Australian Journal of Basic and Applied Sciences, 9(31) September 2015, Pages: 645-651

ISSN:1991-8178

Australian Journal of Basic and Applied Sciences

Journal home page: www.ajbasweb.com

Accountability of Special Autonomy Fund in Papua Province: Analysis from Political Economy of Accounting (PEA) Perspective

[1]Muhamad Yamin Noch, [2]Made Sudarma, [2]Gugus Irianto, [2]Ali Djamhuri

[1]*University of Yapis, Faculty of Economics, Papua Jayapura - Indonesia*
[2]*University of Brawijaya, Faculty of Economics and Business, Malang - Indonesia*

ARTICLE INFO

Article history:
Received June 5, 2015
Received in revised form July 1, 2015
Accepted
Available online

Keywords:
Special autonomy fund (SAF), power, self-interest, opportunistic.

ABSTRACT

This study purpose was to analyze and critically evaluate the implementation of regulation and distribution of Special Autonomy Fund (SAF) in Papua Province based on political economy of accounting (PEA) perspective. PEA in this study serves as theory foundation and methodology to explore the studied phenomenon. Study result found that SAF implementation still inadequate to create welfare for Papua people. Therefore, this study provides practical implications for central and local government as benchmarks in management and distribution/allocation of SAF based on regulation to accelerate master plan development for society welfare in Papua. It can provide theoretical implications to give more space for implementation of PEA theory. It is not limited only to cases where corporation is focused on privatization. This study limitation is sample limited to Papua Province. Therefore, this findings cannot be generalized other local. For autonomous regions, further study is recommended to fill this gap to strengthen the results of this study.

To Cite This Article: Muhamad Yamin Noch, Made Sudarma, Gugus Irianto, Ali Djamhuri. Accountability of Special Autonomy Fund in Papua Province: analysis from Political Economy of Accounting (PEA) perspective, ***Basic & Appl. Sci.,*** *9(31): 645-651,, 2015*

INTRODUCTION

Special Autonomy is a policy of central government to response Papuans insistence to create a separate state of Papua Freedom (disintegration) from Indonesia (Musa'ad, 2009). These demands is based on low confidence of Papua people on Indonesian government credibility to makes them welfare. Finally, central government in 2001 issued the law No. 21 year 2001 on special autonomy for Papua Province.

To support the implementation of special autonomy policy, central government allocated special autonomy funds (SAF) in addition to general allocation fund (GAF) and special allocation funds. This means that SAF is part of GAF and parallel to sharing fund (DBH) and special allocation funds into one unified package transfers from the center to regions. In other words, SAF is an "additional grant" received by Papua Province for special autonomy policy. Total ceiling SAF ceiling is 2% of total national GAF intended for two priority programs: education and health.

Intervention to that policy cannot be avoided because the interests of multinational corporation (MNC) on natural resources. Core problem is "power" which is owned by government (central and local). Executive and legislature become creators and coalesce together with MNC. This means that central government has been taking account the presence of MNC towards local with potential of natural resources. In this context, Stanworth and Giddens (1974) said that one alternative view suggestion is society should be controlled by incumbent elites (well-defined elite). Phenomenon the role of power form well-defined elite has occurred in special autonomy policy. This indication is visible through the slow response of central government and local government in following up the mandate of Law No. 21 year 2001 in form of regulation with implications on achievements of special autonomy policy. In addition, the regulations follow up still leaves problems, mainly related to optimization of revenue sources in framework of autonomy and management as well as distribution/allocation SAF in more accountable manner. Inaction and lack of clarity on regulation in special autonomy policy was alleged as part of scenario labeled elitist in form of a special policy for Papua Province. This policy was seen as strategic because contain affirmation and alignments to Papua people to obscure the importance and existence of MNC dominance.

Based on above explanation, this study objective is to analyze critically the implementation of

Corresponding Author: Muhamad Yamin Noch. University of Yapis, Faculty of Economics, Jl. DR. SamRatulangi No.11 Dok V Atas Jayapura Papua 99115 Indonesia, Phone: (0967) 534012, 550355

regulations and distribution of special autonomy fund (SAF) in Papua Province with perspective of political economy of accounting (PEA).

Research Methodology

Instruments and methods:

This study used qualitative research methods to understand the facts easily. The research data was obtained through informant that directly implements SAF in Papua Province. Data is collected by triangulation of interviews, observation and focus groups to makes depth research and becoming more focused and profound. It is use the standardized interview, non-standardized interview schedule, non-standardized and open interview.

Critical Approach and Analysis Techniques:

Phenomenon of special autonomy policy is only observed in economic approach, but also from social and political context. Classical economic theory which later became neo-classical economic theory is basis of capitalism that ignores morality and ethical considerations. It became an important part of political economy theory. To prevent practice of alienation, domination or hegemony as well as the exploitation of a public policy, it should be carefully examined. One suitable approach is political economy of accounting (PEA).

PEA in special autonomy policy context can foothold to break down the various phenomena occurred. These include: 1) the political aspects; special autonomy policy set cannot be separated from the political setting. Therefore, PEA becomes basis to examine the role of power between the creator (executive and legislature in central and local) and conflicts of interest to determine special autonomy policy, including MNC intervention. 2) Economic Aspects; the implementation of special autonomy policy has implications for region to increase revenue receipts from the country and wealth of Papua Province. PEA becomes basis to evaluate the history of revenue and wealth earned by referring to regulation established. 3) Accounting aspects; as consequences of SAS acceptance, PEA becomes a basis to portrait accounting practices in distribution/allocation of SAF and mechanism governance from justice aspect, and 4) social aspects; the necessity to evaluate the impact of special autonomy policy implementation. PEA becomes a basis to analyze the achievements of implementation of special autonomy policy.

PEA framework of this study becomes theoretical framework with the functions like a "microscope" to view "diseases/germs" that cannot be seen with naked eye. PEA is also aimed to understand and evaluate the accounting role in context of economic, social and political, or examine how the accounting role in certain contexts, both organizational and wider environment (Cooper and Sherer, 1984). This is consistent with irianto (2006); Adrianto and Irianto (2008), which states that assessment framework based on PEA basically strengthen as well as expand efforts to study and understanding the accounting context as recommended by Hopwood *et al*. (1994); Burchell *et al*. (1980); Tomkins and Groves (1983); Neimark and Tinker (1986); Loft (1986).

RESULTS AND DISCUSSION

Specificity Autonomy in Papua Province:

Special autonomy policy at Papua Province basically gives greater authority to provinces and Papua people to organize and take care of themselves in framework of Unitary Republic of Indonesia (NKRI). Greater authority also includes the authority to regulate the utilization of natural resources in Papua Province for greatest prosperity of people, empowering economic potential, social, and cultural.

Specificity of special autonomy policy is instructed to create main pillars at Papua Province governance. It is consists of three components namely the Papuan Legislative Council (DPRP), Local Government (LG) and Papuan People's Assembly (MRP). In this context, DPRP positioned as a legislative body, local government as an executive body, and MRP as a cultural representative body of indigenous Papuans. As a legislative body, parliament is authorized to carry out the functions of legislative field, which includes: legislation, budgeting and supervision.

The consequences of special autonomy policies implementation in Papua is automatically apply two forms of local regulations of Province local regulation (Perdasi) and Specials local regulation (Perdasus). Perdasus and perdasi are at same level, meaning that one is not higher than others, but there is a difference of function principle based on mandate of Law No. 21 Article 1 year 2001. This means that any policy within framework of special autonomy must refer for both regulations as mandated under the special autonomy policy.

SAF management policy:

Financial balance is a transfer made by central government to local government and followed by handover of authority or known as money follows function. Transfer system is one of government's authorities to determine types of beneficial assistance to local, including the funds transfer in special autonomy policy in Papua. It assistance is intended to give beneficial to local. It needs regulations for transferring the funds.

Funding flows is derived from central government transfers to local government through equalization fund and special autonomy fund (SAF) and adjustment funds allocated in two funding. SAF consists of a special reception sourced from 2% of ceiling of national GAF and infrastructure funds

received by Papua Province are funding sources other than adjustment fund.

SAF revenue sources are local transfer. It is revenue for Papua Province for Development Budgeting and Expenditure (APBD) to be used in accordance with mandate of Special Autonomy Law. However, it should be understood that funds were transferred to local has characteristics and different purposes. Both sources are grouped in transfer of funds to regions (SAF and adjustment funds) with ceiling and allocation at different regulations. SAF especially is regulated by Perdasus that further followed by governor's decision. While the specificity of equalization funds is to increase acceptance of special autonomy policy derived from petroleum and natural gas. It does not appear in special autonomy fund group.

Papua Provincial Revenue Potential Through Special Autonomy Policy:

Special autonomy policy is expected to makes Papua Province able to answer a number of problems faced. Law 21 year 2001 actually has given an opportunity to develop regional initiatives with potential revenues derived from natural resources. For more details, below is revenue comparison between Papua and other regions in Indonesia for Law 33 year 2004 and Law No. 21 year 2001.

Table 1: Difference of financial rights with other regions of Papua Province in Indonesia

No.	Revenue	Policy	
		Law 33 year 2004	Law No. 21 year 2001
1	Tax on land and buildings	90%	90%
2	BPHTB	80%	80%
3	Personal revenue tax	20%	20%
4	Forestry		
	Contribution of forest concessions	80%	80%
	- Reforestation Funds	40%	80%
5	Fishing	80% untuk kabupaten/kota	80%
6	General mining	80%	80%
7	Geothermal mining	80%	-
8	Petroleum mining 15	15,5%	70% for 1-25 years, 50% for 26 years and beyond
9	Gas/natural mining	30,5%	70% for 1-25 years, 50% for 26 years and beyond
10	Special revenues for special autonomy	-	Equivalent to 2% national ceiling of allocation funds
11	Additional funding for special autonomy	-	Defined between the government and Parliament based on province proposal every year

Source: Law No. 33 year 2004 and Law No. 21 year 2001

The allocation sharing at Table 1 clearly compares fundamental difference of two regulations. However, follow-up of points 8 and 9 to this research has not been confirmed from the SAF management, related to special revenue that comes from both. Usage the receipts from the second post principally becomes addition for governance interest, regional development, as well as improving people's welfare. It also becomes a correction on the government for its commitment to hand over greater authority to regions in realizing the region's autonomy.

SAF Distribution and allocation:

Special autonomy policy in Papua Province is expected to become a solution and evidence of central government seriousness. However, implementation process of special autonomy policy would bring new problems. SAF as funds supplements for special autonomy policy should have clear regulatory references, good function, objective and the responsibility. SAF allocation ceiling of 2% from national GAF to provincial and district/city does not have a clear regulation, even in Article 34 on Special Autonomy also does not regulate the amount of SAF allocation. This potentially raises new problems because in addition to special autonomy policy, there is also Regional Autonomy (decentralization) whose has different purpose. Therefore, it is indicated that special autonomy policy is simply a political policy to solve disintegration. Portion of SAF allocation between provincial and district/city are arranged through regulations, as shown in Table 2.

Table 2: Portion of SAF allocation between provincial and district/city

Year	Portion		Law
	District/ City	Province	
2002-2003	40%		Ministerial decree No. 47/KM.07/2002 dated 21st February 2002 on how to allocate SAF in Papua Province
2004-2006	60%		Bylaw No. 2/2004 regarding the division of revenues in context of special autonomy
2007-Now	60%		Perdasus No. 1/2007 regarding the distribution and management of revenues in framework of special autonomy implementation in Papua

Source: Finance and Asset Management Agency Papua Province. (2011)

However, research results shows that the implementation generally does not refer to these provisions. This shows that SAF management not refers to Perdasus and government regulation. This fact is consistent with findings of Financial Audit Agency (LHP, 2011), which states that "special autonomy fund management is not supported by adequate rules for specific local regulations and government regulations to implement Law No. 21 year 2001". In addition, portion of distribution/allocation did not correspond to reality. According Sumule (2003), there are three requirements that cannot be ignored in determining the distribution portion of SAF allocation, based on citations of Article 34 paragraph (7) of Law No. 21 Year 2001. They are a) the funds source is divided between Papua Provinces, districts and cities, b) division should be regulated in a fair and balanced by giving special attention to locals, c) fair and balance arrangement must be in form of Specials local regulation.

This phenomenon shows formal legal issues for policy applied in Papua Province. How to achieve the purpose of special autonomy policy if the cornerstone policy is not accompanied by a clear and focused regulation and refers to policy implementation of Law No. 21 year 2001. SAF allocation mechanism is part of domination practice by Papua government and DPRP, both elite ignore the mandate of Special Autonomy Law. It also shows clearly the lack of community involvement as stakeholders in budget preparation since fiscal year 2005-2010.

Table 3: Distribution/allocation of SAF to district/city in Papua Province

No.	District	Year (Million Rupiah)					
		2005	2006	2007	2008	2009	2010
1	District of Jayapura	28.50	54.48	57.16	60.82	52.66	52.66
2	District of Yapen Waropen	29.00	54.08	56.76	60.38	52.28	52.28
3.	District of Biak Numfor	28.50	55.77	58.53	62.27	53.91	53.91
4	District of Nabire	29.00	53.11	55.74	59.30	51.34	51.34
5	District of Merauke	28.50	55.31	58.05	61.76	53.47	53.47
6.	District of Jayawijaya	29.00	61.60	64.65	68.78	59.55	59.55
7.	District of Paniai	30.30	59.79	62.75	66.75	57.80	57.80
8	District of Puncak Jaya	30.30	61.15	64.17	68.27	59.12	59.12
9	District of Mimika	28.60	55.77	58.53	62.27	53.91	53.91
10	Jayapura City	27.10	52.66	55.26	58.79	50.90	50.90
11	District of Waropen	30.10	56.09	64.86	62.63	54.23	54.23
12	District of Asmat	31.50	61.80	64.86	69.00	59.74	59.74
13	District of Boven Digoel	30.10	59.98	62.95	66.97	57.99	57.99
14	District of Mappi	31.10	59.72	64.86	66.68	57.74	57.74
15	District of Sarmi	30.25	57.58	60.43	64.29	55.67	55.67
16	District of Keerom	30.00	57.00	59.82	63.44	55.10	55.10
17	District of Tolikara	31.00	61.80	64.86	69.00	59.74	59.74
18	District of Peg. Bintang	31.00	61.80	64.86	69.00	59.74	59.74
19	District of Yahukimo	31.50	61.80	64.86	69.00	59.74	59.74
20	District of Supiori	29.50	50.71	62.95	56.62	40.02	49.02
21	District of Yalimo	-	-	-	5.00	12.27	16.86
22	District of Lanny Jaya	-	-	-	5.00	12.27	16.86
23	District of Nduga	-	-	-	5.00	12.27	16.86
24	District of Puncak	-	-	-	5.00	12.27	16.86
25	District of Dogiyai	-	-	-	-	12.27	16.86
26.	District of Memberamo Tengah	-	-	-	-	12.27	16.86
27	District of Memberamo Raya	-	-	-	-	50.18	50.18
28	District of Intan Jaya	-	-	-	-	12.27	16.86
29	District of Deiyai	-	-	-	-	12.27	16.86

Source: Finance and Asset Management Agency in Papua Province

The findings related to distribution/allocation of SAF for provincial and district/city are an important part of accounting role, particularly in management of public funds. SAF disbursement mechanisms from central to provincial are regulated in finance minister's decision, but the decision does not specifically regulate the distribution/allocation to district/city. Special treatment through a special autonomy policy in Papua are unique, the power owned by elite in local government and DPRP is given the authority to govern the distribution/allocation based regulation. However, from accounting aspects, distribution/allocation to districts/cities should appear in budget as well as the inclusion of SAF from the center to provinces (Table 3). Abandonment of accounting treatment in SAF is the fact that accounting has become self-interest on power. Reforms are needed to examine the budget from the aspect of "political budget", especially regarding the policy for distribution/allocation of budget to public. Reform should also touch budget reform, or vice versa budget reform should be integrated into political reform agenda. Political reform is a form of decentralization and democratization, while decentralization in budget sector produces what is called fiscal decentralization,

which incidentally followed by politic. It is associated with distribution/allocation from the central government to regions with aim to fund public services appropriately and close to local context and preferences (Oates, 1997; Burki, et. al. 1999; Bird, 2000; Boex, et. al. 2006).

The impact of regulatory uncertainty in SAF distribution/allocation:

Based on report of Supreme Audit Agency (BPK) in 2011, total finding of management and accountability examination for SAF is Rp 281.07 million. This finding in form of a loss, potential loss, lack of acceptance, wasteful, and ineffectiveness which have implications for rupiah value. In addition, there are also weaknesses in internal control system of administrative and the action has no implications for money value but it needs improvement. Evaluation results of internal control system evaluation for SAF management and accountability showed weaknesses in planning aspects, bookkeeping and recording, reporting and responsibility. Internal control system weakness are grouped by: a) the weakness of control system for accounting and reporting, b) weakness on implementation of revenue budget control system and expenditure, and c) the weakness of internal control structure (Table 4).

Table 4: Group management inspection findings SAF 2002-2010

No	Group of Findings	Cases	Value (Million Rupiah)
Non-compliance with regulations resulting in:			
1.	Local Losses	102	124.191,99
2.	Local potential losses	5	5.039,28
3.	Government lack	19	5.350,11
4.	Administration	36	-
5.	Wasteful /uneconomical	4	1.258,88
6.	Ineffective	52	145.235,12
Total		218	281.075,41

Source: IHPS-BPK (2011)

Regulation uncertainty for revenue distribution leads to non acceptance of funds for oil and natural gas within framework of special autonomy policy, which is the official revenue local. It has implications for achievement of priority programs in education and health. Another implication relates to Human Development Index (HDI) of Papua Province were not shifted from lowest of 33 provinces in Indonesia. In addition, GDP as indicator of IPM also more dominated by revenue from center. It means dependence to central is very high. Therefore, special autonomy or asymmetry decentralization cause differences in status and/or power among the units as part of federal state or decentralized state in Constitution or other legal provisions (Hombrado, 2001). Autonomy is the substance of power dispersion issue as real manifestation of democracy.

Critical Reflection on Saf In Papua Province: Overview from political and economic aspects:

Special autonomy policy for Papua Province full of self-interest from central and local elites. These interests cannot be separated from the assets owned by Papua Province. It potentially creates opportunistic behavior for elitist. Through decentralization momentum and regional autonomy, it should better able to make the region more independent and creative in responding to community issues. Decentralization implementation should be able to trim the role of elite centers to intervene local including the use of regional assets. Theoretically, central role of elite decrease, but in practice there is no reduction (in power syndrome). Regional elites also seek to maximize their interests by using this momentum (pre-power syndrome).

A way to obscure the substance of SAF policies is through omission and discarding the regulations of special autonomy policy because regulatory clarity would limit the move for national and regional elites, especially the MNC. Fulfillment of MNC interests through central elite approval for mining exploration expansion and longer time period is done in order the existence is not disturbed and is protected on behalf of law. While elites in region participate to obscure the substance of special autonomy policy by promoting their interests, increasing the conflict. This supports Eates (1980) about the "tyranny of bottom line". It is finally seen that accounting has become an integral part of political system and affect on emergence of a very close relationship between politics and accounting (Adrianto and Irianto, 2008). This also clarifies the relationship between accounting and distribution of resources and distribution of power in society (Cooper and Sherer, 1984).

