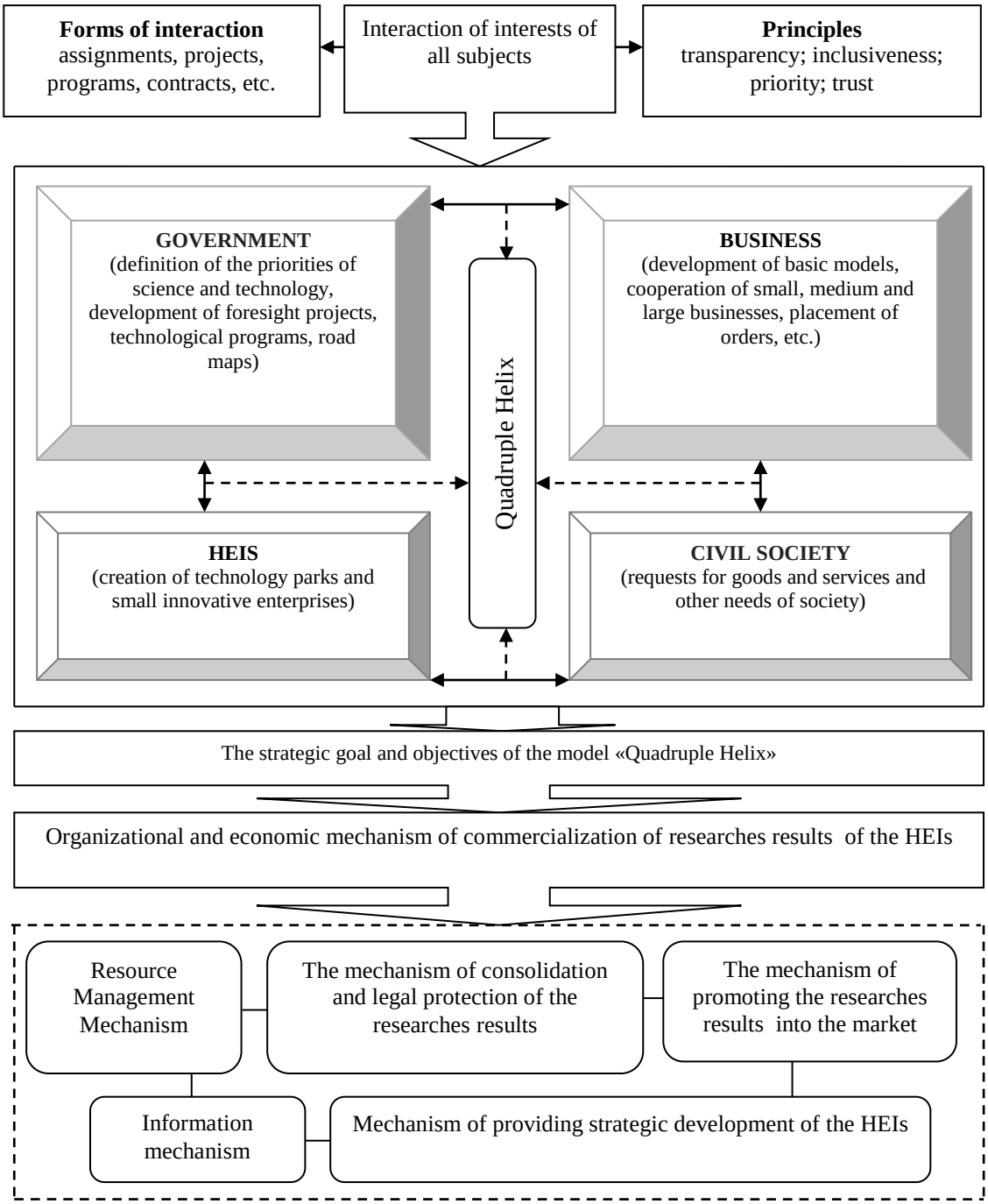
Source: Partnering Opportunities. Enterprise Europe Network. Mode of access: http: //ein.es.eur.open.edu/tools/serrvices/SearchCenter/Search/ProfileSimpleSearch? Shid = 32db25cb-726f-43bo-8b5f-7742d0935799

That is, the first major function should be the resource management function. In our opinion, the commercial direction is provided by three functions: marketing (advancement of the results of research on the market), the function of legal protection and the function of informational support for the commercialization of the researches results in the HEIs. The third direction is provided by the function of strategic planning (strategic management). Thus, we suggest assigning to the main functional elements of the mechanism of commercialization of the researches results HEIs: 1) the mechanism of resource management; 2) the mechanism of consolidation and regulatory protection of the researches results ; 3) the mechanism of promoting the researches results into the market; 4) information mechanism; 5) the mechanism of ensuring the strategic development of the HEIs.

In the framework of the systematic work on the commercialization of the researches results, the main subject is the HEIs, which interacts with a number of other economically independent entities involved in this process. Such subjects can be both included in the HEIs, that is, included in its internal environment (researchers, scientific groups, etc.), and external to the institution of education, that is, in the composition of the environment (the state as an investor and controlling body, private investors, implementing organizations, consumers, competitors, etc.). The interaction with these subjects on the development, use, transfer of scientific researches results with a view to introducing them into commercial circulation represents the content of the activities of commercializing the researches results by the HEIs. In its turn, the number of subjects of commercialization and their composition may be different. Regarding the analysis of the interconnections in order to ensure the commercialization of the results of research in the HEIs, we consider it appropriate to propose a model of "Quadruple Helix", which involves the association of such subjects as: government, HEIs, business and civil society (Fig. 1)

At the state level, it is necessary to adopt legislative acts, to determine the priorities of science and technology, technologies, to develop foresight projects, concepts of science, scientific and technical programs, road maps, etc. At business level it is necessary: to work out the basic models of small and large business development; the implementation of cooperation between small, medium and large businesses; placement of orders; the formation of new structures, etc. At the level of HEIs, it is envisaged: the coordination of activities of the HEIs, research institutes; the formation of technology parks and small innovative enterprises; conducting fundamental scientific researches and experimental approbation of their results in technological parks. The

public forms various requests for goods and services and other needs of society up to individual orders of individuals and legal entities.



Graph 1. Schematic interpretation of the conceptual components of the Mechanism of Commercialization of the Researches Results of HEIs on the Quadruple Helix Model

The strategic guidelines of the organizational and economic mechanism of commercialization of the researches results es of the HEIs are to ensure the maximum inclusion in the commercial turnover of the researches results (potential objects of commercialization, Table 2).

Table 2. Classification of HEIs' research results as the objects of commercialization

No	Classification group	Types
1	Affiliation to the type of activity	1) fundamental research; 2) applied research; 3) research and development (R&D); 4) educational and methodological developments
2	The term of obtaining scientific researches results	1) long-term (more than 3 years); 2) medium-term (1-3 years); 3) short-term (up to 1 year); 4) used in current activities
3	Sources of funding	1) external financing (grants from international organizations and foundations); 2) state financing (government procurement, targeted programs, state funds); 3) private financing (venture investments, joint activity, sale of rights, sale of services); 4) mixed financing; 5) creation of endowment funds (the investment funds which are funded by donations (including the HEI graduates as donors)
4	Depending on the customer	1) scientist's initiative; 2) higher education institution's internal need; 3) state order; 4) contract with business sector
5	Depending on the way of commercialization	1) the transfer of research results (sale of rights, formation of small innovative enterprise, the transfer of researches results to the customer under the contract); 2) internal use (in educational process, in further research activities, in provision of services, etc.)

Source: Mazur I. (2013). Commercialization of scientific developments as a factor of competitive development of entrepreneurship. Bulletin of the Taras Shevchenko National University of Kyiv, 148, 245-251.

Taking into account the peculiarities of commercialization objects, it is expedient to use two approaches to commercialization, which are reflected in the structural and functional elements of the organizational and economic mechanism of commercialization of the researches results of HEIs, namely: 1) handing (transfer); 2) commercialization by obtaining the income from its own use by a higher education institution. The peculiarity of functioning of the national HEIs is that they do not have the necessary financial resources to create a ready-made innovative product based on the researches results that would have demand in the modern market. That is why the transfer of researches results to HEIs in Ukraine should be considered as a key tool for their commercialization and serve as a benchmark for improving the organizational and economic aspects of functioning of the HEIs in Ukraine.

CONCLUSIONS AND RECOMMENDATIONS

The essential condition for the formation of the domestic innovative economy is the effective mechanism of commercialization of the researches results, as well as matching the demand for innovative technologies put forward by the real sector of the economy, and proposals for their development on the part of the HEIs. Successful

commercialization of scientific achievements is possible when the higher education establishments interact with business through the innovative infrastructure. Thus, the conceptual structure of the mechanism of commercialization of the researches results of the HEIs in Ukraine is proposed. A promising model for implementing the mechanism of commercialization of researches results of HEIs in Ukraine is "Quadruple Helix" (HEIs-business-government-civil society institutions), which is focused on the integrated management of innovation activities, in particular, the process of formation, transfer and implementation of scientific developments, creating technology-intensive technologies on their basis. That is, the implementation of this model can become an effective method and mechanism for the implementation of the priorities of science and technology. In order to successfully implement the "Quadruple Helix" model, a number of complex problems should be solved: institutional nature (solving the issue of regulatory and legal support for the protection of intellectual property rights and technology commercialization); personnel nature (the deficit or lack of qualified trained specialists); financial nature (the lack of funding for research, acquisition of new equipment, insufficient working capital, etc.).

REFERENCES

Arnkil, R., Järvensivu, A., Koski P. & Piirainen, T. (2010). Exploring Quadruple Helix Outlining user-oriented innovation models, *Final Report on Quadruple Helix Research for the CLIQ project*, under the Interreg IVC Programme.

Bogolib, T.M. (2014) Commercialization of scientific elaborations of universities. *Ukraine`s economy*, 1 (618), 33-50.

Bay, S.I., Doskonala, I.A. (2012) Commercialization of scientific developments of the University R & D: *Problems and Solutions. Bulletin of the Khmelnytsky National University*, No3, Vol.1, 215-220.

Carayannis, E. G., & Campbell, D. F. (2009). 'Mode 3' and 'Quadruple Helix': toward a 21st century fractal innovation ecosystem. *International Journal of Technology Management.* № 46(3-4). P. 201-234.

Carayannis, E., Grigoroudis, E. (2016) Quadruple Innovation Helix and Smart Specialization: Knowledge Production and National Competitiveness. *Foresight and STI Governance*. vol. 10, no 1, pp. 31–42.

Carayannis, E.G., & Campbell, D.F.J. (2012) Mode 3 Knowledge Production 1 in Quadruple Helix Innovation Systems.

Fedorov, M.V, Peshina, E.V. (2012) Pentahelix is the concept of knowledge production in an innovative economy. *Management*, 334, 4-12.

Industrial Property in Figures: Performance Indicators of the State Intellectual Property Service of Ukraine and State Enterprise "Ukrainian Institute of Intellectual Property" for 2015 [Electronic resource]. Mode of access: http: //sis.go.ua/i_upload/file/promvlasnist2015.pdf

Kholiavko, N., Shestakovska, T. (2018) The economic and legal mechanism of commercialization of R&D results. *Economics&Education.* Vol. 3(01).

Mazur, I. (2013). Commercialization of scientific developments as a factor of competitive development of entrepreneurship. *Bulletin of the Taras Shevchenko National University of Kyiv*, 148, 245-251.

McAdam, M., Miller, K., & McAdam, R. (2016) Understanding Quadruple Helix Relationships of University Technology Commercialisation: A Micro Level Approach. Studies in Higher Education. 43:6, 1058-1073. URL:

https://www.tandfonline.com/action/showCitFormats?doi=10.1080%2F03075079.2016.1212328

Partnering Opportunities. *Enterprise Europe Network.* Mode of access: http: //ein.es.eur.open.edu/tools/serrvices/SearchCenter/Search/ProfileSimpleSearch? Shid = 32db25cb-726f-43bo-8b5f-7742d0935799

Samilo, A.V., Povstin, O.V., Kupchak, M.Ya. (2013). Theoretical bases of commercialization of the results of scientific and technical activity of the civil service of Ukraine for emergency situations. *Visnyk of Lviv State University of Life Safety*, 7, 285-290.

Statistical information: innovative activity [Electronic resource]. State Service of Statistics of Ukraine. Access mode: http: //www.ukrstat.go.u.