Review of History Aspects and Institutional Environment:

SAF discretion is occur as a result of omissions by central and regional elites by avoiding the legal products as government regulation and Perdasus and Perdasi mandated in Law No. 21 Year 2001. This is the reality of low commitment from central and local government apparatus. Inexistence of specific regulations makes SAF treatment become not proportional and miss the target. Whereas the accounting role in public sector, especially governments, should be able to redistribute revenue and wealth, if there is the political will from apparatus (elite central and local) to control power.

In addition, accounting treatment for regions with decentralization policy should have differences in financial management with local without special autonomy policy. It is aimed to measure the SAF performance in order to improve the local welfare with special autonomy policy. Although products of public sector full of political policy, the complexity of distribution/allocation on revenue and wealth tend to be intertwined with interests, competitive and even conflict. Accounting is understood as part of a set of rules to link power, economy, and politics through introduction of accounting standards (Cooper and Sherer, 1984). At this level PEA is able to uncover the accounting role which is only used as a tool to realize the self interest and opportunistic behavior of central and regional elites that lead to inequities in SAF distribution/allocation.

Review of Accounting Policies Aspects Based on Human Beings Motivations:

Application of accounting treatment in special autonomy era is alleged as part of neoclassical economic theory implementation with a view that reporting and disclosure become tool to safeguard the position of ruling party (the elite) to get resources. This is seen in upper distribution portion of revenue, wealth and power with direct implications on distribution/allocation of SAF in budget. In addition, of a policy creation, as budgeting, should be directed to respect, to protect and to fulfill) the basic human rights as economic, social and cultural rights that born from nation consensus. In addition, policies substance should describe the alignments that are geared to elite itself or even to public. If addressed to public, then the distribution/allocation more focused on public expenditure, with taking into account the infrastructure and bureaucratic expenditure. In fact, it is more dominated by bureaucratic expenditure rather than infrastructure and public expenditure. It makes pyramidal budget become a strategic solution to address the issue and be a breakthrough of budget management in Papua, and a proof that partisanship pro-people budget is the most basic human expectation. This means accounting policies should be guided by motivations within man, so that someday it will awaken the harmony accounting framework namely accounting humanizing and away from self interest and it is built on foundations of political economy theory. As noted by Miller (1994), political economy theory emphasis on fundamental relationship between economic and political impetus in society. Cooper and Sheerer (1984) states that accounting reports affect on distribution of revenue, power and wealth.

The role of elitist power to determine SAF regulation in Papua Province:

Exploration about elitist power concerns about implementation of special autonomy policy through the achievement of No. 21 year 2001. It appears that Perdasus and Perdasi have not been fully implemented by elite to manage SAF. Regulations in SAF management are same as local regulations which do not acquire Autonomy policy. This fact is an indicator that regional elites still has differ meaning of special autonomy law. The impact of regulatory uncertainty has implications to accounting role in SAF management. Accountability for these special funds is also required to responsible as mandated by Special Autonomy Law.

In this regard, PEA can reveal power role to ride elite interests through the omission and negligence the Law No. 21 year 2001. This is because the elite have self interest so that special autonomy policies tend to be loaded politics and power. Whereas giving authority to local is intended to make local independently determine his wishes which is tailored to needs. It will give big potential of opportunistic behavior from elite by creating tension that tends to be politicized to meet the desires of elite who backed by economic and politic. Therefore, not readiness Perdasi Perdasus about SAF utilization can be the ultimate weapon for local government to argue that elite of other local as DPRP and MRP are also responsible for completion of Perdasus particularly SAF management. Moreover, the absence of regulatory clarity create potential to practices domination by elite in center. It is one form of self-interest practices to accommodate the interests of elite in central and local. As noted by Miller (1994), self-interest practice creates opportunity to harness power of elite by trying to create tension which tends to be politicized and used as a motif to meet elite interest because of their economic and political impetus in society.

Conclusions:

These research results provide practical implications for central and local government to formulate Special Autonomy policies in Papua Province through mandate of Special Local Regulation (Perdasus) and Provincial Regulation (Perdasi). In addition, it can become a benchmark in SAF management and distribution/allocation based on regulation (Perdasus and Perdasi) to accelerate master plan development for society welfare in Papua. The theoretical implication is this research can provide more room for implementation of PEA theory, not limited only to cases in which the corporation is focused on privatization. This study limitation is the samples only from Papua Province. Therefore, the findings cannot be generalized to other autonomous region. Future study is recommended to fill this gap to strengthen the results of this study.

REFERENCES

Andrianto, J., G. Irianto, 2008. Akuntansi dan Kekuasaan: [dalam konteks] Bank BUMN Indonesia,

Fakultas Ekonomi Universitas Brawijaya. Penerbit Aditya Media Publishing.

Badan Pemeriksa Keuangan Republik Indonesia, 2011. Laporan Hasil Pemeriksaan Atas Pengelolaan Dan Pertanggungjawaban Dana Otonomi Khusus Tahun Anggaran 2002-2010 Pada Provinsi Papua Dan Papua Barat, Di akses melalui http://www.bpk.depkeu.go.id

Burrell, G., M. Gareth, 1979. *Sociological Paradigms and Organizational Analysis: Elements of the Sociology of Corporate Life*, London, Heinemann.

Collins, W., D. Keenan, I. Lapsley, 1991. *Local Authority Financial Accounting-Communication Sophistry or Obfuscation*, the Chartered Institute of Public Finance and Accountancy

Cooper, D.J., M.J. Sherer, 1984. The Value of Corporate Accounting Reports-Arguments for a Political Economy of Accounting, *Accounting, Organizations and Society*, 9(3/4): 207-32.

Deegan, C., M. Rankin, P. Voght, 2000.Firms Disclosure Reactions to Major Social Incidents: Australian Evidence, *Accounting Forum, Special Issue on Social and Environmental Accounting*, 24(1): 101-30.

Eates, R.E., 1980. *Tyranny of the Bottom Line: Why Corporations Make Good People Do Bad Things*, (penerjemah) PT Gramedia Pustaka Utama, Jakarta.

Guthrie, J., L. Parker, 1990. Corporate Social Disclosure Practice: A Comparative International Analysis, Advances in Public Interest Accounting, 3: 159.

Hopwood, A., S. Burchell and C. Clubb, 1994. *Value-Added Accounting and National Economic Policy*, in *Accounting as Social and Institutional Practice*. A. Hopwood and P. Miller (Eds). Cambridge: Cambridge University, pp: 211-236.

Hoogvelt, A.M.M. and A.M. Tinker, 1978. The Role of Colonial and Post-Colonial States in Imperialism-a Case-Study of the Sierra Leone Development Company, TheJournal of Modern African Studies, 16(1): 67-79.

Irianto, G., 2006. Dilema "Laba" dan Rerangka Teori Political Economy of Accounting (PEA), *TEMA* 7 (2): 141-53.

Jackson, P.M., 1995.*Measures for Success in the Publik Sector: A Public FinanceFoundation Reader*, Chartered Institute of Public Finance and Accountancy.

Jones, P.C. dan J.G. Bates, 1990. *Public Sector Auditing-Practical Techniques for an Integrated Approach,* Edisi 1. TJ Press Ltd., Padstow, Cornwall.

Kambuaya, 2010. *Otsus Tanpa Kejelasan*, Jayapura. Sumber: http://www.prakarsa-rakyat.org, Jumat 5 Maret

Katz, Ellen, 2004. Transparancy in Government-How American Citizens Influence Public Policy, *Journal of Accountancy*, hal. 1-2

Lowe, E.A., A. Tinker, 1977. Sighting the Accounting Problematic: Towards an Intellectual Emancipation of Accounting, Journal of Business Finance and Accounting, 4(3): 263-76.

Mawhood, Philip, 1987. *Lokal Government In The Third World*, New York : John Wiley & Son.

Miller, P., 1994. *Accounting as Social and Institutional Practice: An Introduction,*in *Accounting as Social and Institutional Practice*. A. Hopwood and P. Miller (Eds). Cambridge: Cambridge University, pp: 1-39.

Musa'ad. M Abud, 2009. *Struktur dan Kewenangan Pemerintah Dalam Pelaksanaan Otonomi Khusus di Provinsi Papua*. Disertasi Program Doktor Ilmu Sosial, Unpad. Bandung

Musgrave, Richard A., Peggy B. Musgrave, 1989. *Public Finance in Theory and Practice*, 5th ed., New York: McGraw-Hill.

Neimark, M., T. Tinker, 1986. The Social Construction of Management Control Systems. *Accounting, Organization and Society*, 11(4/5): 369-395.

Osborne, D., T. Gaebler, 1992. *Reinventing Government: how the entrepreneurial spirit is transforming the publik sektor*, Memwirausahakan Birokrasi, Reinventing Government, Mentrasformasi Semangat Wirausaha ke Dalam Sektor Publik, Seri Umum No.17. PT Pustaka Binaman Pressindo.1996

Pemerintah Republik Indonesia, 2004. *Undang-Undang Nomor 32 tahun 2004 tentang Pemerintah Daerah*.

Pemerintah Republik Indonesia, 2004. *Undang-Undang Nomor 33 tahun 2004 tentang Perimbangan Keuangan Anatara Pemerintah Pusat Dan Pemerintah Daerah*.

Pemerintah Republik Indonesia, 2001. *Undang-Undang Nomor 21 tahun 2001 tentang Otonomi Khusus Bagi Provinsi Papua*.

Pemerintah Republik Indonesia, 2003. *Undang-Undang Nomor 17 tahun 2003 tentang Keuangan Negara*.

Pemerintah Republik Indonesia, 2004. *Peraturan Pemerintah Nomor 54 tahun 2004 tentang Majelis Rakyat Papua*.

Rondinelli, Dennis, 1999. *"What is Decentralization?"*, in World Bank, Decentralization Briefing Notes, WBI Working Papers.

mule, 2003. *Satu Setengah Tahun Otsus Papua: Refleksi dan Prospek*, Penerbit Yayasan ToPanG, Manokwari.

Elasticity Measurement Of Local Taxes And Charges In Forecast Of Own-Source Revenue (PAD) Of Provincial Government In Indonesia

Article *in* E-Jurnal Akuntansi · January 2018

DOI: 10.24843/EJA.2018.v22.i01.p13

3 authors:

Muhamad Yamin Noch
Universitas Yapis Papua
18 PUBLICATIONS **31** CITATIONS

SEE PROFILE

Victor Pattiasina
Universitas Yapis Papua
30 PUBLICATIONS **19** CITATIONS

SEE PROFILE

Hafidz Arif Purwanto
Universitas Yapis Papua
1 PUBLICATION **0** CITATIONS

SEE PROFILE

ISSN: 2302-8556
E-Jurnal Akuntansi Universitas Udayana
Vol.22.1. Januari (2018): 326-351
DOI: *https://doi.org/10.24843/EJA.2018.v22.i01.p13*

Elasticity Measurement Of Local Taxes And Charges In Forecast Of Own-Source Revenue (PAD) Of Provincial Government In Indonesia

Mohamad Yamin Noch[1]
Victor Pattiasina[2]
Hafidz Arif Purwanto[3]

[1]University of Yapis Papua Jln. DR. Sam Ratulangi No. 11 Dok V Atas Jayapura.
email:abienoch12@gmail.com
[2]University of Yapis Papua Jln. DR. Sam Ratulangi No. 11 Dok V Atas Jayapura.
[3]University of Yapis Papua Jln. DR. Sam Ratulangi No. 11 Dok V Atas Jayapura.

ABSTRACT

This research aims to measure the elasticity of local taxes and charges in the framework of Own-Source Revenue (PAD) forecasting of Provincial Government in Indonesia. By using Fully Modified Least Square (FMOLS) method, the result shows that long-term elasticity or local taxes growth of 0.865 is still under GRDP growth, in accordance with the growth of charges of 0.756 shows the same result. While short-term elasticity or local taxes stability of 0.568 gives an overview of local taxes that is not sensitive to changes in GRDP, while the stability of charges of 2.704 shows the result is sensitive to changes in GRDP, however the value of stability is not supported sufficient significance so that the sensitivity factor of PAD is influenced by factor in beyond that. Forecasting result using the model in 2013, both local taxes and charges show better result than actual forecasting shown with smaller Revenue Forecast Error (RFE) value.

Keywords: Local taxes, local charges, FMOLS, RFE

INTRODUCTION

Own-Source Revenue (PAD) aims to authorize regional government to finance the implementation of regional independence in accordance with regional potential as a manifestation of decentralization (Andriyani and Siregar, 2013). The role of regional government in exploring and developing various regional potentials as a source of local revenue will determine the success of government task implementation, development and community service in the region.

In the planning of revenue target especially PAD should be more realistic in accordance with the potential of available resources by considering social condition of community (Basri, 2002). During this in the determination of budget,

the usual approach is incremental approach (Mokoginta, 2002). PAD projection phenomena at Provincial Government in Indonesia during the period of 2002-2012 from the data of Finance Ministry shows that Revenue Forecast Errors (RFE) reached 18.24% above revenue target which gives an overview that Provincial Government projected its revenue too low.

The more turbulent the market environment, technology, and the external economy, management will be encouraged to arrange strategy (Bastian, 2005). In planning the PAD, factors that influence should be considered in order to avoid refraction in budget planning. Adi (2007) stated that one of the factors that can encourage the region's financial capacity is economic growth. Thus Gross Regional Domestic Product (GRDP) can be used as a benchmark for economic improvement of a region.

Research on the effect of Gross Regional Domestic Product (GRDP) on PAD shows positive and significant influence (Hidayat, 2009; Aryanti and Indarti, 2010; Muchtholifah, 2010; Agustri, 2011; Sari, 2013; Kusuma, 2014; Gitaningtyas, 2014). This means GRDP (Gross Regional Domestic Product) is one of the important component to know the region potential as an effort to receive the Own-Source Revenue (Sari, 2013).

To measure the growth and stability of local taxes in relation to economic changes, it is necessary to study the relationship of local taxes revenue and GRDP fluctuation, this is to estimate the elasticity of local taxes revenue and show growth and stability of local taxes revenue (Ishida, 2011). Tax elasticity is defined as percentage of tax revenue change is divided by percentage of GRDP change (Ishida, 2011). 1% increase of GRDP should be positively responded by PAD. Accordingly, Cotton (2012) added in terms of monitoring of tax realization, elasticity historical data and tax buoyancy give an overview of tax collection performance and give input for the government to raise or lower tax rates and/or tax base in formulation of national budget.

Problem formulations in this research are: 1) How is the level of local taxes stability on province in Indonesia in the long-term and short-term? 2) How is the level of local charges stability on province in Indonesia in the long-term and short-term? 3) How is the level of revenue forecasting accuracy for 1 year after the period of measuring the stability of local taxes and charges? Purposes of this research are:1) To know the level of local taxes elasticity of Provincial Government in Indonesia in long-term and short-term. 2) To know the level of local charges elasticity of Provincial Government in Indonesia in the long-term and short-term. 3) To know the accuracy of local taxes and charges forecasting results of Provincial Government in Indonesia at 1 year after the estimation period.

The results of this research are expected to give the following benefits:
For Academics this research is the initial source for further research on the growth and stability of Own-Source Revenue (PAD) and forecasting effort *(forecast)* of PAD for the future of Provincial Government in Indonesia. For Regional government this research is expected to give benefits for improvement of PAD budgeting, especially local taxes and charges on Provincial Government in Indonesia and give an appropriate understanding for the actors of government, especially directly involved in the budgeting planning process of APBD. For Researcher this research is expected to increase the insight of researcher's knowledge about growth and stability of Own-Source Revenue (PAD) and forecasting effort *(forecast)* of PAD of Provincial Government in Indonesia, besides as one of the requirements of bachelor degree graduation.

Suparmoko (2002) in Badrudin (2012) stated that public economy is the study of how the government does tax levied and charges with the principles of taxation in an effort to increase the budget strength of government budget. Public economy is closely related in the process of decision-making based on democracy principle. If the electors of representatives monitor the activities of their representatives, these representatives will work harder and try to convince electors that their contribution to tax payments will lead to better condition (Badrudin, 2012). Government plays a role in the increase of Gross Domestic Product (GDP)

through public spending issued. Musgrave and Musgrave (1989) and Fuad, et.al (2005) in Badrudin (2012) Government is indispensable in the economy especially to carry out its function in accelerating economic growth so as to improve the living standard of population at a reasonable level. In other words, in the theory of public economy, government plays an important role in distribution of people's prosperity through tax instrument and economic stability.

Revenue shows the sum of all money received by a person or household for a certain period of time (usually one year). Revenue consists of wages or labor receipts, from property such as rent, interest and dividend, as well as payment of transfer or receiving payments from government such as social benefits, or unemployment insurance (Samuelson and Nordhaus 1993 in Muchtolifah 2010). According to Muchtolifah (2010), revenue can be measured by the sum of. Consumption during a period, whether from revenue (factor of production or transfer) received by a person for a certain period of time or the use of durable goods obtained previously. Net growth in individual property during a certain period. So on that basis, national revenue can be defined as the value of production of goods and services created in an economic activity within a certain period.

Budgeting is process of preparing a budget containing a statement in the form of a unit of money that is a reflection of activity and performance target to be achieved for a period of time (Astuti, 2007). Further Glenn A. Welsch in Mokoginta (2002) defined budget as a form of statement of plan and management policy used in a certain period as a blue print in that period. While Astuti (2007) briefly defined budget as a plan that is arranged in quantitative form in monetary unit for a period.

One of the important things in budget preparation is the measurement of financing capability of activities to be implemented in the form of revenue estimate, in the era of regional independence as now PAD has become an important point in the effort to increase local revenue. Law No. 33 of year 2004 on Fiscal Balance Between Central Government and Regional Government

defines own-source revenue as revenue derived from regions levied based on regional regulations in accordance with regulation of law.

The magnitude of PAD shows the ability of regions to meet their own needs and to maintain and support the results of development that have been implemented and will be implemented in the future (Mamesah, 1995 in Abdullah and Halim, 2003). So that the addition of PAD plays an important role to create regional independence, therefore each region is competing to find a source from its own economic activities through extensification and intensification steps of Own-Source Revenue (PAD). Setiaji and Adi (2007) added that this level of autonomy is showed by the contribution of PAD (share) to fund the regional expenditures. Own-Source Revenue (PAD) based on Article 157 letter a Law No. 32 of Year 2004 concerning Regional Government consists of Local taxes, local charges, result of Local own source assets and Other Lawful Local Revenue.

Local taxes in Law No. 28 of year 2009, it is mentioned that local taxes is obligatory contribution to the region owed by private individuals or entities of enforced nature based on the law, without receiving direct compensation and used for the needs of the region mostly for the welfare of the people. Law Number 28 of Year 2009 concerning Local taxes and Charges, divides the taxes into 2 (two), namely. Types of Provincial Taxes consist of: 1) Motor Vehicle Ta, 2) Excise for transferring ownership of motor vehicle, 3) Motor Vehicle Fuel Tax, 4) Surface Water Tax, and 5) Cigarette Tax

Types of District / Town Taxes consist of: 1) Hotel Tax, 2) Restaurant Tax, 4) Entertainment Tax, 5) Advertising Tax, 6) Street lighting tax, 7) Tax on non-metal mineral and rock, 8) Parking Tax, 9) Ground Water Tax, 10) Tax on Swallow's Nests, 11) Rurar and urban land and builsing tax, and 12) Excise/tax for acquiring right on land and building.