*The Civil Code of Ukrain*em 16.01.2003 No. 435-IV URL:http://zakon2.rada.gov.ua/laws/ show/435-15

The Law of Ukraine «About copyright and related rights» of 23.12.1993. No. 3792-XII URL: http://zakon2.rada.gov.ua/laws/show/3792-12

The Law of Ukraine On state regulation of activities in the field of technology transfer» of 14.09.2006. No. 143-V. URL:http://zakon3.rada.gov.ua/laws/show/143-16/page

Woo, Park H. (2014). Transition from the Triple Helix to N-Tuple Helices? An interview with Elias G. Carayannis and David F. J. Campbell. *Scientometrics*. №99. P. 203-207.

Yawson, R. M. (2009). The Ecological System of Innovation: A New Architectural Framework for a Functional Evidence-Based Platform for Science and Innovation Policy, *The Future of Innovation Proceedings of the XXIV ISPIM 2009 Conference*. Vienna, Austria.June 21-24.

The influence of support program in the development of thermal irrigation canal on rice production improvement in Pohuwato District

Amir Halid*; Muh. Amir Archam; Sri Astuti Manoppo

Agribusiness Study Department, Post Graduated Program,
Universitas Negeri Gorontalo, Indonesia

**To whom correspondence should be addressed. Email: amirhalid_ung@yahoo.com*

Abstract

The purposes of this research are: 1) to analyze the implementation system of tertiary irrigation assistance in Pohuwato District, 2) To study the tertiary irrigation development assistance program that affect the increase of rice production in Pohuwato. The study was conducted in Pohuwato District with 93 farmers sample. The research method used is survey method. Data analysis used is descriptive analysis with percentage formula and multiple linear regression analysis. The results showed that the system of tertiary irrigation implementation from the assessment of the percentage of total score of respondents answers on the program policy indicators included in the category is quite good, and on the indicator of increased production percentage total score of respondents' answers included in the category very well. So that the application of tertiary irrigation aid in the research location has been well developed in the aid of tertiary irrigation canal program.The results that the program of development assistance of tertiary irrigation canals on rice farming simultaneously have a positive and significant effect on increasing rice production. While partially independent variable (program policy, farmer institute, and tertiary irrigation canal) to dependent variable of rice production.

Keywords: *Irrigation canal, Rice farming production, farmer*

JEL Classification: Q15, Q18

INTRODUCTION

Agriculture is an important sector in economic development, to givethe function and role in the provision of food and energy for the population, where rural livelihoods depend on it, the Agricultural Sector has a significant contribution in the formation of Gross Domestic Product (GDP), increased foreign exchange and increased welfare of farmers, so that the development of agriculture can be regarded as the driven of national economy and support, (Ministry of Agriculture, 2014).

Infrastructure and facilities are one important factor in the farming process, such as irrigation infrastructure. Irrigation infrastructure determines the availability of water that directly impacts the quality and quantity of crops, especially rice crops (Ministry of Agriculture, 2014).

The paddy field printing program in Pohuwato District has been successful in supporting the increase of rice production. This can be measured from the increase of rice production which is sourced from the addition of planted area which is sourced from the paddy field printing activity, in which the amount of paddy production that has

been reached by Pohuwato reaches 38,241 ton, then in 2012 (16.94%) increased to 44,720.63 tons, in 2013 (1.63%) 45,461 tons, in 2014 (0.43%) 45,658.44 tons and in 2015 (0.42%) 45,850.03 ton (Agricultural Service of Gorontalo Province, 2017).

Based on data on average of rice production in PohuwatoDistrict for the last five years, the highest increase of production occurred in 2015 compared to several years before. One of the causes of the high increase of production is the utilization of paddy field that was carried out in 2012, which was implemented in 2016 has not contributed to the increase of rice production in Pohuwato District, because the rice field has not been utilized optimally because it is still temporarily waiting for the completion of irrigation development which is currently the ongoing implementation.

The area of irrigation canal in Pohuwato District in 2013 reached by 300 ha, then in 2014 the area of irrigation canal has increased up to 1,000 ha, by 2015 the area of irrigation canal is 2,200 ha, and by 2016 the area of irrigation canal is 1,650 ha. In addition, the state of paddy production in Pohuwato District in 2012 reached 245.786 tons, production in 2013 of 295.913 tons, in 2014 rice production of 314.703 tons, in 2015 production reached 331.220 tons, and in 2016 production of 337.330 tons. Production of paddy in Pohuwato District every year has increased production, it is because of the assistance of tertiary irrigation program in development (Agricultural Service of Gorontalo Province, 2017).

From the backgroundabove, the purposes of this research are 1) to analyze the implementation of tertiary irrigation development assistance program system in Pohuwato District, 2) to examine the effect of tertiary irrigation development assistance program on increasing rice production in Pohuwato District.

LITERATURE REVIEW

Pakistan is vulnerable to climate change, and extreme climatic conditions are threatening food security. This study examines the effects of climate change (e.g., maximum temperature, minimum temperature, rainfall, relative humidity, and the sunshine) on the major crops of Pakistan (e.g., wheat, rice, maize, and sugarcane). The methods of feasible generalized least square (FGLS) and heteroscedasticity and autocorrelation (HAC) consistent standard error were employed using time series data for the period 1989 to 2015. The results of the study reveal that maximum temperature adversely affects wheat production, while the effect of minimum temperature is positive and significant for all crops. Rainfall effect towards the yield of a selected crop is negative, except for wheat. To cope with and mitigate the adverse effects of climate change, there is a need for the development of heat- and drought-resistant high-yielding varieties to ensure food security in the country (Ali, 2017).

This present Technical Manual for Irrigable Lowland Development in Liberia prepared by the Ministry of Agriculture is the result of several years of practical work in the field, including data collection, construction activities, cultivating of rice fields as well as training and capacity building with the farmers' communities The objective of this manual is to condense the existing knowledge and the expertise gained during actual field work period and to make it available to more actors in the field. The manual is structured in five chapters: the first two chapters provide the rationale and justification for shifting from upland to lowland farming with an overview of the nature and potential of lowlands; the third and central chapter gives practical explanations and good practices regarding the engineering side of lowland development and rehabilitation. The last two chapters (4 & 5) tackle supplementary issues like water management and maintenance of lowland schemes. The authors firmly believe that

lowland farming offers a very valid alternative to the present slash and burn shifting cultivation on the uplands which, under certain circumstances, can lead to deforestation and destabilization of the environment The upland farming of a growing population has a limited agricultural production potential and threatens Liberia's food security and wealth in rich forest resources (MOA technical team, 2015).

Potential future impacts of climate change on irrigated rice and wheat production and their evapotranspiration and irrigation requirements in the Gomti River basin were assessed by integrating a widely used hydrological model "Soil and Water Assessment Tool (SWAT)" and climate change scenario generated from MIROC (HiRes) global climate model. SWAT model was calibrated and validated using monthly streamflow data of four spatially distributed gauging stations and district wise wheat and rice yields data for the districts located within the basin. Simulation results showed an increase in mean annual rice yield in the range of 5.5–6.7, 16.6–20.2 and 26–33.4 % during 2020s, 2050s and 2080s, respectively. Similarly, mean annual wheat yield is also likely to increase by 13.9–15.4, 23.6–25.6 and 25.2–27.9 % for the same future time periods. Evapotranspiration for both wheat and rice is projected to increase in the range of 3–9.6 and 7.8–16.3 %, respectively. With increase in rainfall during rice growing season, irrigation water allocation for rice is likely to decrease (<5 %) in future periods, but irrigation water allocation for wheat is likely to increase by 17.0–45.3 % in future periods (Abeysingha, 2016).

ocTrang (in Mekong River Delta) for saline intrusion problems and TraVinh province for drought, where selected measures are being pilot tested for their potential adaptation and mitigation impacts, and their performance being validated in cooperation with local agencies and farmers. The project results will indirectly support the MARD strategy for agricultural development, as well as the ARD Action Plan to Climate Change. The wide network of agricultural and extension agencies located across the country under VAAS will be used for dissemination of project results. The interdisciplinary approach in the project will help to address the main concerns in rice production, besides emphasis on stakeholder interaction (farmers, women groups, government authorities, private sector) from the beginning of the project. This is also to ensure strengthening of science-policy linkage in the project. The main goal of the ClimaViet project is to identify and pilot test climate smart rice farming systems that will contribute to improve rice production under changing climate, and at the same time help in mitigation of greenhouse gases (GHGs). His report will provide a benchmark survey of the three study areas including the future climate scenarios in brief, a socio-economic profile of the areas, and the main challenges and government initiatives to address climate change impacts in the three provinces. It will start with an introduction, followed by three sections presenting the three different regions (trinh, 2014).

The previous study from four references above, in general discuss about the climate change that can cause some problem of agriculture commodity that limited of the production process. It is important to solve with some systems of cultivation and irrigation water allocation and it can develop the areas of farmer in some country. This are some of literature explain in the following text:

Water is one of the main factors in the process of agricultural production. Therefore, irrigation investment becomes very important and strategic in the framework of water supply for agriculture. In meeting the water needs for various farming purposes, water (irrigation) should be given in the amount, and the right quality, otherwise the plant will be disturbed its growth which in turn will affect agricultural production (Directorate of Water Management, 2010).

Upstream and downstream water supplies require adequate irrigation facilities and infrastructure. The facilities and infrastructure may include: dams, primary and secondary ducts, storage boxes, measuring buildings, and tertiary channels and level channels (TUT), Terangganggunya or destruction of one of the irrigation buildings will affect the performance of the existing system, resulting in the efficiency and effectiveness of irrigation to decline, If this condition is allowed and not immediately addressed, it will have an impact on the expected decline in agricultural production , and has negative implications for farmers' income conditions and social, economic conditions around the site (Directorate of Water Management, 2010).

Institutions are all ideal patterns, organizations, and activities centered around basic needs such as family, country, religion and food, clothing and pleasure and shelter. An institution is formed always aimed to meet various human needs so that the institution has a function. In addition, the institution is a concept that combines with the structure, meaning that not only involves socially-born patterns of activity to meet human needs, but also organizational patterns to implement them (Roucek and Warren, 1984).

Other opinions are also raised by (Suradisastra, 2008), capacity building of farmers and institutional groups of farmers is needed in an effort to improve the competitiveness of farmers in the development of agribusiness system in Indonesia. This effort is increasingly needed in the face of the era of globalization and free trade. The capacity of farmers to increase in line with their participation in farmer institutions will encourage institutional capacity to be more effective. In the life of the peasant community, the position and function of the farmer's institution is part of the social order that facilitates social interaction or social interplay within a community.

From some of the above understanding, the authors can conclude that the institutional agriculture is a community of farmers, positions and institutional functions of farmers in managing resources in rural areas with which can create jobs and improve the opinion of farmers.

a. Farmer Group

Roekasah (2004), farmer group is aassociation of farmers/farmers/planters established on the basis of equality of interests, the similarity of environmental conditions (social, economic, resources) and familiarity to improve and develop member businesses. The guidance of farmer groups is directed to the application of agribusiness system, increasing the role, participation of farmers and other rural community members, by developing cooperation between farmers and other related parties to develop their farm business. In addition, coaching farmer groups is expected to help explore potentials, solve problems of farming members more effectively, and facilitate in accessing information, markets, technology, capital, and other resources.

b. *Gapoktan*

Gapoktan is a combination of several groups of farmers who do business agribusiness on the principle of togetherness and partnership to achieve increased production and income farming for its members and other farmers. The main objective of establishing and strengthening *Gapoktan* is to strengthen the existing farmers' institutions, so that the government's guidance to farmers will be clearly targeted (Deptan, 2006).

Agriculture Production Facility Means production required in rice farming other than land, and labor generally are seeds, fertilizers, and medicines for good rice production so that maximum profit can be achieved need to be given the appropriate input in accordance with their needs, the way of giving, the dose must also be precise,

all of which is also added with the selection of seeds, seeding, soil processing, weeding, fertilization, and pest eradication, All of the above is commonly referred to as technology, The use of production inputs with existing technology can be optimized to achieve same purposes, the purpose of production is the maximum profit level, the production process of rice farming required some kind of input commonly called the means of production (Daniel, 2004).

Institutions are a set of rules used (work rules or rules that are actually used) by a number of individuals to organize repeated activities that produce results that affect all such individuals and potentially affect others (Agustina, 2011).

P3A is one of the local organization which is a means of interaction and cohesiveness among members of the farming community as one social unit called water user farmer commodities. This commodity facilitates its members to interact mutually support and institutionalized within a social organization and at the same time as a venue that embodies the interests of each member into a common goal at the local community level. Social organizations are equipped with a set of norms that govern the structure and role. The P3A's organizational function is to encourage the members to regulate the regular and efficient use of water. This can be achieved given that the organization is a feature of social life consisting of canals, norms, trusts, capable of mobilizing the participation of group members to achieve common goals (Helmi, 2007).