Local Charges is one type of local revenue collected as payment or direct rewards for services provided by regional government to community (Hidayat, 2009). Based on Law Number 28 Year 2009, local charges is local retribution as payment for services or certain permits specifically provided and/or given by regional government for the purpose interest and benefits and which private

person or entities. Thus the definitions of local charges in accordance with the main characteristics are: 1) Retribution is levied by the region, 2) retribution tariff is set by local regulations, and 3) Retribution is paid by them who enjoy certain facilities provided by the region. Law Number 28 Year 2009 states that the object of retribution consists of:

a. General Services;
b. Business Services;
c. Certain Permits.

Management result of Local own source assets is the source of PAD derived from participation of regional government capital in business entity outside the governmental area. Datu (2012) explained local companies can be divided into two categories: First; an own-local company that is a regional company established by the region itself. And Second; a local company derived from his superior government. Supriatna (1993) in Datu (2012) stated that the results of regional company consist of First; For regional company with total capital is Local own source assets (without external capital), regional business results in the form of regional development funds for expenditures of magnitude in accordance with applicable regulations. and Second; For a regional company with capital partially is Local own source assets (with additional capital from outside), the results of regional company in the form of development funds and parts for regional budgets of magnitude in accordance with applicable regulations. On that basis, results of the management may be either dividend or profit sharing from business entity receiving capital participation.

Other Lawful source of PAD is derived from sale of regional property, giro service, the receipt of compensation for regional assets (TP-TGR), overpayment of third party payment, installments and/or installments of motor vehicle and other of revenue (Mawardi, 2002). In general, other lawful of PADs is Own-Source Revenue that can not be categorized into local taxes, local charges and Management Result of Local own source assets. Although there is realization of this PAD type but this revenue source is very fluctuation every year and there has not

been potential (Mawardi, 2002). In practice, Datu (2012) stated that other lawful source of PAD can be revenue from regional agencies and other revenues legally obtained by regional governments including various types of revenue from the sale of equipments and waste materials, revenue from rent, interest on bank loans and giro, and revenue of penalties imposed on the contractor

There are 4 (four) methodologies in estimating the growth and stability of revenue, namely: buoyancy, coefficient of variance, potential variability in tax revenue, and elasticity (Ishida, 2011). This research uses parameter used by Ishida (2011) to estimate the growth and stability of local taxes and charges on Provincial Government in Indonesia, namely the elasticity method for long-term and short-term assessment.

There are 2 (two) approaches in assessing the relationship between long-term and short-term elasticities. Groves and Kahn (1952) in Ishida (2011) stated there is a direct relationship between long-term and short-term elasticities which in this approach elasticity of long-term revenue is also defined elastic in the short term. Thus there is a trade-off between long-term and short-term stability. Sobel and Holcombe (1996) gave a different approach, which long-term and short-term elasticities don't have direclyt relationship. Long term tax elasticity > 1 means the tax growth is higher than average of GDP, while short-term tax elasticity < 1 means tax fluctuation is more stable. Thus there is no trade-off between long-term and short-term stability.

Long-term tax growth is estimated by the following equation:

$$\text{Ln}(R_t) = \alpha + \beta \ln(Y_t) + \varepsilon_t \quad \text{.....(1)}$$

Equation (2.1) is called Revenue Level Models (Ishida, 2011). In the equation, Rt and Yt are real tax revenue and GDP during t period. β coefficient is the long-term revenue elasticity, which β coefficient > 1 indicates that local taxes grows higher than GDP, while β coefficient < 1 indicates that local taxes grows lower than GDP. Tax with long-term elasticity > 1 means tax with the high growth, on the contrary Tax with long-term elasticity < 1 means tax with the lower growth. Stability of short-term revenue is estimated by the following equation:

$$\Delta \text{Ln}(R_t) = \alpha + \beta \Delta \ln(Y_t) + \mu_{t-1} + \varepsilon_t \quad \text{.....(2)}$$

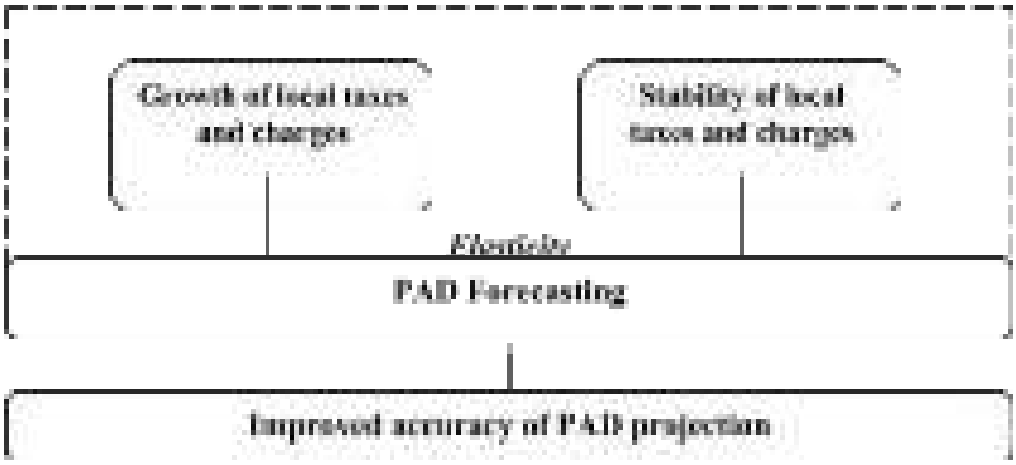
Equation (2.2) is called Error Correction Model (ECM), which this equation is the first derivative of equation (2.1) plus μ_{t-1} which is lag of estimation error. Error Correction Model (ECM) is a model used to correct the regression equation among variables that are not stationary individually to return to the equilibrium value in the long term, with the main condition being the existence of cointegration relationships among the constituent variables (Ajija, et al , 2014).

Forecasting revenue is an activity to estimate the value that may be received in the future measured by money which is based on data and assumptions of the present. Forecasting is necessary because of the timelag between expected event and current condition. If the timelag is long then forecasting will be important and much needed, especially in determination of an event that will arise so that it can be prepared things or actions needed to anticipate the situation. In general, forecasting is divided into 2 (two), namely:

Qualitative Forecasting is a forecast based on qualitative data in the past based on intuition thinking, opinion and knowledge and experience of the preparation. Quantitative Forecasting is a forecast based on quantitative data in the past. Whether good or not a method used is determined by the difference or deviation between the forecast results with the reality that occurred. Forecasting method based on the use of relationship pattern analysis between variables that are estimated with time variable which is time series (time series). Forecasting methods included in this type are: 1) Smoothing Method, 2) Box Jenkins Method, 3) Method of Trend Projection with Regression.

Forecasting method based on the use of relationship pattern analysis between variables to be estimated with other variable that influence it, not the time, which is called correlation method or causal (causal method). Forecasting methods included in this type are: Regression and Correlation Methods, Econometric Method, and Input Output Method. Based on the above description of problem formulation in Chapter I, various theoretical studies that can support this research, the authors set conceptual framework as follows:

ISSN: 2302-8556
E-Jurnal Akuntansi Universitas Udayana
Vol.22.1. Januari (2018): 326-351



Picture 1. Conceptual framework

Elasticity assessment is conducted to see the growth and stability of local taxes and charges. The growth is measured by long-term elasticity while stability is measured by short-term elasticity. Forecasting of local taxes and charges is measured through the growth equation of local taxes and charges that reflect long-term elasticity. Stability is used to measure the short-term fluctuation in local taxes and charges. The use of growth value and stability of local taxes and charges in PAD forecasting is expected to improve the accuracy of forecasting.

RESEARCH METHOD

This research is a developmental research that is quantitative. Developmental research is research that aims to investigate pattern and sequences of growth, development, and or change as a function of time (Partino, 2008). Research design is preparation of forecasting model of Own-Source Revenue (PAD) through the elasticity measurement of local taxes and charges with Gross Regional Domestic Product (GRDP) as revenue base (tax base). The out put expected can help regional government, especially Provincial Government in Indonesia, in estimating Budget of Own-Source Revenue (PAD) to make a more accurate by reducing Revenue Forecast Error (RFE) level as an indicator of success.

The research flow uses the financial and economic data of provincial government during the period of 2002-2012 as an estimator of growth model and stability of local taxes and charges in the long term and short term measured by the elasticity value to GRDP. Model equation is a forecasting model used to

assess Revenue Forecast Error (RFE) in 2013. This research uses secondary data obtained through relevant agencies authorized to issue data namely Ministry of Finance, Audit Board (BPK RI), and the Central Bureau of Statistics (BPS). Research data is limited in the period of 2002-2013 collected from November 2015 to January 2016.

Population used in this research is Budget Realization Report (LRA) and economic data of Provincial Government in Indonesia Year 2002-2013. Sample means taking a portion of population as the population representative (Partino, 2008). sampling technique used in this research using purposive sampling, namely sampling using criteria as follows:

a. Provincial Government which presents the revenue budget and revenue realization for the period of 2002-2013 in full.
b. The revenue and realization budget can be downloaded through the website www.djpk-kemenkeu.go.id or the result of audit findings Report (LHP) of BPK-RI.
c. Revenue realization presented by Provincial Government shall be stipulated in its budget in APBD.

The results of sampling with criteria determined are as follows:

Tabel 1.
Sampling

Description	Value
Number of Provinces in Indonesia	34
Provinces that do not provide complete financial data for 2002-2013 (12 years)	(13)
Provinces that provide complete financial data for 2002-2013 (12 years)	21
Sample of Research (21 Provinces x 12 Years)	**252**

Research variables used and operational definition in this research: Independent variable (X_1): Gross Regional Domestic Product (GRDP) of Province and Dependent variable: Local taxes (Y_1) and Local charges (Y_2)

Research variables used are intended to measure the level of revenue base elasticity on revenue acquisition. Revenue base is proxied through the figure of Gross Regional Domestic Product (GRDP), whereas the revenue acquisition is proxied with realization figure of local taxes and charges. Operational definitions of each variable are as follows:

Gross Regional Domestic Product (GRDP) is calculated based on the constant price of 2000 and expressed in rupiah. Local taxes used is the budget data and realization of provincial tax in Indonesia for the period 2002-2013, which is the accumulation of Motor Vehicle Tax, Excise for transferring ownership of motor vehicle,Motor Vehicle Fuel Tax, Surface Water Tax, and Cigarette Tax. Local Charges used is the budget data and the realization of provincial retribution in Indonesia for the period 2002-2013 which is the accumulation of Public Services Retribution, Business Services Retribution and Certain Services Retribution. Stationarity test is done by using *Unit Root Test* on variables used. This is done to see the stationary condition of research data, because economic and financial data tend to be not stationary. The Unit Root Test results are as follows GRDP

Tabel 2.

Following Information

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	13.5392	1.0000	21	208
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	17.3943	1.0000	21	208
ADF - Fisher Chi-square	1.32984	1.0000	21	208
PP - Fisher Chi-square	1.25872	1.0000	21	210

From the data it appears that the probability of 4 (four) methods used shows the value 1,0000 which the value is greater than the standard ρ-value set of 5%. So accepting H0 which states that GRDP data is not stationary.

a. Local taxes

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.70039	0.0000	21	207
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	1.45223	0.9268	21	207
ADF - Fisher Chi-square	25.3492	0.9802	21	207
PP - Fisher Chi-square	65.0772	0.0127	21	210

From the data it appears that probability of 2 (two) methods used by Levin, Lin & Chu and PP - Fisher Chi-square show the value of 0.0000 and 0,0127 which means it is smaller than the ρ-value standard set namely 5%. However, the other two methods Im, Pesaran and Shin W-stat and ADF - Fisher Chi-square show probability values of 0,9268 and 0,9802 which the number is above the ρ-value standard. So on that basis, local taxes is categorized as receiving H0 stating that local taxes data is not stationary.

b. Local Charges

Method	Statistic	Prob.**	Cross-Sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.68325	0.0000	21	207
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.92387	0.0272	21	207
ADF - Fisher Chi-square	54.1837	0.0985	21	207
PP - Fisher Chi-square	57.5496	0.0555	21	208

From the data it appears that the probability of 2 (two) methods used by Levin, Lin & Chu and Im, Pesaran and Shin W-stat show the value of 0,000 and 0,0272 which means it is smaller than the ρ-value standard set namely 5%. However, two other methods of ADF-Fisher Chi-square and PP-Fisher Chi-square show probability value of 0,0985 and 0,0555 which the number is above the ρ-value standard. So on that basis, Local charges is categorized as receiving H0 stating that Local charges data is not stationary. Changes in stationarity of data is done by converting data into first difference form with the following results.

a. GRDP

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-8.53745	0.0000	21	185
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.18724	0.0007	21	185
ADF - Fisher Chi-square	76.8515	0.0008	21	185
PP - Fisher Chi-square	99.8042	0.0000	21	189

From the data it appears that the probability of 4 (four) methods used show a value is smaller than the ρ-value standard set namely 5%. So it rejects H0, and it means the GRDP data is stationary.

b. Local taxes

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-15.9688	0.0000	21	180

Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-8.95793	0.0000	21	180
ADF - Fisher Chi-square	159.397	0.0000	21	180
PP - Fisher Chi-square	230.870	0.0000	21	189

From the data it appears that the probability of 4 (four) methods used show a value of 0,000 which the value is smaller than the ρ-value standard set namely 5%. So it rejects H0, and it means the local taxes data is stationary.

c. Local Charges

Method	**Statistic**	**Prob.****	**Cross-sections**	**Obs**
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-11.2699	0.0000	21	183
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-5.61649	0.0000	21	183
ADF - Fisher Chi-square	115.163	0.0000	21	183
PP - Fisher Chi-square	160.008	0.0000	21	187

From the data it appears that the probability of 4 (four) methods used show a value of 0,000 which the value is smaller than the ρ-value standard set namely 5%. So it rejects H0, and it means data retribution area is stationary. The processing results of this test data show the following results:

Alternative hypothesis: common AR coefs. (within-dimension)				
			Weighted	
	Statistic	**Prob.**	**Statistic**	**Prob.**
Panel v-Statistic	0.072145	0.4712	-1.244596	0.8934
Panel rho-Statistic	1.019544	0.8460	0.561675	0.7128
Panel PP-Statistic	-3.158977	0.0008	-5.175832	0.0000
Panel ADF-Statistic	-	0.0000	-6.115744	0.0000

	4.769039	

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	2.631851	0.9958
Group PP-Statistic	-5.884140	0.0000
Group ADF-Statistic	-6.640433	0.0000

H_0 of Cointegration test states if Probability > ρ-value standard namely 5%, then it receives H_0. From the results of processing, probability of Panel PP and Panel ADF are statistically and weighted statistical show the number of 0,000 which means it is under 5%, besides that individual Group PP statistic and Group ADF Statistic show the same number which is 0,000 which means it also under 5% significance. So data of GRDP, local taxes and charges are occurred cointegrasi.

Result of data processing, shows the equation result of FMOLS local taxes is as follows:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNPDRB	0.865986	0.001326	652.9160	0.0000

LNPAJAK = 0.865986440966*LNPDRB

The equation illustrates the long-term growth of local taxes measured by the elasticity of GRDP. Equation model that occurs LNPAJAK = 0.865986440966*LNPDRB + ε with 0,0000 significance under ρ-value of 5% so

that the model can be stated valid. From the equation, it can be seen that the long-term elasticity or growth of local taxes is 0.865986 and significant at 5%. Equation of Fully Modified OLS (FMOLS) of Local Charges. The result of data processing, shows the equation result of FMOLS retribution area is as follows:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNPDRB	0.756540	0.001793	421.9555	0.0000

LNRETRIBUSI = 0.756540334188*LNPDRB

The equation illustrates the long-term growth of local charges measured by the elasticity of GRDP. Equation model that occurs LNRETRIBUSI = 0.756540334188*LNPDRB + ε with 0,0000 significance under ρ-value 5% so that the model can be stated valid. From the equation, it can be seen that long-term elasticity or local charges growth is 0.756540 and significant at 5%.

Error Correction Model (ECM) of Local taxes. Calculation results of local taxes ECM are known as follows:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.153176	0.075595	2.026276	0.0444
D(LNPDRB)	0.568883	1.337961	0.425186	0.6713
UP(-1)	-0.430246	0.070633	-6.091295	0.0000

R-squared	0.186964	Mean dependent var	0.180528
Adjusted R-squared	0.177049	S.D. dependent var	0.287127
S.E. of regression	0.260472	Akaike info criterion	0.165159
Sum squared resid	11.12670	Schwarz criterion	0.221171
Log likelihood	-10.79075	Hannan-Quinn criter.	0.187893
F-statistic	18.85649	Durbin-Watson stat	2.515028
Prob(F-statistic)	0.000000		

Substituted Coefficients:

D(LNPAJAK) = 0.153175689507 + 0.568882828835* D(LNPDRB) - 0.430246100068*UP(-1)

The R^2 value of 0.186964 is smaller than the Durbin-Watson value of 2.515028 which means ECM of local taxes is not Spurious Regression so that ECM model of local taxes is valid. The lag of estimation error value indicated by the UP(-1) is negative value of -0.430246 at the significance of 0.0000 or less than the standard of 0.05 so that ECM equation of local taxes can be stated valid.

On the other hand, calculation of D(LNPDRB) value of probability shows the number of 0.6713 which the value is over the standard value of ρ-value 0.05 so that ECM equation is not significant, in other words, the short-term stability of the local taxes showed by the elasticity value has no clear relationship with GRDP. ECM equation of Local taxes:

D(LNPAJAK) = 0.153175689507 + 0.5688828288 * D(LNPDRB)- 0.430246100068 * UP (-1)

indicates the value of local taxes stability in short term that is equal to 0.5688 or less than 1 (one) so that the fluctuation is still under the fluctuation of GRDP.

Error Correction Model (ECM)of Local Charges. The calculation results of ECM retribution are known as follows:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.083990	0.219253	-0.383074	0.7022
D(LNPDRB)	2.704118	3.881492	0.696670	0.4870
UR(-1)	-0.554198	0.073329	-7.557714	0.0000

R-squared	0.265631	Mean dependent var	0.055089
Adjusted R-squared	0.256675	S.D. dependent var	0.873254
S.E. of regression	0.752887	Akaike info criterion	2.287998
Sum squared resid	92.96161	Schwarz criterion	2.344010

Log likelihood	-188.0478	Hannan-Quinn criter.	2.310732
F-statistic	29.66042	Durbin-Watson stat	2.052951
Prob(F-statistic)	0.000000		

D(LNRETRIBUSI) = -0.083990249964 + 2.7041178626*D(LNPDRB) - 0.554198242627*UR(-1)

The R^2 value of 0.265631 is smaller than Durbin-Watson value of 2.052951 which means charges ECM is not Spurious Regression so that ECM retribution model is valid. Lag of estimation error value showed by a negative UR (-1) of -0.554198 on the significance of 0.0000 or less than the standard of 0.05 so that ECM equation of charges formed can be stated valid.