With the issuance of Presidential Instruction No. 3 of 1999, IPAIR is no longer deposited to the District / municipal Dispenda, but is fully managed by the Joint P3A whose working area includes one secondary channel and the Federation P3A whose working area covers one primary channel (Trisno, 2009: 5). Agustina (2011) who views P3A from its functions and advantages, states that the P3A social nature still needs to be maintained, because: 1) The ownership of water use rights and irrigation by P3A member farmers is collective; 2) WUA can serve as an instrument to create and maintain the economic equality among farmers; 3) Technically will require very serious institutional change effort, given the social nature of P3A that has been embedded in the policies and regulations concerning the management of WUA.

Thus, the strategy step that must be done is to combine business perspective in the framework of P3A vision that is social. The implication is the need to adjust the institutional structure of P3A which refers to the perspective of regional autonomy.

METHODS

This research conducted in Pohuwato District, Gorontalo Province. The location of this study was chosen because generally farmers in the location mostly got access to irrigation canal in paddy field in Pohuwato District.

Research design is survey study. The data used in research that is primary data and secondary data. Primary data were obtained from interviews and fusion dried by farmers of rice field farmers respondents in Pohuwato District. Secondary data is obtained from official reports from relevant agencies in this case such as Gorontalo Central Bureau of Statistics (BPS), and other agencies that can assist in providing data.

The population in this study selected several sub-districts namely Popayato District, Taluditi Sub-district, Randangan District, Buntulia District and Duhiadaa Sub-district in Pohuwato District which was determined by purposive sampling technique or intentionally because the five sub-districts had conducted initial survey so it was feasible to be designated as research area. The total population in the five districts is 2,208 people.

Respondent farmer's research in this research is done by random sampling (random sampling) with total population as much as 2.208 peasant farmer. One way to get a representative sample is by a process called random sampling. Associated with the large sample to be taken, Slovin proposed a formula for determining the size of the sample, thus samples taken as many as 93 respondents from 21208 or rice farming:

The data analysis method that used in this research is descriptive analysis method, which is to explain in detail about the system of application of tertiary irrigation aid in Pohuwato District.

As a phenomena, the data tool measured used is Likert Scale. Likert scale is used to measure attitudes, opinions and perceptions of a person or a group of social phenomena, In Likert scale the variable to be measured is translated into indicator variables, then the indicator is used as a starting point to arrange the items of instruments that can be questions or statements. In this study the authors use 5 levels.

The percentage score obtained by each indicator shows the system of tertiary irrigation aid implementation to the increase of paddy rice production in Pohuwato by Subagio classification (in MoNE, 2008) as in the following table:

Table 1. Classification score percentage of tertiary irrigation development assistance program to increase rice production

Number	Percentage of Score	Classification
1	85% s,d 100	Very Good
2	76% - 84%	Good
3	56% - 75%	Fair
4	40% - 55%	Poorly
5	0% - 39%	Bad

For the identification of problem 2, it was analyzed by using multiple linear regression analysis to know the influence of labor usage and land area of paddy rice production, with formula:

$$\mathbf{Y = a + b_1 X_1 + b_2 X_2 + D}$$

Y = Increasing of Rice Production
A = Constant Number
b = Regression Coefficient
X_1 = Program Policy
X2 = Farmer Institutional
D = Tertiary Irrigation Canal (D_{JI}= 1, Tertiary Irrigation; D_{JI}= 0, Non Tertiary Irrigation).

To facilitate the data collection, showed in the operational concept of variables as follows:

1. Rice Production is the amount of production produced by each farmer during one planting season (MT) that is on MT, I, MT, II, and MT, III,
2. Production (Y) is an activity to increase the value of an object or to create a new object so that it is more useful in meeting the needs, in units (Rp) / harvest,
3. Irrigation land is land that get for water need from irrigation canal,
4. Non-irrigated land (rainfed) is land that gets its water requirement solely from rainfall,
5. Program policies that refers to the goals, targets and strategies of the program for agricultural development continue to be driven, mainly in order to pursue increased production, added value and welfare of farmers,

6. The farmer institution is a growing institution developed from, by, and for farmers, established on the basis of equality of interests, the equality of social, economic, and resource conditions,
7. Irrigation is the business of providing, arranging, and disposing irrigation water to support agriculture which kind includes surface irrigation, swamp irrigation, underground water irrigation, pump irrigation, and pond irrigation,
8. Tertiary Irrigation Canal is a canal of irrigation water in tertiary plots, from the outer waters of tertiary measurement buildings, consisting of tertiary and quarterly channels including tertiary and quartile divisions, and other complementary buildings contained in the plot.

RESULT AND DISCUSSION

Systems for implementation of tertiary irrigation support

Systems for Implementation of Tertiary Irrigation Support from Assessment of Program Policy of Respondents results regarding program policy indicators can be presented in the Table 2.

Table 2. Respondent answer percentage of indicator program policy in implementation of tertiary irrigation support in Pohuwato District, 2017

No.	Question	Respondents Answer Score (%)				
		5 (Very Know)	4 (Know)	3 (Know Enough)	2 (Doubtful)	1 (Do Not Know
1	Have you ever been involved in the socialization of a tertiary irrigation development assistance program?	44.0	31.1	16.1	3.22	5.37
2	Is the method and technical socialization of the tertiary irrigation development assistance program easy to understand?	64.5	15.0	8.6	7.52	4.3
3	Do you know and understand the purpose of the tertiary irrigation development assistance program?	64.5	12.9	12.9	7.52	2.15
4	Do you know and understand the target of the tertiary irrigation development assistance program?	13.9	39.7	9.67	27.9	8.6
5	Do you know and understand the strategy of the tertiary irrigation development assistance program?	10.7	5.37	15.0	17.2	51.6

Source: Field Study, 2017

Based on Table 2 above, the percentage of respondents answers to the first question answered the respondent farmers very know is 44%, enough to know is 31.1%, know is 16.1%, hesitant 3.22%, and do not know is 5.37%. Then the second question answered the respondent's farmers very know is 64.5%, enough know 15%, know is 8.60%, hesitate is 7.52%, and do not know is 4.30%.For the third question the respondent answers very much is 64.5%, know enough 12.9%, know is 12.9%, hesitate is 7.52%, and do not know is 2.15%. Then for the fourth question respondents really know is 13.9%, quite know is 39.7%, know is 9.67%, hesitate is 27.9%, and do not

know is 8.60%. For the fifth question respondent's answer really know is 10.7%, enough know is 5.37%, know is 15%, hesitate is 17.2%, and do not know is 51.6%.

In terms of percentage of respondents answers this indicates that farmers are involved in socialization, farmers understand the mechanism and technical socialization, farmers understand the objectives, targets, and program strategies implemented in the development assistance of tertiary irrigation, although there are still farmers who never applied irrigation assistance tertiary through program policies implemented at the research site, it is because the farmers rice fields are in the swamp waters and some are located in the waters of lake.

Implementation of tertiary irrigation support from assessment of farmers instutional

The results of the responses of respondents on the institutional indicators of farmers can be presented in the following Table:

Table 3. Respondent answer percentage of indicator farmers instutional in implementation of tertiary irrigation support in Pohuwato District, 2017

No.	Question	Respondents Answer Score (%)				
		5 (Very Know)	4 (Know)	3 (Know Enough)	2 (Doubtful)	1 (Do Not Know
1	Do you know when a farmer's institution is established in the neighborhood?	41	9	39	9	2.15
2	Do you know the mechanism of organizational management of farmers?	40	34	15	9	2.15
3	Are you involved in institutional management of farmers?	40	38	12	10	1.07
4	Are you involved in the proposed RUKK group activity plan?	43	38	9	8	3.22
5	Do you feel the benefits of the RUKK program through the farmer institutions in the tertiary irrigation development program?	66	10	16	9	0
6	Does the form of RUKK program increase the active role of the management and members of the farmer's institution?	69	13	12	4.3	2.15

Source: Field Study, 2017

Based on the percentage results in Table 3, it was found that 82% of respondents in this case both in tertiary irrigation aid implementation system were assessed from the farmer institution in the form of their environment. This can be seen from the percentage of respondents' answers to the first question of respondent farmers who answered very know is 41%, enough to know is 9%, know as 39%, hesitate 9%, and do not know is 2.15%. Then the question that both farmers respondents who know very well as 40%, enough know 34%, know is 15%, hesitate is 9%, and do not know is 2.15%. For the third question the farmers who answered very know is 40%, enough know is 38%, know is 12%, hesitate is 10%, and do not know is 1.07%.For the four respondents who answered very well know is 43%, enough know is 38%, know is 9%, hesitate is 8%, and do not know is 3.22%. Then for the fifth question respondents who

answered very know is 66%, enough to know is 10%, know is 16%, hesitate is 9%, and do not know is 0%. For the sixth question respondents who know very much is 69%, just know is 13%, know is 12%, hesitate is 4.30%, and do not know is 2.15%.

In terms of percentage of respondent answers indicates that farmers are aware of the institutional arrangements of farmers in their neighborhoods, farmers are also familiar with the mechanisms of organizational institutional arrangements. In addition, farmers are also involved in the board and are involved in the proposed group proposals farmers are involved in farmer institutions.

Implementation of tertiary irrigation support system from the assessment of production enhancement

The results of respondent responses on indicators of increased production can be presented in the following Table:

Table 4. Percentage of respondents answers indicators of increasing production in implementation of tertiary irrigation support in Pohuwato District, 2017

No.	Question	Respondents Answer Score				
		5 (Very Know)	4 (Know)	3 (Know Enough)	2 (Doubtful)	1 (Do Not Know
1	Do you receive access to tertiary systems on rice farming?	73	12	6.45	3.22	5.37
2	Is the water volume more smoothly irrigated in tertiary systems on rice farming?	71	9	11	2.15	6.45
3	Is P3A involved in regulating the distribution of water in tertiary irrigation channels in wet land rice farming?	70	9	14	2.15	5.37
4	Do you feel the benefit of arranging the distribution of water in tertiary systems by P3A?	69	9	15	4.3	3.22
5	Does P3A, farmer institution and management and member of farmer institution make maintenance program of tertiary system?	70	8	13	6.45	3.22
6	Are you involved in maintaining a tertiary system?	70	10	9	2.15	9

Source: Field Study, 2017

Based on the percentage results in Table 4, it is clear that 87% of respondents in this case are very good in tertiary irrigation aid implementation system assessed from tertiary systems that farmers use in rice farming. This can be seen from the percentage of respondents' answers to the first question of respondent farmers who answered very know as much as 73%, enough know as 12%, know as much as 6.45%, hesitant 3.22%, and do not know as much as 5.37 %. Then the question that both farmers who answered respondents know as much as 71%, enough to know 9%, know as much as 11%, hesitate as much as 2.15%, and do not know as much as 6.45%. For the third question the farmers who answered very know as much as 70%, enough to know as much as 9%, know as much as 14%, hesitate as much as 2.15%, and do not know as much as 5.37%. For the fourth question respondents who know very much as much as 69%, just know as much as 9%, know as much as 15%, hesitate as much as 4.30%, and do not know as

much as 3.22%. Then for the question the fifth respondents who answered very know as much as 70%, enough know as much as 8%, know as much as 13%, hesitate as much as 6.45%, and do not know as much as 3.22%. For the sixth question respondents who know very much as much as 70%, enough know as much as 10%, know as much as 9%, hesitate as much as 2.15%, and do not know as much as 9%.

It can be see from the percentage of respondents answers indicates that the system of applying tertiary irrigation aid in Pohuwato District has been very good development, This is seen from the increase of production during the last five years ie in the year of 2012 rice production of 245.786 tons, the year 2013 rice production of 295.913 tons, rice production by 314.703 tons, by 2015 rice production by 331.220 tons, and by 2016 rice production of 337.330 tons. This indicates that there is an increase in production every year, and the implementation of tertiary irrigation assistance has been very good development in Pohuwato District.

Recapitulation of the application system of tertiary irrigation assistance in farmers assessment

Based on the assessment of the system of applying tertiary irrigation aid from farmers in the indicators of the implementation of tertiary irrigation assistance that is program policy, farmer institution, tertiary irrigation canal and production increase, Can be seen appraisal of tertiary irrigation aid from farmers seen from the highest value of each aid program indicator tertiary irrigation applied in farmers, it can be seen the recapitulation result of the system of tertiary irrigation aid implementation in Pohuwato District in Table 5.