On the other hand, calculation of D(LNPDRB) value of probability shows the number of 0.4870 which is above the standard value of ρ-value 0.05 so that ECM equation is not significant, in other words, stability of short-term charges showed by its elasticity value has no clear relationship with GRDP. The ECM equation of charges is D(LNRETRIBUSI) = -0.083990249964 + 2.7041178626*D(LNPDRB) - 0.554198242627*UR(-1) indicates the value of charges stability in the short term that is equal to 2.7041 or more than 1 (one) so that it is so fluctuation above fluctuation of GRDP.

Tabel 3.

Calculation of Local taxes and Charges Forecasting

Description	RFE OF TAXES 2013	RFE OF TAXES MODEL 2013	RFE OF CHARGES 2013	RFE OF CHARGES MODEL 2013
Average of RFE	11.08	8.76	41.71	31.94

The calculation results show that the RFE Model of local taxes is 8.76% and RFE model of charges is 31.94%. This condition is smaller than actual RFE 2013 for local taxes of 11.08% and charges of 41.71%.

From the results of data processing obtained the value of long-term growth equation and short-term stabilities of local taxes and charges as follows:

Table 4.

Elasticities of Local taxes and Charges

Types of PAD	The growth of long-term		Stability of short-term		
	B	***R^2***	***β***	***μ***	***R^2***
Local taxes	0.865 (0.000)	0.801	0.568 (0.671)	-0.430	0.186
Local Charges	0.756 (0.000)	0.055	2.704 (0.487)	-0.554	0.265

Data of Table IV.1 show different results from the Sobel and Holcombe (1996) research taking place in United States and Ishida (2011) taking place in Japan despite using similar assessment methods. The difference in the results can be understood because of differences in taxation regulation in each country with different conditions and backgrounds. Ishida (2011) implied a major difference in tax collection in western countries with Japan in particular, namely in terms of the sensitivity of changes in tax rates. Western countries, in this case the United States, is very reactive in changing the tax rates adjusted to economic condition. In other words, the tax as a fiscal instrument has important role in improving the country's economy. Similar things are not seen in Japanese economy which changes in tax rates tend not to be sensitive to changes in economic conditions.

In Indonesia, changes in tax rates, especially local taxes tend not to change in a short time. Although in Law Number 28 Year 2009 implies limits of local taxes and charges that may be levied, in the meaning that it is not a binding benchmark for regions to set local taxes and charges rates, but in the field regional government very rarely changes the tax rates to adjust the economic condition. This is due to the length of bureaucracy of changes in local taxes and charges that must be approved by local DPRD and enacted in Local DPRD regulation. Seeing

the condition, local taxes and charges rates in Indonesia are unchanged in a short time, similar to the condition of taxation in Japan, as Ishida (2011) described in his research. Differences in research results of Sobel and Holcombe (1996) and Ishida (2011) can be seen in the following table:

Table 5.

Differences of previous research results

Researcher	**Period**	**Location**	**Result**		
			Tax		
				Long-run	***Short-Run***
Sobel dan Holcombe (1996)	1951-1991	United State	*Personal Taxable Income*	*High growth (1.235)*	*Netral (1.164)*
			Corporate Taxable Income	*Low growth (0.691)*	*Unstable (3.369)*
			Retail Sales	*Low growth (0.691)*	*Netral (1.039)*
Ishida (2011)	1980-2007	Japan	*Prefectural tax*	*Low growth (0.672)*	*No clear*
			Enterprise tax	*No clear*	*Unstable (3.173)*
			Municipal Tax	*Low growth (0.590)*	*No clear*

Table IV.2 illustrates different results from previous research, while in Indonesia the condition is almost the same in Japan which insensitivity of changes in tax rates lead to lower tax growth compared to GRDP growth. Local taxes growth in Indonesia of 0.866 shows growth that is still under the GRDP. The low rate of growth, in addition to the insensitivity factor of rates change, is also due to the low level of tax extensification conducted by the region, as Purwanti (2009) explained that the growth of central tax in Indonesia is more dominated by the natural growth factor. In addition, stability of local taxes in short term shows a value of 0.568 but at a significance level of 0.671 which means that short-term stability of local taxes is not significant. That reinforces a statement that the process of collecting local taxes in Indonesia is more dominated by natural factor than extensification efforts of regional government.

Meanwhile, charges growth of 0.756 is also under the growth rate of GRDP. It is increasingly clear that the collection of PAD in Indonesia is still far from being expected. If seeing the short term stability of 2,704 which is far above the growth rate of GRDP gives hope that charges is very sensitive to the economic change, but at the significance of 0.487 it is clear over the ρ-value of 0.05 showing that the actual fluctuation of charges is not caused by economic change, but more on other factors such as the readiness of local DPRD regulations or other factors beyond that.

Seeing such condition, local taxes and charges are actually difficult to predict accurately, considering several factors such as extensification effort that have not been maximized by regional governments in levying taxes and charges. However, if holding on to the principle of using model to forecast the realization of taxes and charges will be found the following results:

Table 6.

RFE Comparison of Actual and model

Description	Rfe Of Taxes 2013	Rfe Of Taxes Model 2013	Rfe Of Charges 2013	Rfe Of Charges Model 2013
Average Of RFE	11.08	8.76	41.71	31.94

In general, model can forecast the realization of local taxes and charges better than incremental method that has been used by regional government. RFE model of local taxes produce an average value of 8.76% less than the actual RFE of local taxes of 11.08% indicating that the financial and economic realization data proxied with GRDP can be better for forecasting own-source revenue. This is supported by the short-term stability value of 0.626 that under fluctuations of GRDP so it is easier to forecast revenue, although not significant.

Meanwhile, RFE Model of charges shows a value of 31,94% compared to RFE actual of charges of 41,71% so that it can better forecast the charges itself. RFE that is still very large, although the estimation model can be understood if looking at the short-term stability of charges of 2,704, although at an insignificant level, so that the fluctuation of charges revenue is so high and it becomes difficult to be forecasted more precisely.

CONCLUSIONS

From the result of data processing that has been done, it can be concluded as follows: The growth of local taxes of provincial government in Indonesia is still under the rate of economic growth which illustrates that the increase in local taxes is more due to natural factor than the potential extensification of local taxes. Stability of local taxes on provincial government in Indonesia is smaller than the economic fluctuation so relatively stable in the short term, but not significantly indicating that local taxes revenue in the short term is not influenced by GRDP but more on other factors beyond that.

The growth of Local Charges of provincial government in Indonesia is lower than the rate of economic growth which gives ilustration of natural factor of increasing charges more dominant than extensification effort. Stability of Local charges on provincial government in Indonesia is greater than the economic fluctuations so relatively unstable in the short term in this case charges is very sensitive to respond to economic changes. However, the condition is not significant which represents that in the short term GRDP is not the main factor

charges. RFE model generally gives better result than RFE actual in 2013. RFE model of local taxes and charges show smaller results than RFE actual so in other words it can forecast revenue more accurately.

With all the limitations in this research, for further research the authors suggest: 1) This research data is partly obtained from LHP BPK-RI and Ministry of Finance. Realization of provincial government financial data obtained from the Ministry of Finance is not obtained information of audited data so it can not be known the final data on the realization of revenue. Therefore, for further research it is expected to use realization data of revenue from financial reports that have been audited by BPK-RI so as to ensure the validity and legality of data input.

1) This research uses only 1 (one) macroeconomic variable as revenue data base that is GRDP, while Keene and Thompson (2007) stated that macroeconomic factor that affects certain types of taxes may vary depending on the characteristic. For the future, further research is expected to use variation of macroeconomic variables more complex according to the nature and character of each revenue to improve the accuracy of revenue forecast. 3) Revenue in this research is proxied with local taxes and charges of provincial government calculated accumulatively regardless of local taxes and charges types. While the nature and character of each types of local taxes and charges is not necessarily the same, so we hope further research can be done partially according to the types of taxes and charges so as to provide a more detailed ilustration of the growth and stability of revenue base.

BIBLIOGRAPHY

Abdullah, Syukriy dan Abdul Halim. 2003. *Pengaruh Dana Alokasi Umum (DAU) dan Pendapatan Asli Daerah (PAD) Terhadap Belanja Pemerintah Daerah: Studi Kasus Kabupaten/Kota di Jawa dan Bali.*Simposium Nasional Akuntansi VI Surabaya.

Acharya, Hem. 2011.*The Measurement of Tax Elasticity in India: A Time Series Approach*. MPRA Paper No. 47090

Adi, Haryo Priyo. 2007. *Kemampuan Keuangan Daerah Dalam Era Otonomi Dan Relevansinya Dengan Pertumbuhan Ekonomi (Studi Pada Kabupaten*

dan Kota se Jawa – Bali). The 1st Accounting Conference Departemen Akuntansi Fakultas Ekonomi Universitas Indonesia.

Adriyani, Anisa dan Baldric Siregar. 2013. *Pengaruh Produk Domestik Regional Bruto terhadap Kinerja Keuangan Daerah dengan Pendapatan Asli Daerah sebagai Variabel Intervening*. Jurnal ekonomi & Bisnis Vol. 7, No. 2, Juli 2013.

Agustri, Nella. 2011. *Analisis Pengaruh Produk Domestik Regional Bruto (PDRB) dan Jumlah Kendaraan Bermotor Terhadap Penerimaan Pendapatan Asli Daerah (PAD) di Sumatera Barat (1979-2008).* Skripsi Universitas Andalas.

Ajija, Shochrul Rohmatul, *et.al.* 2011. *Cara Cerdas Menguasai EViews.* Jakarta:Salemba Empat.

Aryanti, Eni dan Iin Indarti. 2011. *Pengaruh Variabel Makro Terhadap Pendapatan Asli Daerah Periode 2000-2009 di Kota Semarang.* Sekolah Tinggi Ilmu Ekonomi Widya Manggala.

Astuti, Eliya. 2007. *Anggaran, Penganggaran dan Kinerja*. dalam Abdul Halim (Ed) dan Theresia damayanti (Ed). 2007. *Pengelolaan Keuangan Daerah*. Yogyakarta: UPP AMP YKPN.

BAPPENAS. 2003. *Peta Kemampuan Keuangan Provinsi Dalam Era Otonomi Daerah: Tinjauan atas Kinerja PAD, dan Upaya yang Dilakukan Daerah.* Direktorat Pengembangan Otonomi Daerah.

Basri, Rachman. 2002. *Akuntabilitas Pengelolaan Pendapatan Daerah pada Sumber-Sumber Penerimaan Pajak dan Retribusi daerah*. dalam Abdul Halim (Ed). 2002. *Akuntansi dan Pengendalian Keuangan Daerah*. Yogyakarta: UPP AMP YKPN.

Bastian, Indra. 2005. *Akuntansi Sektor Publik: Suatu Pengantar*. Jakarta: Erlangga.

Bonga, Wellington Garikai, *et al.* 2015. *Tax Elasticity, Buoyancy dan Stability in Zimbabwe.*IOSRJournal of Economics and Finance (IOSR-JEF) Vol. 6, Issue 1, Ver. 1 (Jan-Feb 2015).

Cotton, Joseph Jason. 2012. *The Buoyancy and Elasticity of Non-Oil Tax Revenues in Trinidad and Tobago (1990-2009).* Working Papers Central Bank of Trinidad & Tobago.

Ghozali, Imam dan Dwi Ratmono. 2013. *Analisis Multivariat dan Ekonometrika Teori, Konsep, dan Aplikasi dengan Eviews 8*. Semarang:Badan Penerbit Universitas Diponegoro.

Gitaningtyas, Yeny Kurniawati. 2014. *Pengaruh Produk Domestik Bruto, Jumlah Penduduk, dan Investasi Swasta Terhadap Realisasi Pendapatan Asli Daerah pada Kabupaten/Kota di Provinsi Jawa Timur*. Skripsi Universitas Jember. Jember.

Green, Kesten dan Len Tashman. 2009. *Percentage Error: What Denominator?*. Foresight Issue 12 Winter 2009.

Hidayat, Afri. 2009. *Analisis Pengaruh Pertumbuhan Ekonomi Terhadap Posisi Pendapatan Asli Daerah (PAD) Provinsi Sumatera Utara*. Skripsi Universitas Sumatera Utara. Medan.

https://id.wikipedia.org/wiki/Pemerintahan_daerah_di_Indonesia, diakses 23 Januari 2016.

https://id.wikipedia.org/wiki/Daftar_provinsi_di_Indonesia, diakses 23 Januari 2016

Ishida, Kazuyuki. 2011. *The Growth and Stability of the Local Tax Revenue in Japan*. Public Budgeting & Finance, Public Financial Publications, Inc.

Kargbo, Brima Ibrahim Baimba dan Festus O. Egwaikhide. 2012. *Tax Elasticity in Sierra Leone: A Time Series Approach.* International Journal of Economics and Financial Issues Vol. 2, No. 4, 2012.

Keene, Martin dan Peter Thomson. 2007. *An Analysis of Tax Revenue Forecast Errors.* New Zealand Treasury Working Paper 07/02

Kusnandar dan Dodik Kuswantoro. 2012. *Pengaruh Dana Alokasi Umum, Pendapatan Asli Daerah, Sisa Lebih Pembiayaan Anggaran Dan Luas Wilayah Terhadap Belanja Modal.* Simposium Nasional Akuntansi XV Banjarmasin.

Kusuma, Putri Ambar. 2014. *Analisis Pengaruh PDRB, Pengeluaran Pemerintah, Inflasi dan Jumlah Penduduk Terhadap Pendapatan Asli Daerah (PAD) 33 Provinsi di Indonesia*. Skripsi Universitas Sebelas Maret. Surakarta.

Kusuma, Tiara Rahma dan Sutaryo. 2015. *Pengaruh Faktor Keuangan Dan Non Keuangan Terhadap Budget Forecast Errors Pemerintah Daerah Di Indonesia*. Simposium Nasional Akuntansi XVIII Medan.

Mawardi, Gusti. 2002. *Akuntansi Pendapatan Asli Daerah di Kabupaten Banjar Kalimantan Selatan*. dalam Abdul Halim (Ed). 2002. *Akuntansi dan Pengendalian Keuangan Daerah*. Yogyakarta: UPP AMP YKPN.

Mokoginta, Abdullah. 2002.*Penyusunan Anggaran Tahunan*. dalam Abdul Halim (Ed). 2002. *Akuntansi dan Pengendalian Keuangan Daerah*. Yogyakarta: UPP AMP YKPN.

Muchtholifah. 2010. *Pengaruh Produk Domestik Regional Bruto (PDRB), Inflasi, Investasi Industri dan Jumlah Tenaga Kerja Terhadap Pendapatan Asli Daerah (PAD) di Kota Mojokerto*. Jurnal Ilmu Ekonomi Pembangunan Vol.1 No.1 Januari 2010.

Purwati, Evi Yulia. 2012. *Kajian Empiris Kinerja Penerimaan Pajak di Indonesia: tax buoyancy, tax elasticity, tax ratio.* Penelitian Dana DIPA PNBP Fakultas Ekonomi Universitas Diponegoro.

Republik Indonesia. 2004. *Undang-Undang Nomor 32 Tahun 2004 tentang Pemerintah Daerah*.

.2004. *Undang-Undang Nomor 33 Tahun 2004 tentang Perimbangan Keuangan Antara Pemerintah Pusat dan Pemerintahan Daerah.*

. 2009. *Undang-Undang Nomor 28 Tahun 2009 tentang Pajak daerah dan Retribusi daerah*.

Sari, Putu Lia Perdana. 2013. *Analisis Variabel-Variabel yang Mempengaruhi Pendapatan Asli Daerah (PAD) Provinsi Bali*. Jurnal Ilmiah Akuntansi dan Humanika , Vol. 2, No. 2, Juni 2013.

Voorhees, William R. 2006. *Consistent Underestimation Bias, The Asymmetrical Loss Function, And Homogeneous Sources Of Bias In State Revenue Forecasts*. Journal Of Public Budgeting, Accounting & Financial Management, 18(1), 61-76 SPRING 2006.

Reconstruction of Financial Performance to Manage Gap between Value Added Intellectual Coefficient (VAICTM) and Value of Company in Banking Company Listed in Indonesia Stock Exchange

by Arfan Ikhsan

Submission date: 12-Jun-2020 08:01PM (UTC+0700)
Submission ID: 1342560918
File name: 6._Reconstruction_of_Financial_Performance_to_Manage_Gap.pdf (957.43K)
Word count: 10975
Character count: 55771

International Journal of Economics and Financial Issues

ISSN: 2146-4138

available at http: www.econjournals.com

International Journal of Economics and Financial Issues, 2017, 7(4), 535-546

Reconstruction of Financial Performance to Manage Gap between Value Added Intellectual Coefficient (VAICTM) and Value of Company in Banking Company Listed in Indonesia Stock Exchange

Yana Ernawati[1], Muhammad Yamin Noch[2], Zakaria[3], Arfan Ikhsan[4], Muammar Khaddafi[5]*

[1]Alumnus of Yapis Papua University, Indonesia, [2]Yapis Papua University, Indonesia, [3]Yapis Papua University, Indonesia, [4]Medan State University, Indonesia, [5]Universitas Malikussaleh, Indonesia. *Email: muhammadkhaddafi@gmail.com

ABSTRACT

This study aims to analyze the effect of value added intellectual coefficient (VAIC™) on value of company (market to book value (MBV)) and financial performance (return on asset (ROA)) as mediating variable. This study used VAIC™ to measure the efficiency of three components i.e. value added capital employed, value added human capital, and structural capital value added (STVA). This study is a quantitative research using 30 banking companies listed in Indonesia Stock Exchange (IDX) as samples. Data were analyzed using path analysis with Analysis Moment of Structure program version 22. The results of this study indicate that the VAIC™ has positive and significant effect on financial performance (ROA), while has immediate positive and non-significant effect on company value (MBV). Furthermore, it can be proven that VAIC™ has indirect positive and significant effect on MBV with ROA as a mediating variable.

Keywords: Value Added Intellectual Coefficient, Financial Performance (Return on Assets), Company Value (Market to Book Value), Analysis Moment of Structure

JEL Classifications: G1, G3, M41

1. INTRODUCTION

Indicators of good corporate governance can be reflected from a positive company performance that not only provides income for shareholders but also ensures the company survival and fosters public trust. Manager as fiduciary of capital owners must take a decision on the best policy for the capital owners, in the sense that the decision on the policy must be in accordance with the wishes of the capital owners i.e. welfare of the shareholders or maximizing the value of the company.

In the achievement of its objectives, the company increasingly emphasizes on the importance of knowledge assets, which is one form of intangible assets. One approach used in the assessment and measurement of knowledge assets is intellectual capital (IC). IC has become an issue not only for scholars, but also governments, regulators, companies, investors, and other stakeholders. This poses a challenge for the accountant to identify, measure, and express it in financial statements.

Pulic (2000) identifies that the company market value (MV) is created not only by capital used (physical and financial), but also IC by identifying that there is a significant correlation between average value of VAIC and company MV. According to Pulic (1998), the main goal of knowledge-based economy is to create value added (VA), while in order to create VA, it takes an exact skill of physical capital and intellectual potential. He further states that intellectual ability or VAIC™ indicates the extent to which both resources (physical capital and intellectual potential) have been utilized efficiently by the company.