Tabel 5. Recapitulation of the application system of tertiary irrigation assistance in farmers assessment in Pohuwato District, 2018

	Indicator	Score	Percentage %)	Category
1	Program Policy	1,667	72%	Quite Good
2	Farmer Institutional	2,292	82%	Good
3	Production Enhance	2,060	88%	Very Good
	Total	6,019	80%	Good

Source: Data Processed, 2018

Based on the Table 5 showed that the percentage of the respondents answers total score explained that the program policies applied in the development of tertiary irrigation aid included in the category is quite good, That is the system of application of tertiary irrigation aid in Pohuwato District is good enough applied by farmers, percentage of total score of respondent's answer in see that farmer institute applied in development of tertiary irrigation aid included in good category, meaning that farmer is involved in plan of proposal of group activity on system of application of development program of tertiary irrigation aid, likewise with percentage of respondent score at indicator of production increase including the category of very good, meaning that the implementation of tertiary irrigation assistance can help farmers in increasing rice production in Pohuwato District.

The influence of support program in the development of thermal irrigation canal on rice production improvement in Pohuwato District

Multiple regression result showed in Table 6. Based on the result of multiple regression analysis interpretation below:

1. The constant is-3,144 (α=-3,144)

This number is a constant value of paddy production in Pohuwato District if there is no influence from program policy, farmer institution, and tertiary system (dummy). The negative coefficient result showed that the importance of production input in increasing rice production in Pohuwato District,

2. Regression coefficient X10,710 (β1 = 0,710)
   The regression coefficient of program policy variable indicates that every change of program policy is 1 unit then paddy production in Pohuwato District will change 0.710 unit with condition of farmer institutional variable, and tertiary irrigation canal (dummy) in constant (*cateris paribus*),
3. Regression coefficient X2 0,424 (β2 = 0,424)
   The regression coefficient of farmer institutional variable showed that every change in the institutional variables of farmers is 1 unit, then the rice production will change 0.424 unit with the condition of program policy variable, and tertiary systems (dummy) in constant (*cateris paribus*),
4. Regression coefficient X3 0,890 (β3= 0,890)
   showed that each 1 unit change in tertiary irrigation canal variable, cause rice production change by 0.890 units with the condition of policy program variable and farmer institution in constant condition(*cateris paribus*).

Table 6. Analysis regression model

Model	Unstandardized Coefficients		Standarized Coefficients	t	Sig,
	B	Std, Error	Beta		
(Constant)	-3,114	1,276		-2,464	,016
Program Policy	,710	,107	,470	6,666	,000
Farmer Institutional	,424	,063	,478	6,755	,000
Irigation System (Dummy)	,890	,416	,119	2,138	,035

The following test results coefficient of determination of variables in the research. Based on the Table 7, the value of determination coefficient adjusted R2 is 0,719, This value means that 71,9% of rice production in Pohuwato District explained by programe policy, farmers institutional, and tertiary irrigation canal, While 28,1% explained by other factors outside the model. Other factors outside the production function model that are also suspected to have an impact on Rice Production are land fertility level and climate and weather influence and intensity of pests and diseases.

Table 7. Coefficient of determination test result (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,853[a]	,728	,719	1,98482

F test together simultaneously between independent variables in this case are program policy (X1), farmer institution (X2), tertiary irrigation canal (D) and paddy rice production (Y).

Table 8. Simultaneous test

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	937,321	3	312,440	79,309	,000[b]
	Residual	350,618	89	3,940		
	Total	1287,939	92			

Based on the result of analysis in Table 8 obtained the value of F-count of 79,309 with a probability value of 0.000, because the probability value is smaller than 0.05 then the value of F-count obtained is significant. So it can be said that there is positive and significant influence between independent variable (program policy, farmers institutional, and tertiary irrigation canal) simultaneously to Rice Production in Pohuwato District.

After it is known that there is simultaneously influence then tested partially from independent variable (program policy, farmer institutional, and tertiary irrigation canal) to dependent variable of rice production at Pohuwato District (Table 6).

Based on the results of summary analysis above, the data process showed in this the following result:

The effect of program policy to increasing of rice production in Pohuwato District

Based on the analysis of positive production regression coefficient indicate that program policy toward increasing rice production through support of tertiary irrigation canal in PohuwatoDistrict is in rational area. Based on t-test value obtained input production program policy amounted to 6.666 which the significance value of program policy (0.000) smaller than probability value 0,05. So it can be concluded that the program policies have a significant effect on increasing rice production in Pohuwato.

The effect of farmer institutional to increasing of rice production in Pohuwato District

Based on positive production regression coefficient analysis showed that farmer institution to increase rice production through support of tertiary irrigation canal in Pohuwato district is in rational area. Based on t-test value obtained input of farmer institute production equal to 6,755 which value of institutional significance of farmer (0.000) smaller than probability value 0,05. so it can be concluded that farmer institution significantly influence to increase rice production in Pohuwato.

The effect of tertiary irrigation canalto increasing of rice production in Pohuwato District

Based on positive production regression coefficient analysis showed that farmer institution to increase rice production through support of tertiary system in Pohuwato district is in rational area. Based on t-test value obtained input of farmer institute production equal to 6,755 which value of institutional significance of farmer (0.000) smaller than probability value 0,05. so it can be concluded that farmer institution significantly influence to increase rice production in Pohuwato.

Compare with the previous research, the adaptation strategies are very important, all farmers do not use such strategies. The majority of rural households and connected urban populations in developing countries as well as in Pakistan are highly dependent on agriculture. Therefore, adaptation to the negative impacts due to climate variability may be essential to encourage food security for the country and to protect the subsistence of rural households.the increase in irrigation, the increase in evapotranspiration, and the increasing effect of heat stress on crops. Short duration crop varieties, cultivating, and modification in crop sowing time may reduce the negative impact of the aforementioned climatic threats (Singh, 2015).

When the irrigation system become increase, the production of crop alwo will increase too, because it is wompare with the duration of cultivation and to the members of farmer group can have the advantages directly because for the team has implement the irrigation tertiary system in Pohuwato District.

CONCLUSION AND RECCOMENDATION

Conslucion

The system of applying tertiary irrigation suuport from the assessment of the percentage of total score of respondents answers on the program policy indicators included in the category is good enough, the indicators of farmer institutions are included in the good category, and the indicators of increasing production are included in very good category, so the application of tertiary irrigation aid in the research sites have been well developed through the assistance of tertiary irrigation canal program.

Based on the results of multiple linear regression testing found that: a) Program policies have a significant effect on rice production in Pohuwato District. The regression coefficient for program policies has a positive effect on rice production. Positive production elasticity indicates that the program policies implemented in the assistance of development programs of tertiary systems are in rational area; b) The farmer institution significantly influences rice production in Pohuwato District. The positive regression coefficient indicates that farmer institution is in rational area; c) The tertiary system has a significant effect on rice production in PohuwatoDistrict. The regression coefficient for tertiary irrigation canal has a positive effect on rice production. Positive production elasticity indicates that the tertiary irrigation canal of rice cultivation is in a rational area because the use of irrigation canals can increased rice production.