The management of IC is increasingly important to be considered in the era of knowledge economy. Hadi-Hollowa (2003) states that company assets both tangible and intangible are potential

strategic assets for the company. Intellectual assets are categorized as strategic assets because of the close relationship between IC and company financial performance. According to Pulic (1998), the main goal of knowledge-based economy is to create VA, while in order to create VA, it takes an exact size of physical capital and intellectual potential. Intellectual ability (then called VAIC™) indicates the extent to which both resources (physical capital and intellectual potential) have been utilized efficiently by company.

Recognition of IC as an emerging company value and competitive advantage is increasing, however, precise measurements of company IC have not been set. For example, Pulic (1998, 1999, 2000), his study did not directly measure company IC, but proposed a measurement to assess efficiency of VA as a result of company intellectual ability (VAIC™). The main components of VAIC™ can be seen from company resources i.e., physical capital (value added capital employed [VACA]), value added human capital [VAHU], and structural capital value added [STVA]). So, it can be explained that the VA is influenced by the efficiency of the three resources owned by the company, namely: Physical capital or capital employed (CE), human capital (HC), and structural capital (SC).

STVA shows the contribution of SC in value creation. STVA measures the amount of SC needed to produce 1 rupiah from VA and an indication of how the success of SC in value creation. SC is not an independent measure as HC. SC is dependent on value creation (Pulic, 1998). That is, the greater the contribution of HC in value creation, the less contribution of SC in this regard. Furthermore, Pulic states that SC is VA minus HC, and this has been verified by an empirical research on traditional industrial sector (Pulic, 2000).

In Indonesia, the phenomenon of IC starts growing, especially after the emergence of PSAK No. 19 (revised in 2000) on intangible assets. Although not stated explicitly as IC, but more or less IC has been getting attention. According to PSAK No. 19, intangible assets are non-monetary assets that are identifiable and have no physical form and held for use in producing or providing goods or services, leased to other parties, or for administrative purpose (IAI, 2002). Chen et al., (2005); Edvinsson and Malone (1997); Lev and Radhakrishnan (2003) reveals that:

> "The increasing gap observed between MV and book value (BV) of many companies has drawn attention towards investigating the value missing from financial statements. According to various scholars, IC is considered to be the hidden value that escapes financial statements and the one that leads organizations to obtain a competitive advantage."

The phrase explains that the increase of difference observed between MV and BV in many companies have drawn attention of many studies on value difference or values considered to be missing from financial statements. According to various intellectuals, IC is regarded as hidden value missing from financial statements and the value becomes one of the strengths for organizations or companies to achieve competitive advantage.

Studies conducted by Bontis et al. (2000), Mavridis (2004), Kamath (2007), Chen et al. (2005), Tan et al. (2007), Amiri (2004), Ulum (2007), Soedaryono et al. (2012), Hafizi et al. (2014), Rosdevijaya (2012), Pasaribu et al. (2012) and Ferdiansah et al. (2013) prove that IC has positive impact on the performance and company MV. Contrary to these studies, research by Stanque (2009) failed to prove the significant impact of VA of resource-based companies on return on asset (ROA), return on equity (ROE) and capital gains in banking sector. Similarly, research by Artinah and Muslih (2011) is not successful to prove significant impact between IC and capital gain.

The inconsistency of research results conducted by Bontis et al. (2000), Mavridis (2004) and Kamath (2007), Chen et al. (2005), Tan et al. (2007), Amiri (2004), Ulum (2007), Maryani et al. (2012), Wiyasari (2014), Soedaryono et al. (2012), Sunarsih (2012), Pasaribu et al. (2012) and Ferdiansah et al. (2013) with Stanque (2009), Rohman (2011) and Artinah and Muslih (2011) on the effect of IC on performance and MV of company motivates researchers to conduct another research on the impact of IC on company financial performance. The companies that are able to manage their intellectual resources effectively and efficiently, the financial performance will increase. The increasing financial performance will have a positive response from the market so that the company value will increase.

This study seeks to prove the reconstruction of financial performance in addressing the gap between VAIC™ and company value in banking sector in Indonesia. The selection of banking sector as sample refers to research by Ulum (2007), Stanque (2009), Artinah (2011), Rohman (2011), Kamath (2006), Mavridis (2005), and Firer and Williams (2003). The banking sector was chosen because according to Firer and Williams (2003) in Ulum (2007), banking industry is one of sectors that have the most intensive IC. Moreover, from intellectual aspect, the employees in banking sector are in overall more homogenous as compared to other economic sectors. The selection of VAIC™ model as a proxy for IC refers to the study by Firer and Williams (2003), Chen et al. (2005), and Tan et al. (2007), Ulum (2007), Stanque (2009), Soedaryono et al. (2012), and Pasaribu et al. (2012). The financial performance used is the profitability (ROA). The selection of performance indicator refers to research by Chen et al. (2005), Firer and Williams (2003), Ulum (2007), Rohman (2011), Stanque (2009), Soedaryono et al. (2012), and Ferdiansah et al. (2013). While the value of the company is in a proxy for market to book value (M/BV). The selection of company value measurement refers to the study by Chen et al., (2005), Firer and Williams (2003), Hariyadi et al. (2012), Wiyasari (2014), and Ferdiansah et al. (2013).

2. LITERATURE REVIEW

2.1. Resource-based Theory

Based on resource-based theory, company achieves competitive ability and optimal performance by leveraging strategic assets effectively. This was disclosed by Wernerfelt, 1984 in Kusumawati and Nurul, 2012, which states that:

> "Firms gain competitive advantage and attain superior performance by holding, acquiring, and effectively using

strategic assets. These assets include tangible, physical, assets as well as intangible assets that have been internalized, developed and used by firms in pursuing competitive and profitable strategies."

The phrase explains that company will achieve competitive advantage and achieve optimal performance by holding, acquiring and using strategic assets effectively. These assets include tangible assets, physical assets and intangible assets that have been internalized, developed and used by companies in the pursuit of profitable competition and strategies.

According to Firer and Williams (2003), Chen (2005), the resource-based theory explains that a company is perceived as a collection of tangible and intangible assets or capabilities. This theory suggests that the performance of a company should be defined as an effective and efficient use of tangible and intangible assets or intellectual ability owned by the company.

2.2. Stakeholder Theory

In line with the resource-based theory, stakeholder theory states that the VA is a more accurate measure in measuring performance of a company than accounting profit, which is simply a measure of return for shareholders. The theory explains that all company activities lead to value creation, ownership and use of intellectual resources so that it enables company to achieve competitive advantage and to increase VA. This theory states that all stakeholders have the right to be provided information on how the organization activities affect them, even when they choose not to use that information, and even when they cannot directly play a constructive role in organization survival (Deegan, 2004).

2.3. IC

The term IC often known as a synonym of intangible assets. Nevertheless, the definition proposed by OECD shows that there are enough differences to put IC as a separate part of the basis for determining overall intangible assets of a company. Thus, there are items of intangible assets that logically do not form part of IC of a company. One is the company reputation. Company reputation may be a byproduct (or an effect of) wise use of IC in company, but it not part of IC.

2.4. Measurement of IC

Measuring IC is not easy because it is intangible and non-physical. Therefore, traditional accounting model used in company operations in an industrial economy remain focus on financial assets and physical capital and ignore IC assets (Zeghal and Maaloul, 2010).

2.5. VAIC™

VAIC™ method developed by Pulic (1998) designed to provide information about value creation efficiency of tangible assets and intangible assets owned by company. This model begins with the company ability to create VA. VA is the most objective indicator to assess the business success and to demonstrate the company ability in the value creation (Pulic, 1998).

According to Pulic (1998); Ulum (2007), the main purpose of a knowledge-based economy is to create VA, which in order to create VA it takes an accurate size of physical capital and intellectual potential. Furthermore, Pulic (1998) states that intellectual ability or VAIC™ indicates the extent to which both resources (physical capital and intellectual potential) have been utilized efficiently by the company.

VAIC™ model measures IC through the measurement of CE efficiency (VACA), HC efficiency (VAHU), and SC efficiency (STVA). The higher the value of VAIC™, the better the potential utilization of company value creation. Physical capital (VACA) describes how much VA resulting from the use of physical capital. Pulic (1998) in Tan et al. (2007) assumes that if 1 (one) unit of CE generates greater return than other companies, it means the company is better in taking advantage of its CE. Thus, a better utilization of CE is part of the IC of a company (Tan et al., 2007, p. 79).

Tan in Stewart (1997, p. 99) reveals that HC is the place where all the start begins: A source of innovation, the origin of insight. Money can talk, but it cannot think; sometimes machines carry better than humans, but it does not create. Before purchasing new equipment, any large company must have a certain form that must be filled by managers. The demand for capital expenditures requires the calculation of capital return on investment. While sometimes, creative working in the firm cannot be compared with the creativity required to complete the same calculation on investment related towards new products, especially those of main expenditure items.

STVA shows the contribution of SC in value creation. STVA measures the number of SC required to produce 1 (one) rupiah from VA and is an indication of how the success of SC in value creation (Tan et al., 2007, p. 80). SC is not an independent measure as HC. SC is dependent on value creation (Pulic, 2000). That is, according to Pulic (2000), the greater the contribution of HC in value creation, the less contribution of SC in this regard. Furthermore, Pulic (2000) states that SC is VA minus HC and it has been verified by empirical research on traditional industrial sectors (Pulic, 2000; Tan et al. (2007)).

2.6. Financial Performance

The financial performance is an assessment or evaluation of financial condition of company based on financial ratio analysis at a given period in order to obtain results such as ROE, ROA, EPS, residual income, or other performance indicators. In this study, ROA was selected as a measure financial performance of company. Selection of ROA as a proxy for the company financial performance because the value of ROA can measure the company ability to use the whole funds that are embedded in the assets used in operations with the aim of making a profit. This ratio measures the benefits of company operations with the amount of investment of assets used to produce these benefits (Hanafi and Abdul, 2014).

2.7. The Value of Company

The value of company reflected by indicator of stock. MV is influenced by investment opportunities. The emergence of investment opportunities can send a positive signal about the company growth in the future, so it can enhance shareholder value. The company value in this study is measured by MtBV. MtBV

shows the value of company obtained by comparing the company MV with BV. MV is a market perception from investors, creditors, and other stockholders to company condition and usually reflected in the company stock MV. MV is the overall value of shares owned by company. In other words, MV is the amount that must be paid to buy the overall company. Harsono and Dorra [illegible] company value is affected by company BV, profit rate, economic position, as well as speculation and confidence to the company's ability to create value. While BV is the value of wealth, debt, and equity based on the historical record and usually stated in the balance sheet (Widiastuti, 2014).

2.8. The Relationship between VAIC™ and Financial Performance and Company Value

Mehralian et al. (2012) suggest that the greater the value of capital intellectual (VAIC™) the more efficient the use of company capital, thus creating VA for company. Physical capital as part of IC becomes a dominant to determine the company performance. In addition, if IC is a measurable resource to increase competitive advantages, the IC will contribute to company performance (Harrison and Sullivan, 2000; Chen et al., 2005; Abdolmohammadi, 2005).

IC is believed to play an important role in increasing value of company or financial performance. Companies that are able to efficiently utilize their IC, the MV will increase. The relationship between IC (VAIC™) and financial performance has been demonstrated empirically by some research that has been done in recent years. Research by Riahi-Belkaoui (2003) supports the resource-based theory and stakeholders theory that shows IC is significantly related to multinational company performance in the USA. Research by Sunarsiyano et al. (2012) found that there is influence between VAIC™, namely physical capital on the MV of the company as a proxy for market to book ratio and there is influence between the three components of VAIC™ toward financial performance of company as a proxy for ROA. Furthermore, Pancoko et al. (2012), using sample of manufacturing companies listed in Indonesia Stock Exchange during the period of 2006-2010, the research results show that there is effect of VAIC™, namely physical capital (VACA) towards financial performance as a proxy for ROE, EPS, ASR, ATO, PER, GR, where the most dominant influence is toward EPS, ROE, and ATO. While HC (VAHU) has the most dominant influence towards financial performance in the future.

2.9. Effect of IC (VAIC™) on Financial Performance

The influence of the independent variables VAIC™ on the dependent variable financial performance companies (Y1) refers to the resource-based theory and stockholder theory. Based on the resource-based theory, company achieves competitive ability and optimal performance by leveraging strategic assets effectively. This is disclosed by Wernerfelt, 1984 in Kusumastuti and Deliraj, 2012, who state that:

> "Firms gain competitive advantage and attain superior performance by holding, acquiring, and effectively using strategic assets. These assets include tangible physical, such as well as intangible assets that have been internalized, developed and used by firms in pursuing competitive and profitable strategies."

This phrase explains that company will achieve competitive advantage and achieve optimal performance by holding, acquiring and using strategic assets effectively. These assets include tangible assets, physical assets, and intangible assets that have been internalized, developed and used by companies in the pursuit of profitable competition and strategy.

According to Firer and Williams (2003), the resource-based theory explains that a company is perceived as a collection of both tangible and intangible assets or capabilities. This theory suggests that the performance of a company should be defined as an effective and efficient use of both tangible and intangible assets or intellectual abilities owned by a company.

In line with this theory, the stakeholder theory states that VA is a more accurate measure in measuring the performance of a company compared to the accounting profit which is simply a measure of return for shareholders. The theory explains that all company activities lead to value creation, ownership and use of intellectual resources so that it enables company to achieve competitive advantage and to increase VA. Pulic (1998; 1999; 2000), his study did not directly measure company IC, but proposed a measure to assess the efficiency of the VA as a result of company intellectual abilities (VAIC™). The main components of VAIC™ can be seen from the company resources i.e., physical capital (VACA), HC (VAHU), and SC (STVA).

Empirical studies on the effect of VAIC™ on financial performance among others conducted by Riahi-Belkaoui (2003), the results of his research support the resource-based theory and the stakeholders theory that show IC is significantly related to multinational companies performance in USA. Tan et al. (2007) found that IC (VAIC™) is positively associated with company performance; IC (VAIC™) is also positively associated with the company performance in the future. Furthermore, Firer and Williams (2003); Ulum (2007), their research showed that physical capital is the most significant and influential factor on the performance of companies in South Africa.

In Indonesia, the study of IC (VAIC™) and its influence on the financial performance has been done by Ulum (2007), the research concludes that there is a positive effect of IC (VAIC™) on company financial performance. Overall, his research shows that HC (VAHU) and ROA is the most significant influence for VAIC™ and company financial performance for 3 years of observation.

Meanwhile, Sunarsiyano (2012), the research concludes that there is influence between CE efficiency towards profitability, productivity and company MV, while HC efficiency and SC efficiency both affect company MV, but does not affect profitability and productivity. Research by Pancoko et al. (2012) shows that there is influence of VAIC™, namely physical capital (VACA) on financial performance as a proxy for ROE, EPS, ASR, ATO, PER, GR, where the most dominant influence is toward EPS, ROE, and ATO. While HC (VAHU) has the most dominant influence on financial performance in the future. From the above, the proposed hypothesis 1 as follows:

Hypothesis 1: VAIC™ has a positive and significant effect on financial performance of banking companies listed on the Indonesia Stock Exchange.

2.10. Effect of IC (VAIC™) on Company Value

The influence of independent variable IC (VAIC™) on the variable dependent company value (Y2) refers to stakeholder theory. This study adds intervening variable (company financial performance) to determine the direct and indirect effect of variable IC (VAIC™) on company value.

Stakeholder theory states that company is not an entity that operates only for its own interest, but it must provide benefits to stakeholders (Chen et al., 2005). Therefore, company must be able to manage resources owned optimally in order to create VA for company in the interests of stakeholders. The resources include physical and intellectual assets. If company is capable of managing intellectual assets properly, then the perception of the market towards company value will increase. IC is believed to play an important role in increasing the company MV.

Empirical studies on the effect of IC (VAIC™) on company value, among others, conducted by Chen et al. (2005), the study shows that IC (VAIC™) has positive effect on company MV and financial performance.

Research by Hartono et al. (2012) reveals that there is influence between IC (VAIC™) on ROE, where VACA and STVA in VAIC™ component that has a significant effect, whereas VAHU has insignificant effect, then, ROE as mediating variable between VAIC™ and company value has a significant effect on company value as a proxy for PBV, but not significantly affect PER.

Furthermore, research by Wenaton (2014) shows that there is positive influence between IC disclosure (VAICTM) and financial performance as a proxy for ROA. The research is not able to prove direct influence of IC disclosure (VAIC™) on company value as a proxy for MBV, but it is able to prove that financial performance as a proxy for ROA being able to mediate the relationship between IC disclosure (VAIC™) and company value as a proxy for MBV.

In line with Dewi and Isynuwardhana (2014), the research reveals that IC (VAIC™) significantly affect financial performance as a proxy for ROA and IC (VAIC™) has no direct effect on company value, but it has indirect influence to company as a proxy for PBV, where ROA as intervening variable. Furthermore, research by Sunarsih et al. (2012) shows that there is influence between VAIC™, namely physical capital on company MV as a proxy for market to book ratio and there is influence between the three components of VAIC™ to company financial performance as a proxy for ROA. From the above, the proposed hypotheses 2 and 3 as follows.

Hypothesis 2: VAIC™ has direct effect on company value in banking companies listed on the Indonesia Stock Exchange.

Hypothesis 3: VAIC™ has indirect effect on company value through financial performance as intervening variable in banking companies listed on the Indonesia Stock Exchange.

From the theory above, the research conceptual framework is described in Figure 1.

3. RESEARCH METHODS

The population in this study is all banking companies listed on Indonesia Stock Exchange (IDX) in 2009, 2010, 2011, 2012, and 2013. The sampling technique is purposive sampling method. Purposive sampling is a sampling technique with certain considerations also called sampling area (Sekaran, 2007). In this study, some criteria were set by sampling considerations as follows:

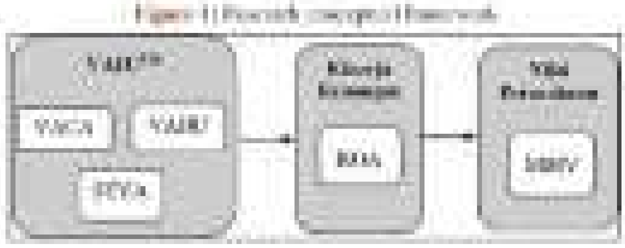
1. Banking companies listed in Indonesia Stock Exchange in 2009-2013.
2. Banking companies that presented and published its financial report at the end of each year in the period of observation.
3. Banking companies whose shares were actively traded on Indonesia Stock Exchange during the study period.
4. The companies revealed and had complete data related to the research.

The problem in this research was formulated into a simultaneous model, which is a model formed by two dependent variables and described by some more independent variables (Ferdinand, 2011). In this study, VAIC™ is the actual independent variable. The dependent variable in this study is at the same time playing a role as independent in other hierarchical relationships is financial performance as a proxy for ROA, while company value as a proxy for MBV the actual dependent variable.

VAIC™ referred in this research is the method of measuring IC developed by Pulic (1998, 1999, 2000), this method is designed to provide information about value creation efficiency of tangible assets and intangible assets owned by company. VAIC™ is a combination of three components of VA that is owned by a company that consists of physical capital (VACA), HC (VAHU), and SC capital (STVA, structural value added). This concept has been tested and adopted by Firer and Williams (2003), Mavridis (2004), Chen et al., (2005), Tan et al., (2007). The formulation and calculation stages of VAIC™ are as follows:

Stage one: Calculating VA – VA is calculated as the difference between OUTPUT and INPUT (Pulic, 1999; Ulum, 2008). VA referred in this study can be calculated with the following formula:

Figure 1: Research conceptual framework



VA=OP+EC+D+A

Where:
VA = Value added
OP = Operating profit
EC = Employee costs
D = Depreciation
A = Amortization

Stage two: Calculating VACA - VACA referred in this study is measured based on VA created by physical capital. This ratio shows contribution made by each unit of CE to VA organization (Pulic, 1998; Ulum, 2007). It can be calculated with the following formula:

$$VACA = \frac{VA}{CE}$$

Where:
VACA = Value added capital employed: The ratio of VA to CE
VA = Value added
CE = Capital employed: Available funds (equity, net income)

Third step: Calculating VAHU - VAHU referred in this study is measured based on VA created by HC (VAHU). VAHU shows how much VA can be generated by funds spent on labor. This ratio shows the contribution made by each rupiah invested in HC towards VA organization (Pulic, 1998; Ulum, 2007). It can be calculated with the following formula:

$$VAHU = \frac{VA}{HC}$$

Where:
VAHU = Value added human capital: The ratio of VA to HC
VA = Value added
HC = Human capital: Personnel expenses

Stage four: Calculating STVA - SC referred in this study is measured based on VA created by SC (STVA). This ratio measures the amount of SC needed to produce 1 rupiah of VA and is an indication of the success of SC in value creation (Pulic, 1998; Ulum, 2007). It can be calculated with the following formula:

$$STVA = \frac{SC}{VA}$$

Where:
STVA = Structural capital value added: The ratio of SC to VA
SC = Structural capital: VA-HC
VA = Value added

Stage five: Calculating VAIC™ - VAIC™ indicates organization intellectual capabilities that can also be considered as business performance indicator. VAIC™ is the sum of the three previous components: VACA, VAHU, and STVA (Pulic, 1998; Ulum, 2007). It can be calculated with the following formula:

VAIC™=VACA+VAHU+STVA

Where:
VAIC™ = Value added intellectual coefficient
VACA = Value added capital employed
VAHU = Value added human capital
STVA = Structural capital value added

While ROA is chosen to measure financial performance of company. Financial performance was set as first dependent variable and also defined as variable that mediates independent variable (VAIC™) with value of company variable. The selection of ROA as a proxy for the company financial performance because ROA can measure the ability of company to use overall funds that are embedded in assets used in operations with the aim of making a profit. This ratio measures bank ability to generate profits. It is calculated by using the following formula:

$$ROA = \frac{\text{Net income before tax}}{\text{Total assets}}$$

In this study, the actual dependent variable is value of company as a proxy for MBV. MBV shows the value of company that is obtained by comparing the company MV with BV. MV is the market perception from investors, creditors, and other stakeholders on the condition of company and is usually reflects company stock MV. MV is the total value of shares held by company. MBV is measured by MV divided by BV by using the following formula:

$$MBV = \frac{\text{Market value}}{\text{Book value}}$$

Where:
Market value (MV) = Share price at year-end
Book value (BV) = Total equity / Outstanding shares

Data processing method used in this study is path analysis that is the basic model used to analyze the path is estimating the strength of causal relationships depicted in path model. The use of path analysis is because it allegedly can reveal a causal relationship between independent variables, so there was a direct or indirect effect on the dependent variable.

To analyze the survey data and to interpret the results as well as to test the hypotheses, we used descriptive analysis. Then, we conducted measurement model testing, overall model testing, structural model testing and relationship variables observed testing. To facilitate the analysis process, several statistical application programs were used, among others Statistical Program for Social Sciences Version 22 and Analysis Moment of Structure (AMOS) version 22.

In this study, path analysis was applied to mediate variable or intervening variable by using panel data from the [illegible] Indonesia Stock Exchange as the analysis unit by period of observation for 5 years. Steps in the data analysis are as follows:

1. Designing a model based on theoretical and empirical studies. Through the models, it indicated the existence of direct and indirect effect of independent variables on dependent variable that can be formulated in equation that shows the relationship

and the direct or indirect effect VAIC™ on ROA and MBV. This model is expressed in the equation:

ROA = β1VAIC™t (4.1)

MBVt = β1ROA + β2VAICTMt (4.2)

Where:
ROAt = Return on assets at period t
MBVt = Market to book value at period t
VAICTMt = Value added intellectual coefficient in period t
β, β1, β2 = Regression coefficients

2. Describing the model in diagram.
3. Testing the model assumption. So that the data can be further analyzed from a few precondition on to be met in the analysis i.e. assumption of data normality and outliers.
4. Analyzing goodness-of-fit model. The testing goodness of fit model was done by comparing the testing parameters with a determined cut off value as shown in Table 1 (Ferdinand, 2014, p. 155). Data analysis used SPSS software Version 22, and Excel.
5. Interpreting the results of the statistical tests that have been carried out.
6. Confirming the model with data.

4. RESULTS AND DISCUSSION

4.1. An Overview of Research Object

This study used banking industry listed in Indonesia Stock Exchange as the research objects. Data from Bank Indonesia that officially published in 2014 shows that the system of Indonesian banking consists of six types of commercial banks with a total of 120 banks (Bank Indonesia, 2007), namely: Limited bank (4 banks), BUSN foreign exchange (35 banks), BUSN non-foreign exchange (30 banks), BPD (26 banks), mixed bank (15 banks), and foreign banks (10 banks).

4.2. Description of Research Variables

4.2.1. Variable description of VAIC™

Variables description of VAIC™ can be seen at the Table 2.

The value of VAIC™ indicates the organization intellectual abilities as the sum of VACA, VAHU, and STVA. Based on Table 2, the value of VAIC™ in the banking industry in Indonesia Stock Exchange was quite high in the period of 2009-2013. The average value of VAIC™ in 2009 was 2.99 and in 2013 was at 3.36, while the highest increase occurred in 2012 that is 3.29. The value of VAIC™ of banks listed on the Stock Exchange was quite good and it seemed to rise in the period of 2009-2013. There are 5 banks that had quite high value of VAIC™ in the period of 2009-2013, the Bank of Victoria International Tbk (BVIC) which reached a value of 12.29 in 2011, Bank Central Asia Tbk (BBCA) which reached a value of 4.80 in 2011, Bank Mandiri (Persero) Tbk (BMRI) which reached 4.64 in 2013, and the Bank Rakyat Indonesia (Persero)

Table 1: Goodness-of-fit indices

Goodness-of-fit index	Cut-off value
χ² – Chi-square	≥0.05
Significance probability	≥0.05
RMSEA	≤0.08
GFI	≥0.90
CMIN/DF	≤2.00
TLI	≥0.95
CFI	≥0.95

Table 2: Calculation result of value added intellectual coefficient (VAICTM) banking industry listed in Indonesia stock exchange year 2009-2013

Code	Industry	Value added intellectual coefficient (VAICTM)				
		2009	2010	2011	2012	2013
BBNI	Bank Negara Indonesia (Persero) Tbk	2.96	3.11	3.42	2.96	2.57
BBRI	Bank Rakyat Indonesia (Persero) Tbk	3.17	3.51	4.25	4.33	4.27
BBTN	Bank Tabungan Negara Indonesia (Persero) Tbk	2.47	3.18	3.23	3.38	3.44
BMRI	Bank Mandiri (Persero) Tbk	4.31	4.53	4.51	4.43	4.64
AGRO	Bank Rakyat Indonesia Agroniaga Tbk	1.87	2.29	2.12	2.12	2.40
BACA	Bank Capital Indonesia Tbk	3.98	3.16	2.75	3.06	2.36
BAEK	Bank Ekonomi Raharja Tbk	3.19	2.99	3.02	2.58	2.93
BBCA	Bank Central Asia Tbk	4.28	4.49	4.80	4.89	4.60
BBKP	Bank Bukopin Tbk	3.23	3.26	3.63	3.52	3.51
BBNP	Bank Nusantara Parahyangan Tbk	2.98	2.77	2.60	2.61	2.37
BDMN	Bank Danamon Indonesia Tbk	2.86	3.51	3.21	3.55	3.52
BNBA	Bank Bumi Arta Tbk	2.69	2.43	2.57	2.95	2.31
BNGA	Bank CIMB Niaga Tbk	3.16	3.88	4.06	4.18	3.90
BTPN	Bank Tabungan Pensiun Nasional Tbk	2.68	3.02	3.44	3.93	3.46
BVIC	Bank Victoria International Tbk	3.86	4.69	3.29	4.15	4.05
INPC	Bank Artha Graha Internasional Tbk	1.97	2.41	2.28	2.45	2.51
MAYA	Bank Mayapada Internasional Tbk	2.55	2.52	3.07	3.42	3.77
MCOR	Bank Windu Kentjana International Tbk	1.01	8.12	2.25	2.22	2.56
MEGA	Bank Mega Tbk	3.11	3.57	3.21	3.31	2.46
NISP	Bank OCBC NISP Tbk	2.79	2.54	3.00	2.94	2.21
	Mean	2.99	3.36	3.31	3.29	3.36
	Minimum	1.01	8.12	2.26	2.24	2.40
	Maximum	5.11	4.50	3.29	4.89	4.64

Source: Data processed

Tbk., which reached 4.58% in 2012. While the lowest value reached by Bank Windu Kentjana Internasional Tbk. 1.01 in 2009.

4.2.2. Variable description of ROA

Variable description of ROA can be seen in the Table 3.

The value of ROA shows the banks ability to generate profits based on the utilization of the company total assets. Based on Table 4, the average value of ROA experienced an increase in the period 2009-2013, in 2009 amounted to 1.79% and in 2013 rose to 2.38%, which the highest increase achieved in 2012 amounted to 2.46%. The highest ROA value during the period 2009-2013 reached by Bank Rakyat Indonesia (Persero) Tbk. (BBRI), which in 2009 amounted to 3.73%, in 2010 at 4.64%, in 2011 at 4.93%, in 2012 at 5.15%, and in 2013 at 5.03%. While the lowest ROA value in 2009 and in 2013 achieved by Bank Rakyat Indonesia Agroniaga Tbk. (AGRO), respectively

Table 3: Calculation results of return on assets (ROA) of banking industry listed in indonesia stock exchange year 2009-2013

Code	Industry	Value of the intellectual coefficient (VAIC™)				
		2009	2010	2011	2012	2013
BBNI	Bank Negara Indonesia (Persero) Tbk.	1.78	2.51	2.50	2.92	1.40
BBRI	Bank Rakyat Indonesia (Persero) Tbk.	3.73	4.64	4.93	5.15	5.03
BBTN	Bank Tabungan Negara Indonesia (Persero) Tbk.	1.47	2.05	2.03	1.94	1.79
BMRI	Bank Mandiri (Persero) Tbk.	2.96	3.40	3.36	3.54	3.54
AGRO	Bank Rakyat Indonesia Agroniaga Tbk.	0.18	0.07	1.20	1.63	1.66
BACA	Bank Capital Indonesia Tbk.	1.42	0.74	0.86	1.02	1.59
BAEK	Bank Ekonomi Raharja Tbk.	2.21	1.78	1.42	1.65	1.80
BBCA	Bank Central Asia Tbk.	3.40	3.08	3.03	3.66	2.90
BBKP	Bank Bukopin Tbk.	1.46	1.52	1.87	1.92	1.53
BBNP	Bank Nusantara Parahyangan Tbk.	0.75	0.69	1.66	1.69	1.03
BDMN	Bank Danamon Indonesia Tbk.	2.32	3.07	3.24	2.71	2.40
BNBA	Bank Bumi Arta Tbk.	1.00	1.52	2.31	2.47	2.63
BNGA	Bank CIMB Niaga Tbk.	2.18	2.73	2.85	3.18	2.96
BTPN	Bank Tabungan Pensiun Nasional Tbk.	3.49	4.03	4.43	4.70	4.30
BVIC	Bank Victoria Internasional Tbk.	1.18	1.51	3.60	2.17	1.90
INPC	Bank Artha Graha Internasional Tbk.	0.95	0.73	0.75	0.66	1.30
MAYA	Bank Mayapada Internasional Tbk.	0.98	1.22	2.07	2.41	2.33
MCOR	Bank Windu Kentjana Internasional Tbk.	1.01	1.41	0.93	2.00	1.75
MEGA	Bank Mega Tbk.	1.59	1.66	1.77	3.11	0.50
SDRA	Bank OCBC NISP Tbk.	3.01	1.20	1.91	1.79	1.91
	Mean	1.79	2.09	2.33	2.46	2.38
	Minimum	0.18	0.07	0.86	0.66	0.50
	Maximum	3.73	4.64	4.93	5.15	5.03

Source: Data processed

Table 4: Calculation results of market to book value (MBV) of banking listed in indonesia stock exchange year 2009-2013

Code	Industry	Market to book value (MBV)				
		2009	2010	2011	2012	2013
BBNI	Bank Negara Indonesia (Persero) Tbk.	2.08	2.19	1.80	1.70	1.41
BBRI	Bank Rakyat Indonesia (Persero) Tbk.	3.06	3.11	3.16	2.64	2.41
BBTN	Bank Tabungan Negara Indonesia (Persero) Tbk.	2.66	2.01	1.41	1.46	0.91
BMRI	Bank Mandiri (Persero) Tbk.	2.98	3.20	2.54	2.47	2.16
AGRO	Bank Rakyat Indonesia Agroniaga Tbk.	2.97	1.73	1.43	1.04	3.03
BACA	Bank Capital Indonesia Tbk.	0.93	0.55	1.17	0.87	0.80
BAEK	Bank Ekonomi Raharja Tbk.	3.96	2.90	2.16	1.46	1.37
BBCA	Bank Central Asia Tbk.	4.38	4.93	4.63	4.31	3.70
BBKP	Bank Bukopin Tbk.	0.71	1.39	1.08	0.86	0.51
BBNP	Bank Nusantara Parahyangan Tbk.	1.11	0.93	0.93	0.82	0.98
BDMN	Bank Danamon Indonesia Tbk.	2.37	2.03	1.72	1.88	1.19
BNBA	Bank Bumi Arta Tbk.	0.91	0.67	0.67	0.72	0.61
BNGA	Bank CIMB Niaga Tbk.	1.32	3.22	1.67	1.22	0.82
BTPN	Bank Tabungan Pensiun Nasional Tbk.	2.38	3.25	3.43	2.96	2.12
BVIC	Bank Victoria Internasional Tbk.	0.75	0.95	0.75	0.83	0.54
INPC	Bank Artha Graha Internasional Tbk.	0.50	0.67	0.71	0.90	0.60
MAYA	Bank Mayapada Internasional Tbk.	4.33	2.77	2.66	3.70	4.51
MCOR	Bank Windu Kentjana Internasional Tbk.	1.02	1.50	3.27	1.81	0.90
MEGA	Bank Mega Tbk.	2.29	2.31	2.02	1.95	2.31
SDRA	Bank OCBC NISP Tbk.	1.91	2.18	1.15	1.48	1.88
	Mean	2.02	2.18	1.85	1.80	1.70
	Minimum	0.71	0.55	0.67	0.66	0.46
	Maximum	4.33	4.93	4.63	3.70	4.51

Source: Data processed

Figure 2: Partial analysis test result of the relationship between exogenous variable and endogenous variable

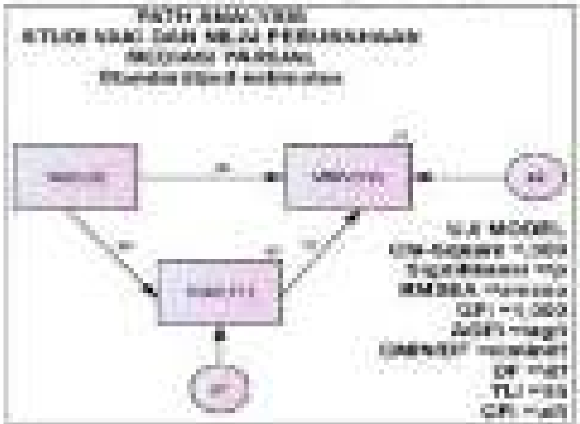
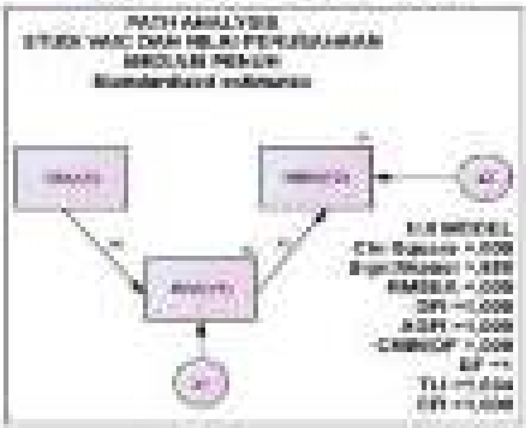


Figure 3: Path analysis model of the relationship between exogenous variables and endogenous variables



8.19% in 2009 and 0.67% in 2010. Later in 2011, the lowest ROA value of 0.08% achieved by the Bank Capital Indonesia Tbk (BACA). Whereas in 2012 the lowest ROA value of 0.06% achieved by Bank Artha Graha Internasional Tbk. (INPC). Meanwhile, in 2013 the lowest ROA value of 0.19% achieved by Bank Mega Tbk. (MEGA).

4.2.2. Variable description of MBV
Variables description of MBV can be seen in Table 5.

MBV shows the company value obtained by comparing the company MV and the BV. MBV aims to measure how far the difference between the MV of the company and its BV. Based on Table 5, it appears the average value of MBV in 2009 is 2.02 and in 2010 rose to 2.54, then declined in 2011. In 2011, the average value of MBV is 1.88, in 2012 is 1.90 and in 2013 is 1.58.

4.3. Research Results

4.3.1. Description of research variables indicators
The research variables consist of VAIC™ (X), ROA (Y1), and the market to BV at period t (MBV) (Y2). The detailed description of the variables indicators of this study are presented as follows (Table 5):

Table 5: Description of research variables indicators

	N	Minimum	Maximum	Mean±SD
VAIC (X)	100	0.72	7.29	1.2294±0.84[illegible]
ROA (Y1)	100	0.18	5.72	2.2736±1.16[illegible]
MBV (Y2)	100	0.31	5.78	1.8959±1.15617
Valid N (listwise)	100			

Table 6: Model testing results of VAIC™ to MBV through ROA

Criteria	Cut-off value	Testing results	Note
χ^2 - Chi-square	Expected small	0.000	χ^2 with df=0 is [illegible] (Good)
Significance probability	≥0.05	0.000	Good
RMSEA	≤0.08	0.000	Good
GFI	≥0.90	1.000	Good
AGFI	≥0.90	1.000	Good
CMIN/DF	≤2.00	0.000	Good
TLI	≥0.95	1.073	Good
CFI	≥0.95	1.000	Good

Source: Data processed. VAIC™: Value added intellectual coefficient, MBV: Market to book value, ROA: Return on assets

Based on Table 5, the average value of MBV (Y2) is 1.8959 with a standard deviation of 1.15617, then the minimum MBV (Y2) of 0.31 occurred in Bank Bukopin Tbk., and the maximum MBV (Y2) of 5.78 occurred on Bank Mayapada Internasional Tbk.