Recommendation

The utilization of tertiary irrigation canal by farmers in the sample area in particular and in tertiary irrigation canal land in Pohuwato District generally need to be optimized by applying the system and application of good tertiary irrigation canal management.

Improvement and continuation of development assistance program for tertiary system must be oriented to increase rice production through effective and efficient program and principle of financial approach so farmers can allocate other production costs, without neglecting the system and operational management of tertiary irrigation canal in sample region.

Tertiary systems can be classified on the production factors of wetland rice farming, therefore this production factor is expected to be an important part of research on science development and development program of tertiary irrigation canal in Pohuwato District in the future.

REFERENCES

Abeysingha, N.S, man Singh, Addul Islam, V.K, Seghal. (2016). *Climate Change Impact on Irrigated rice and Wheat production in gomti river basin of India: a Case Study*. Springerplus. 2016; 5(1): 1250. Published online 2016 Aug 3. doi: 10.1186/s40064-016-2905-y

Ali, Sajjad, Ying Liu, Muhammad Ishaq, tariqSaleh, Abdullah, AasirIlyas, IzharUd Din. (2017). *Climate Change and Its Impact on the Yield of MajorFood Crops: Evidence from Pakistan*. www.mdpi.com/journal/foods. Foods 2017, 6, 39; doi:10.3390/foods6060039

Daniel, (2004), *Pengantar Ekonomi Pertanian*, Bumi Aksara, Jakarta,

Dewi Arifianti Agustina, Subari. (2011). *Potensi Kearifan Lokal Dalam Kelembagaan Pengelolaan Irigasi Di Pulau Jawa*. *Jurnal*. Penelitian Bidang Irigasi Pusat Litbang SDA Badan Litbang PU, Bekasi.

Gujarati, I, (2006), *Ekonometrika Dasar, Erlangga* : Jakarta,

Helmi. (2007). *Peranan Lembaga P3A/Kejruen Blang Dalam Konteks Otonomi Daerah Tentang Pengelolaan Air Irigasi Di Provinsi Aceh*. *Jurnal*. Fakultas Pertanian Unsyiah Darusalam, Banda Aceh.

MOA (Ministry Of Agriculture) Technical Team, Gerald M. Fuller, Bruno Strebel, Sizi Z. Subah, James T. Moore. (2015). *Rehabilitation and Development of Itegrated Lowland Rice Farming in Liberia*. http://inter-reseaux.org/IMG/pdf/c-technical_manual_lowland.pdf, Access On July 5th 2018

Spiegel, M,R, dan L,J, Stephens, (2004), *Statistik*, Erlangga, Jakarta,

Sudjana, (2002), *Metoda Statistika*, Penerbit PT Tarsito, Bandung

Sugiyono, (2014), *Metode Penelitian Kuantitatif kualitatif dan R&D*, ALFABETA,CV, Bandung,

Trisno. (2009). *Otonomi Daerah Dan Kelembagaan Irigasi Dalam Penatagunaan Air*. *Jurnal*. Pertanian Bengkulu.

Trinh, Mai Van (IAE/VAAS), Nguyen Van Bo (VAAS), Hoang Gia Minh and Nguyen XuanDzung (CETDAE), UdayaSekharNagothu and TrondRafoss (Bioforsk), Andrew Borrell (The University of Queensland, Hermitage Research Facility) and Bui Huy Hop (MoST). *Climate change and impacts on rice production in Vietnam: Pilottesting of potential adaptation and mitigation measures*. http://www.bioforsk.no/ikbViewer/Content/111600/Deliverable%201%20%202%20Bench%20mark%20report.pdf. Access On July 5th 2018.

Author Guidelines

1. Jurnal Perspektif Pembiayaan dan Pembangunan Daerah (The Journal of Perspectives on Financing and Regional Development) is published six times a year.
2. The manuscript is the original work that has not been published or considers to be published in other publications.
3. The manuscript may be the result of research, literature/theoretical study, methodological review, critical original ideas, hot issues/development issues, hot issues/development issues, reviews of seminars, or book reviews.
4. The manuscripts are arranged in English, accompanied by abstracts in English and Indonesian (if any). For more detailed information and journal templates can be accessed https://online-journal.unja.ac.id/index.php/JES/author-guidelines
5. The manuscript should be submitted through our online submission system at https://online-journal.unja.ac.id/index.php/JES. Registration and login are required to submit items online and to check the status of current submissions.

Jurnal Perspektif Pembiayaan dan Pembangunan Daerah (The Journal of Perspectives on Financing and Regional Development) is indexed and abstracted in the following databases/resources:

- Google-Scholar
- DOAJ-Directory of Open Access Journals
- EBSCO Open Science Directory
- Crossref
- IPI-Indonesian Publication Index
- Mendeley
- Microsoft Academic Search
- OpenAire
- MIAR
- OAJI-Open Academic Journal Index
- Moraref
- Princeton University Library
- Universiteit Leiden
- University of Oxford
- Harvard Library
- The University of Sheffield
- University of Saskatchewan-University Library
- Capilano University Library
- State Library New South Wales
- Vrije Universiteir Brussel (VUB)
- UNSW Australia Library
- Merchyhurst University
- University of Illinois at Chicago (UIC) Library
- Universitat Kasse
- State Library of Victoria
- Simon Fraser University Library Electronic Journals
- BJMU
- Library & Learning Center
- Aberystwyth University
- City University of London
- University of Edinburgh
- University of Glasgow
- University of Hull
- Imperial College London
- University of Manchester
- Open University
- University of York
- London's Global University
- Trinity College
- University of Alberta
- University Library
- BASE (Bielefeld Academic Search Engine
- CiteFactor
- Open Access Library (OALIB)
- Scholarsteer
- JournalTocs
- Worldcat
- CORE
- Research Bible
- Academickeys
- Citeulike
- JOURLIB
- Global Impact Factor
- Jifactor
- General Impact Factor
- e-Journal Portal BKS PTN Wilayah Barat
- Cosmos Impact Factor
- OneSearch
- International Innovative Journal Impact Factor (IIJIF)
- Journal Factor
- Directory of Research Journal Index
- Eurasian Scientific Journal Index (ESJI)
- National Library of Australia