4.3.2. Path analysis of MBV
Some of the prerequisites that must be met in the path analysis are normal multivariate assumptions and outlier test.

4.3.2.1. Normality test
The complete results of the data normality testing on all research variables in which the value of CR univariate normality for all three variables are VAIC™ is 0.896, ROA is −0.726, and MBV is 0.524, so it can be said as univariate normal data. The results of the normality is 2.047, where the value is above the threshold for significance level above 5%. However, because this figure is still below 3, then it is allowed for further analysis (Ferdinand, 2014, p. 111).

4.3.2.2. Outlier test
The results of outlier test in this study are presented in the Mahalanobis distance in Mahalanobis d2. The value of Mahalanobis greater than the Chi-squared table or value of P1 < 0.001, it is said as outlier observation. This study did not find the value of P < 0.001, so it can be said outlier did not happen.

4.3.3. Path coefficient analysis
After conducting assumption testing, the data were normally distributed data and the outlier is below 5%, it can be continued to the analysis with path diagram presented on Figures 2 and 3.

Where:
VAIC: Value added intellectual coefficient
ROA: Return on assets
MBV: Market to book value

The testing results of goodness-of-fit model the full mediation model by AMOS program can be seen in the Table 6.

In Table 7, the description indicates that the criteria used to assess the feasibility of a model were fulfilled. Thus, a modification was not needed. It can be said that the model is acceptable, which means there is a fit between the model and the data.

From the suitable model, each path coefficient on the hypothesis in this research can be interpreted and it is presented in a structural equation as follows:

ROA = 0.656 VAIC™

MBV = 0.554 ROA

The testing of path coefficients is presented in details in Table 8.

4.5.3.1. The effect of VAIC™ (X) on ROA (Y1)

VAIC™ (X) has positive and significant effect on ROA (Y1). This can be seen from the positive path coefficient to 0.656 with a value of CR 5.642 and the significance probability (P) of 0.000 smaller than the significance level (α), which is set at 0.05. Thus, the VAIC™ (X) has positive and significant impact on ROA (Y1). So, the first hypothesis can be accepted.

4.5.3.2. The direct effect of VAIC™ (X) on MBV (Y2)

VAIC™ (X) has positive insignificant effect to MBV (Y2). This is evidenced from the positive path coefficient a value of 0.032 with a very small CR of 0.819 and a significance probability (p) of 0.085 that greater than the significance level (α) which is set at 0.05. Thus, VAIC™ (X) is positive and insignificant to MBV (Y2). So, the second hypothesis cannot be accepted.

4.5.3.3. The effect of ROA (Y1) to MBV (Y2)

ROA (Y1) has positive and significant impact to MBV (Y2). It is seen from the positive coefficient path of 0.554 with CR values of 6.611 and probability significance (P) of 0.000, which is smaller than the significance level (α), which is set at 0.05. Thus, ROA (Y1) has direct effect to MBV (Y2) of 0.554, which means that every increase in ROA (Y1) will raise MBV (Y2) of 0.554 assuming other factors is constant. It is shown that VAIC™ has indirect effect on MBV (the value of the company) through the ROA (financial performance) as intermediate variables. So, the third hypothesis can be accepted.

4.5.4. Influence between variables

In the path analysis there are significant effect between variables that includes direct effect, indirect effect and total effect. The direct effect occurs between the independent variables (exogenous) i.e. VAIC™ (X) on the dependent variable 1 (endogenous 1) i.e. ROA (Y1) and dependent variable 2 (endogenous 2), i.e. MBV (Y2). Table 9 presents the result of the direct effect that occurred between the exogenous and endogenous variables.

Based on Table 9, the direct effects can be explained from the exogenous variables to endogenous variables. The direct effect on the MBV (Y2) is the ROA (Y1) of 0.554. Then, the direct effect of VAIC™ (X) on ROA (Y1) is 0.656.

Indirect effect occurred between exogenous variables of VAIC™ (X) to the endogenous variable of MBV (Y2) via endogenous variable of ROA (Y1). Table 10 below presents the results regarding the direct effect happened between exogenous and endogenous variables.

Based on Table 10, the indirect effects can be explained from the exogenous variables on endogenous variables as follows: The direct effect of VAIC™ (X) to the endogenous variable of ROA (Y1) of 0.656. Furthermore, the direct effect of ROA (Y1) to MBV (Y2) is 0.554, so, the indirect effect was [(0.656) × (0.554)] = 0.363 and significant because of all the significant direct effect.

The total effect is the sum of direct and indirect effect of exogenous variables of VAIC™ (X) with endogenous mediator variable of ROA (Y1) and endogenous variables of MBV (Y2). The following table presents the results of the total effect that occurred between exogenous and endogenous variables.

Based on Table 10, the total effect can be explained from exogenous and endogenous variables. The total effect on the MBV (Y2) is the ROA (Y1).

4.6. Discussion

4.6.1. VAIC™ has positive and significant effect on ROA

VAIC™ developed by Pulic (1998) is designed to provide information about value creation efficiency of tangible assets and intangible assets owned by company. This model starts with the company ability to create VA. VA is the most objective indicator to assess the success of the business and to demonstrate company ability in value creation (Pulic, 1998; Ulum, 2007). VAICTM is

Table 7: Path coefficient testing results of market to book value (Y2) through return on assets (Y1)

Variable	Coefficient	C.R.	Probability	Note
Value Added Intellectual Coefficient (X) → Return on assets (Y1)	0.656	5.642	0.000	Significant
Return on assets (Y1) → Market to book Value (Y2)	0.554	6.611	0.000	Significant
Value added intellectual Coefficient (X) → Market to book Value (Y2)	0.032	0.819	0.082	Not significant

Table 8: Direct impact of research variables

Direct effect	Endogenous variable	
	Return on assets (Y1)	Market to book value (Y2)
Exogenous variable		
Value added intellectual coefficient (X)	0.586	0.003
Return on assets (Y1)	–	0.554

Table 9: Indirect impact of research variables

Indirect effect	Endogenous variable	
	Return on assets (Y1)	Market to book value (Y2)
Exogenous variable		
Value added intellectual coefficient (X)	–	0.363
Return on assets (Y1)	–	–

Table 10: Total effect of research variables

Direct effect	Endogenous variable	
	Return on assets (Y1)	Market to book value (Y2)
Exogenous variable		
Value added intellectual coefficient (X)	–	0.366
Return on assets (Y1)	–	0.554

defined as the intellectual ability that shows the extent to which both company resources (physical capital and intellectual potential) has been used efficiently by the company.

VAIC™ model measures IC through measurement of CE efficiency (VACA), HC efficiency (VAHU), and SC efficiency (STVA). The higher the value of VAIC™, the better the utilization of value creation potential of a company. IC measured by VAIC™ is believed to be able to play an important role in improving financial performance. Companies that are able to utilize their IC efficiently, then its MV will increase. The relationship between capital intellectual (VAIC™) and financial performance has been proven empirically by several studies that have been done in several years. Chen et al. (2005), in a study reveals that IC measured by using VAIC™ has positive effect on MV and financial performance of company.

Furthermore, research by Ulum (2007) concludes that there is a positive effect of IC (VAIC™) on company financial performance. In overall, his research states that HC (VAHU) and ROA is the most significant indicator for VAICTM and company financial performance for 3 years of observation. Nevertheless, Firer and Williams (2003) in Ulum (2007) used a sample of companies in South Africa, the research results indicate that the relationship between the efficiency of VAIC™ and three basic measures of company performance (i.e. ROA profitability, ATO productivity, and MB - MtBV) is in general limited and inconsistent.

The results of this study indicate that VAIC™ has positive and significant effect on ROA in the banking industry listed on the Indonesia Stock Exchange. This gives the sense that the higher the value of VAIC™, the higher the rate of profit measured by ROA. A logical argument to explain the results is that the greater the value of capital intellectual (VAIC™), the more efficient the use of company capital, thereby this creates VA for the company. The stakeholder theory states that VA is a more accurate measure in measuring the performance of a company compared to accounting profit, which is simply a measure of return for shareholders. The theory explains that all company activities lead to value creation, ownership and use of intellectual resources will enable companies to achieve competitive advantage and to increase VA. Physical capital as part of IC becomes a resource that determines company performance.

4.4.2. VAIC™ has positive and insignificant effect on MBV

The results show that VAIC™ has a direct positive and insignificant effect on MBV. This explains that the MV the company more to company physical resources than company IC. In addition, there are many companies that have not made a disclosure of its IC, so the market is still difficult to assess the company based on its IC.

The stakeholder theory states that all stakeholders have the right to be provided information about how the organization activity affect them, even when they choose not to use such information and even when they cannot directly play a constructive role in the survival of organization (Deegan, 2004; Ulum, 2007).

Based on the theory, it can be concluded that all information related to companies including a disclosure of company IC is required by the market stakeholders, so the assessment of the market on the company can be optimized.

4.4.3. VAIC™ has positive and significant effect on MBV through ROA

The indirect effect of VAIC™ on MBV through ROA gives positive and significant results with regression coefficient value of 0.363. These results were obtained from the direct effect of VAIC™ on endogenous variable ROA of 0.586. Furthermore, direct effect of ROA on MBV is 0.554 then the indirect effect is (0.586) × (0.554) = 0.363. Since both variables have significant relationship, then it can be declared that VAIC™ has positive and significant effect on MBV through ROA.

The results of this study provide the sense that ROA is successful to intervene VAIC™ and MBV. The results of this study are consistent with Wenasari (2016), which shows that there is positive effect between IC disclosure (VAIC™) and ROA. This study failed to prove the direct influence of IC disclosure (VAIC™) on company value as a proxy for MBV, but it is able to prove that ROA can mediate the relationship between IC disclosure (VAIC™) and company value as a proxy for MBV.

ROA reflects the business profit and company efficiency in the utilization of total assets (Chen et al., 2005, p. 165). The larger the ROA, the greater the level of profit gained and the better the bank position in terms of use of assets (Riva, 2012, p. 481). The implication of this study explains that the company that is able to manage its entire available resources effectively and efficiently will improve its financial performance, and a good financial

performance will also get a good response from investors, thereby increase the company value.

5. CONCLUSIONS AND RECOMMENDATIONS

Based on the results of data analysis and discussion, the conclusions of this study can be described as follows:
1. VAIC™ has positive and significant effect on ROA
2. VAIC™ has positive and insignificant effect to MBV
3. VAIC™ has positive and significant effect to MBV through ROA.

The results of this study explain that in accordance with the resource based theory, company that is able to utilize its resources, both tangible and intangible resources, can create company competitive advantage and improve company performance. However, market (investors) only values company based on the company ability to manage its financial performance and have not been able to assess company based on VA created. So, the company that is able to manage all of its available resources effectively and efficiently will be able to improve its financial performance, and furthermore, a good financial will also get a good response from investors, thus, increase the company value.

In this research, there are some limitations that this study:
1. Used the period of 3 years of research: From 2009 to 2011, so there are limitations in the data used in this study.
2. Not all banks listed in the Indonesia Stock Exchange in the period from 2009 until 2011 can be used in the study samples due to some banks did not provide data associated to the this research, thus, it decreased the number of research samples.

Based on the results of the study, it can be proposed several suggestions as follows:
1. It is expected from the investors in evaluating company performance to consider the VA created by the company.
2. It is expected that future studies can extend the period of research and expand the research object to include companies from other sectors, so that the results of the research are able to describe public companies in Indonesia as a whole.

REFERENCES

Abdolmohammadi, M.J. (2005), Intellectual capital disclosure and market capitalization. Journal of Intellectual Capital, 6(3), 397-416.

Artinah, B., [illegible], A. (2011), Pengaruh intellectual capital terhadap capital gain (studi empiris terhadap perusahaan perbankan yang terdaftar di bursa efek Indonesia). Jurnal Spread, 1(1), 9-22.

Bank Indonesia. (2013), Kajian Stabilitas Keuangan No. 21, September 2013. Available from: http://www.bi.go.id.

Chen, C.M., Cheng, J.S., Hwang, Y. (2005), An empirical investigation of the relationship between intellectual capital and firms' market value and financial performance. Journal of Intellectual Capital, 6(2), 159-176.

Deegan, C. (2004), Financial Accounting Theory. Sydney: McGraw-Hill Book Company.

[illegible], C.S.K., [illegible], D. (2004), Intellectual capital terhadap nilai perusahaan dengan kinerja keuangan sebagai variabel intervening. Jurnal Keuangan dan Perbankan, 18(2), [illegible].

Edvinsson, L., Malone, M. (1997), Intellectual Capital: Realizing Your Company's True Value by Finding Its Hidden Brainpower. New York, NY: Harper Collins.

Ferdinand, A. (2011), Metode Penelitian Manajemen: Pedoman Penelitian untuk Penulisan Skripsi, Tesis dan Disertasi Ilmu Manajemen. Edisi 3, AGF Books. Fakultas of Ekonomi dan Bisnis Universitas of Diponegoro, Semarang.

[illegible], A., [illegible], S.T. (2011), Analisis Pengaruh Intellectual Capital terhadap Kinerja Keuangan dan Nilai Perusahaan Pada Perusahaan Kompas 100 yang Terdaftar di Bursa Efek Indonesia (BEI) Tahun 2010. Thesis, University of [illegible].

Ferdinand, A. (2006), Structural Equation Modeling Dalam Penelitian Manajemen. Seri Pustaka Kunci 13/2006. Semarang: BP Undip-Undip Press.

Firer, S., Williams, S.M. (2003), Intellectual capital and traditional measures of corporate performance. Journal of Intellectual Capital, 4(3), 348-360.

[illegible], M.M., [illegible], H. (2004), Analisis Laporan Keuangan. Yogyakarta: UPP STIM YKPN. p112.

[illegible], S., [illegible], R., [illegible], R. (2012), Impact of Intellectual Capital on the Firm's Market Value: The Mediation Role of Financial Performance (Empirical Study from The Indonesian Banking Companies years 2007-2011). 10th Ubaya International Annual Symposium on Management.

Harrison, S., Sullivan, P.H. (2000), Profiting from intellectual capital: Learning from leading companies. Journal of Intellectual Capital, 1(1), 33-46.

[illegible], M., [illegible], N., [illegible], A. (2014), Influence of net profit margin (NPM), ROE, net profit margin (NPM), debt to equity ratio (DER), and current ratio (CR), against corporate profit growth in automotive in Indonesia stock exchange. International Journal of Academic Research in Business and Social Sciences, 4(12), [illegible].

Ikatan Akuntan Indonesia. (2002), Pernyataan Standar Akuntansi Keuangan No. 19. Jakarta: Salemba Empat.

Lev, B., Radhakrishnan, S. (2003), The Measurement of Firm-Specific Organization Capital. NBER Working Paper No. 9581. Available from: http://www.nber.org/papers/w9581.pdf.

Kamath, G.B. (2007), The intellectual capital performance of Indian banking sector. Journal of Intellectual Capital, 8(1), 96-123.

Komnenic, B., Pokrajcic, D. (2012), Intellectual capital and corporate performance of MNCs in Serbia. Journal of Intellectual Capital, 13(1), 106-119.

Maditinos, D., Chatzoudes, C., Theriou, G. (2011), The impact of intellectual capital on firms' market value and financial performance. Journal of Intellectual Capital, 12(1), 132-151.

Mavridis, D.G. (2004), The intellectual capital performance of the Japanese banking sector. Journal of Intellectual Capital, 5(1), 92-115.

Mavridis, D.G. (2005), Intellectual capital performance determinants and globalization status of Greek listed firms. Journal of Intellectual Capital, 6(1), 127-140.

[illegible], W. (2011), Pengaruh intellectual capital terhadap kinerja keuangan dan nilai pasar perusahaan perbankan dengan metode value added intellectual coefficient. Jurnal Bisnis dan Akuntansi, 13(1), [illegible].

[illegible], H., [illegible], H.I., [illegible], H. (2011), The role of corporate intellectual capital. Australian International Journal of Contemporary Research, 2(9), 153-178.

Pulic, A. (1998), Measuring the Performance of Intellectual Potential in Knowledge Economy. Presented in 1998 at the 2nd McMaster World Congress on Measuring and Managing Intellectual Capital by the Austrian Team for Intellectual Potential.

Pulic, A. (1998), Basic Information on VAIC™. Available from: http://www.vaicon.net. [Last accessed on 2013 Jul 05].

Pulic, A. (2000), VAIC™ - An Accounting Tool for IC Management. Available from: http://[illegible]. [Last accessed on 2013 Jul 07].

[illegible] (2011), The influence of intellectual capital on banking industry performance: A case on Indonesia stock exchange before and after the 2008 global financial crisis. Asia Pacific Journal of Accounting and Finance, 2(1), 35-58.

Riahi-Belkaoui, A. (2003), Intellectual Capital and Firm Performance of US Multinational Firms: A Study of the Resource-Based and Stakeholder Views. [illegible] Intellectual Capital and Firm Performance of US Multinational Firms: A Study of the Resource-Based and Stakeholder Views. Chicago: University of Illinois at Chicago.

Rivai, V.D.K. (2012), Commercial Bank Management. Manajemen Perbankan Dari Teori ke Praktik. Jakarta: PT. Raja Grafindo Persada.

Sekaran, U. (2003), Research Methods for Business: A Skill Building Approach. 4th ed. NY: John Wiley & Sons, Inc.

[illegible] M. (2009), The Impact of Intellectual Capital Towards Financial Profitability and Investors Capital Gain on Shares: An Empirical Investigation of Indonesian Banking and Insurance Sector For Year 2005-2007. [illegible] Universitas Sriwijaya Palembang, 5-6 November, 2009.

[illegible] (2012), Effect Intellectual Capital (Value Added Intellectual Capital) to Market Value and Financial Performance of Banking Sector Companies Listed in Indonesia Stock Exchange. The 2012 International Conference on Business and Management, 6-7 September 2012, Phuket - Thailand.

Stewart, T.A. (1997), Intellectual Capital. Translated by Reza Gunawan. Jakarta: Publisher PT. Elex Media Komputindo, Kelompok Gramedia.

Tan, H.P., Plowman, D., Hancock, P. (2007), Intellectual capital and financial returns of companies. Journal of Intellectual Capital, 8(1), 76-95.

Ulum, I. (2007), Pengaruh Intellectual Capital Terhadap Kinerja Keuangan Perusahaan Perbankan Di Indonesia. Thesis. University of Diponegoro Semarang.

Ulum, I. (2009), Intellectual capital performance sektor perbankan di Indonesia. Jurnal Akuntansi dan Keuangan, [illegible], 77-84.

[illegible] (2011), [illegible] intellectual capital disclosure, nilai perusahaan, dan financial performance. Journal of Finance and Banking, [illegible], 14-28.

Zéghal, D., Maaloul, A. (2010), Analysing value added as an indicator of intellectual capital and its consequences on company performance. Journal of Intellectual Capital, 11(1), 39-60.

Reconstruction of Financial Performance to Manage Gap between Value Added Intellectual Coefficient (VAICTM) and Value of Company in Banking Company Listed in Indonesia Stock Exchange

ORIGINALITY REPORT

17%	16%	12%	12%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	ideas.repec.org Internet Source	3%
2	seajbel.com Internet Source	2%
3	Submitted to Tarumanagara University Student Paper	2%
4	www.srac.ro Internet Source	1%
5	jaspsnet.com Internet Source	1%
6	Submitted to Universitas Jember Student Paper	1%
7	docplayer.net Internet Source	1%
8	pt.scribd.com Internet Source	1%

9	Submitted to Pascasarjana Universitas Negeri Malang Student Paper	1%
10	repository.unib.ac.id Internet Source	1%
11	Submitted to Sekolah Tinggi Ilmu Ekonomi Indonesia Jakarta Student Paper	1%
12	arionline.uitm.edu.my Internet Source	1%
13	Maria Christina Liem. "Quiet life hypothesis reborn: is “holdinglisation” relevant?", Managerial Finance, 2019 Publication	1%
14	journal.perbanas.ac.id Internet Source	1%
15	Submitted to Universitas 17 Agustus 1945 Surabaya Student Paper	1%
16	www.iosrjournals.org Internet Source	1%
17	ekydakka.com Internet Source	<1%
18	www.savap.org.pk Internet Source	<1%

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	Off		

Reconstruction of Financial Performance to Manage Gap between Value Added Intellectual Coefficient (VAICTM) and Value of Company in Banking Company Listed in Indonesia Stock Exchange

GRADEMARK REPORT

FINAL GRADE

/0

GENERAL COMMENTS

Instructor

PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8

PAGE 9

PAGE 10

PAGE 11

PAGE 12

PAGE 13

Talent Development & Excellence Structural Model of Company Stock Return in Basic and Chemical Industries: Impact of Profitability, Market Value, Liquidity and Leverage

Article · June 2020

CITATION
1

READS
204

5 authors, including:

Mohamad Ridwan Rumasukun
Universitas Yapis Papua
2 PUBLICATIONS **2** CITATIONS
SEE PROFILE

Muhamad Yamin Noch
Universitas Yapis Papua
18 PUBLICATIONS **31** CITATIONS
SEE PROFILE

Victor Pattiasina
Universitas Yapis Papua
30 PUBLICATIONS **19** CITATIONS
SEE PROFILE

Talent Development & Excellence
Vol.12, No.2s, 2020, 3118-3129

Structural Model of Company Stock Return in Basic and Chemical Industries: Impact of Profitability, Market Value, Liquidity and Leverage

Mohamad Ridwan Rumasukun [1], Muhamad Yamin Noch [2], Victor Pattiasina [3], Arfan Ikhsan [4], Ridolof Wenand Batilmurik [5]
[1,2,3]Universitas Yapis, Papua, Indonesia; [4]Universitas Negeri Medan Indonesia;
[5]Politeknik Negeri Kupang, Indonesia
[3]Email Correspondence: victorpattiasina6@gmail.com

Abstract

This study aims to analyze the partial and simultaneous influence of profitability, market value and leverage on the stock market returns in primary industrial and chemical companies listed on the Indonesian Stock Exchange in 2019. This is exploratory research that applied the purposive technique for collecting data. Data were analyzed using SEM Amos version 24 and hypothesis tests. The analysis shows that profitability, market value and leverage, both partially and simultaneously, have no significant effect on stock market returns. Future studies will pay more attention to the size of the business, the number of financial ratios and the expansion of observation units and other factors such as interest rates, inflation rates and changes in exchange rates.

Keywords: *stock return, profitability, market value, leverage, primary and industry companies*

A. Introduction

Data from the Indonesia Stock Exchange (ISE), in 2019, shows that the primary industry sector has the potential to regain the performance of sectoral indices with the achievement of an increase of 24.01% among the nine existing areas (Yazid Muamar, 2019). In addition to the primary industry, the chemical industry also experienced a definite increase (Ika Puspitasari, 2019); the primary industrial and chemical sectors were still able to increase when the Composite Stock Price Index corrected 2.95% due to the impact of the trade war between the United States and China. This data is also strengthened by the statements of Azizah Nur Alfi, (2019) and Benedicta Prima, (2019), arguing that shares in the basic and chemical industry sectors have increased higher than other sectors. One indicator used to analyze the increase in shares is the level of stock returns as expressed by Aditya Perdana Putranto, (2019); if based on its highest return, the basic industrial and chemical sectors are superior to other sectors (Nadya Zul El Nuha, 2019).

However, the reality is that not all companies in the sector have increased. As an example; 2 companies in the basic and chemical industry sector, namely PT Ashahimas Flat Glass Tbk (AMGF) which operates in the glass business unit and P.T. Semen Baturaja Persero Tbk (SMBR) which operates as a cement producer has alarming financial statements. AMFG's financial report shows a loss, the amount of losses has increased three times in the range of -85.19% and slightly subsided in 2018, which is -82.89%. While SMBR is also inevitable, the loss continues in the range of -43.39% and again surged in 2018, which is -48.12% (Brama, 2019). This is due to the company's inability to obtain profits so that it is unable to maintain stock prices (Victor Pattiasina, Fajar Rina Sejati, Yohanes Cores Seralurin, 2018).

Meanwhile, during the first two weeks in May 2019, all shares of cement listed companies listed on the Indonesia Stock Exchange compact experienced weakening. This was allegedly due to the disappointment of market participants. As from 1 May 2019 - 10 May 2019, the shares of P.T. Semen Indonesia (Persero) Tbk. (SMGR) fell 17.4%, while the shares of PT Indocement Tunggal Prakarsa Tbk. (INTP) and PT Solusi Bangun Indonesia Tbk. (SMCB) decreased by 11.6% and 10.1%

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)

http://www.iratde.com

respectively. Meanwhile, shares of P.T. Semen Baturaja (Persero) Tbk. (SMBR) fell 26.5%. Meanwhile, the negative sentiment affecting investors' selling action is the uncertain global economic conditions, especially the US-China trade tension (Ridwan, 2019). With the selling action carried out by investors will have an impact on declining market value, the selling action is triggered by investor panic over the possibility of not getting a return, and this is normal because investors always expect high-level investment returns from any company.

Stock returns are basically influenced by several factors, including; profitability, market value, liquidity, and leverage. Profitability ratios provide a measure of the effectiveness of a company's management, as indicated by the profits generated from sales and revenue. One of them is Return On Assets (ROA) is the ratio between profit after-tax or net income after tax to total assets. Increasing ROA illustrates the company's better performance and shareholders will benefit from the increasing dividends received, or rising stock prices and stock returns. Aryaningsih et al. (2018); The Return on Assets (ROA) variable partially has a positive and significant effect on stock returns; different results are shown Febrioni (2016); Return On Assets (ROA) has no impact on stock returns.

Market Value is the second factor that affects stock returns. Price Earnings Ratio (PER) is the ratio of the ratio between the share price to the income of each share. PER information indicates the amount of rupiah that must be paid by investors to obtain one rupiah of company earnings. The higher the PER suggests the prospect of a stock price being valued higher by investors on earnings per share, so the higher PER also indicates the more expensive the shares are on the earnings per share (Cf. Fanggidae, 2019). Increased stock prices will be responded positively by investors because they will get a capital gain which is one component of stock returns. This statement is supported by research conducted by Sodikin & Wuldani (2016), which shows that PER has a positive effect on stock returns. Soedjatmiko et al. (2018) show that PER has no impact on stock returns.

B. Theoretical Review and Research Hypotheses

Positive Accounting Theory

Positive accounting theory is a theory that gives managers the freedom to choose the right accounting method based on the uncertainty of economic events that may be faced by the company in the coming year. Therefore, the choice of accounting methods by managers is not limited because managers are given the freedom to choose the accounting method that suits them—company, (Oktyawati & Agustia, 2014).

Watts and Zimmerman (1990) revealed three hypotheses regarding positive accounting theory, namely (a) Bonus Hypothesis Plan. Management chose an accounting method that maximizes its utility, which is a high bonus; (b) Debt Covenant Hypothesis. The higher the company's debt ratio, the company manager will tend to choose accounting methods that have the effect of increasing profits; and (c) Political Cost Hypothesis. In general, the larger the company, the higher the company chooses an accounting method that decreases profits because of the higher the benefit, the greater the community's demands on the company.

Stock returns

Stock returns are the results obtained from an investment of funds that have been invested that can be enjoyed by investors (Sutriani, 2014). Returns can be realized returns that are returned that have occurred, calculated based on historical data and used to measure company performance. The expected rate of return is the return that the investor will receive from his investment in the company (issuer) in the future. An investor will expect a certain return in the future, but if the investment he has done is completed, the investor will get a realized return.

Profitability

Profitability is the ability of the company to make a profit in relation to the sale of total assets and equity (Oroh et al., 2019). Profitability ratios are used to measure the level of rewards or gains (profits) compared to sales or assets, measuring how much the company's ability to make profits in

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)

relation to sales, assets or profit and own capital (Sujarweni, 2019). Profitability is a fundamental aspect of the company, because in addition to providing a great attraction for investors who will invest their funds in the company as well as a measure of the effectiveness and efficiency of using all the resources that are in the company's operational processes.

One of the ratios used to determine profitability is Return On Assets (ROA). ROA is a ratio that shows the results (return) of the total assets used in the company. Return On Assets is a ratio used to measure the ability of capital invested in total assets to generate net profits (Sujarweni, 2019). Several studies conducted such as; Febrioni (2016) and Soedjatmiko et al. (2018); profitability has no effect on stock returns, but these results are different from Rahyuda & Puspitadewi (2016); Aryaningsih et al. (2018); Dewi & Sudiartha (2019) and Oroh et al. (2019) profitability proxied by ROA partially has a positive effect on stock returns. The research hypothesis proposed is as follows;

H1; Profitability has a positive effect on stock returns.

Market Value

Market Value is the price of goods or securities, as indicated by the market offer. Market value also shows the amount of rupiah that must be paid by investors to get one rupiah of the company's earnings (profits) reported (Putranto & Darmawan, 2018). The ratio used to determine market value is Price Earning Ratio (PER). Price Earning Ratio (PER) is the ratio used to calculate the rate of return on capital invested in a stock.

The higher the PER indicates the prospect of stock prices being valued the higher by investors on earnings/shares, the higher PER indicates the more expensive shares against earnings/shares. Increased stock prices will be responded positively by investors because investors will get capital gains which are stock returns. Rahyuda & Puspitadewi study results (2016); Sodikin & Wuldani (2016) and Soedjatmiko et al. (2018) states that PER has a positive effect on stock returns. The research hypothesis proposed is as follows;

H2; Market value has a positive effect on stock returns.

Liquidity

The liquidity ratio is used to measure the company's ability to meet short-term financial obligations in the form of short-term debts as indicated by the size of current assets (Sujarweni, 2019). One of the ratios used to measure the level of liquidity is the Current ratio as the ratio between the value of current assets and current short-term debt. Thus, a high current ratio shows that the company can meet its obligations or short-term debt by using existing assets so that in terms of shareholders have confidence in the company's ability to have a high level of current ratio. Increased liquidity of a company encourages an increase in the company's stock price and will provide returns for traders and investors in the capital market. Previous studies by; I Made Gunartha Dwi Putra, and I Made Dana, (2016); Putu Eka Dianita Marvilianti Dewi, (2016) and Dewi & Sudiartha (2019) prove that liquidity affects stock returns. The research hypothesis proposed is as follows;

H3; Liquidity has a positive effect on stock returns.

Leverage

Leverage is a ratio used to measure how much assets a company has comes from debt or capital so that this ratio can determine the company's position and obligations that are fixed to other parties and balance the value of fixed assets with existing capital (Oroh et al., 2019). There are two types of leverage, namely operating leverage and financial leverage. Operating leverage, the use of assets with fixed costs expects the revenue obtained to cover fixed costs and variable costs. In

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)

contrast, in financial leverage, the use of funds with fixed expenses is expected to increase earnings per share.

One of the ratios used to determine leverage is Debt to Equity Ratio (DER). DER is a comparison between debt and equity in company funding and shows the ability of the company's capital to meet all its obligations (Sujarweni, 2019). Companies with high leverage ratios can have an impact on the emergence of large financial risks, but also have a great opportunity to generate high profits so that it will increase the company's stock return (Alviansyah et al., 2018). The study of Made Gunartha Dwi Putra and I Made Dana, (2016) and Rahmawati (2017) revealed that DER has a significant effect on stock returns. The research hypothesis proposed is as follows;

H4; Leverage has a positive effect on stock returns.

C. Research Method

It was an explanatory research on the effect of profitability, market value, liquidity and leverage on stock returns. Data is collected and obtained through the website access www.idx.co.id relating to financial statements of companies in the basic industrial and chemical sectors for the 2014-2017 period. The population was 71 companies, the withdrawal of a sample of 14 companies using purposive sampling techniques with the following criteria; 1) Companies listing on the IDX for the period 2014-2017; 2) Companies that include an independent auditor's report together with the audited financial statements for the 2014-2017 period; and 3) Companies that have complete financial data related to research variables in the 2014-2017 period. Data were analyzed using structural equation models to answer hypotheses.

D. Results and Discussion

Normality Test Results

Data normality test in research conducted on univariate and multivariate data. Univariate sees the value of c.r in skew is expected to be in the range of -2.58 to 2.58, but if it is outside this number, it can be tolerated if the multivariate value is still around -2.58 to 2.58. The normality test data is presented in Table 1 below.

Table 1. Testing Data Normality

Variable	*skew*	c.r.	*kurtosis*	c.r.
CR	.688	2.101	-.106	-.163
PER	-.196	-.598	-.271	-.414
DER	-.710	-2.169	2.904	4.436
ROA	-.303	-.926	.524	.800
Return	.059	.179	1.661	2.537
Multivariate			3.874	1.732

Source: Output SEM Amos (2019)

It can be seen that the value of c.r in skew for all variables is still in the range of -2.58 to 2.58, univariate normal data. The multivariate value is 1,732, which is still in the range of -2.58 to 2.58. Then it can be concluded that the data in this study are normally distributed.

Outliers Test Results

Outliers test, looking at multivariate outliers, is performed using Mahalanobis distance based on the chi-square value on free degrees of the number of indicators at the significance level of 0.001. Outliers test results are presented in Table 2 below.

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)

Table 2. Testing Data Outliers

Observation number	*Mahalanobis d-squared*	*p2*
20	12.816	.760
14	12.560	.465
46	11.803	.352
13	11.493	.213
38	11.385	.101
15	11.332	.040
16	9.810	.164
11	9.102	.232
39	8.822	.199
31	8.728	.131
47	8.492	.109
5	8.237	.098
23	8.209	.055
21	7.902	.059
30	7.639	.060
26	7.426	.056
45	7.426	.029
49	6.614	.145
19	6.284	.197
18	5.944	.274
55	5.471	.464
33	5.450	.371
24	5.414	.294
22	5.168	.354
50	5.041	.341
34	4.980	.286
32	4.809	.305
37	4.723	.271
12	4.604	.260
9	4.480	.254
35	4.095	.449
6	3.350	.904
1	3.279	.886
28	3.007	.947
52	2.703	.984
10	2.534	.990
2	2.532	.980
56	2.504	.968
8	2.322	.981
29	2.269	.973
25	1.940	.996
40	1.913	.992
54	1.880	.985
17	1.816	.980
48	1.787	.964
36	1.662	.968

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)

Observation number	*Mahalanobis d-squared*	*p2*
51	1.426	.989
3	1.347	.985
43	1.336	.963
4	1.320	.920
27	1.021	.978
41	.589	1.000
53	.409	1.000
7	.324	.999
42	.280	.994
44	.195	.955

With several indicators of 5 (five) indicators at the significance of 0.001, a chi-square value of 20,515 was obtained. Based on the outliers testing table, it appears that the Mahalanobis distance value of 12,816 is smaller than the chi-square value of 20,515. Then it can be concluded that the data has been free from the problem of outliers.

Multicollinearity Test Results

A good regression model should not occur the correlation between independent variables (Manafe & Setyorini, 2019). To test the problem of Multicollinearity, it can be seen from the correlation of the independent variable. If there is a correlation of more than 0.80, then there is Multicollinearity. The results of multicollinearity testing are presented in Figure 1 below.

Figure 1. Testing for Multicollinearity

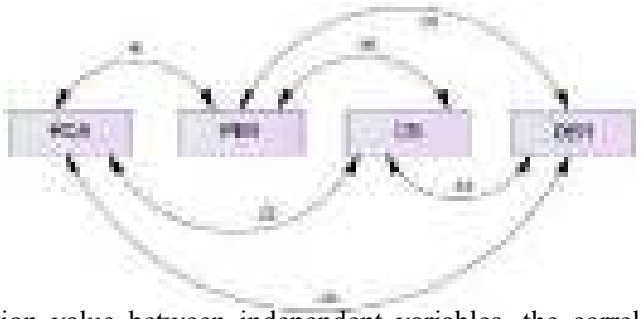


Figure 1 shows the correlation value between independent variables, the correlation value is not greater than 0.80, so there is no multicollinearity problem in this research data. Another way to detect the presence or the absence of multicollinearity symptoms is by examining at the determinant of sample covariance matrix values. If it is far from zero, there is no multicollinearity problem. The determinant of the sample covariance matrix is shown at a value of 791,780, and this number is very far from zero, it can be concluded that there is no problem of Multicollinearity in the data of this study.

Hypothesis test

Confirmatory Factor Analysis (CFA)

The data analysis technique used to answer the problem and achieve the objectives of this study is the analysis of Structural Equation Modeling (SEM) with a regression equation without intercepts (constants). The purpose of partial effect testing uses Structural Equation Modeling (SEM) analysis to test the effect of Profitability, Market Value, Liquidity, and Leverage on Stock Returns. Structural Equation Modeling (SEM) analysis testing is performed with the help of Amos SEM Software version 24. It can be seen in the following Confirmatory Factor Analysis (CFA) test table.

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)

Table 3. Confirmatory Factor Analysis Results

			Estimate
Return	<---	ROA	.192
Return	<---	PER	-.156
Return	<---	DER	-.036
Return	<---	CR	-.146

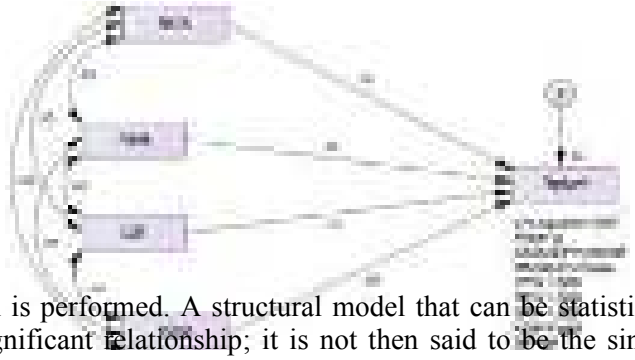
Based on the results of the confirmatory factor analysis table above, the Structural Equation Modeling (SEM) equation of research can be explained as follows.

Return = 0.192 ROA - 0.156 PER - 0.036 CR - 0.146 DER + Є

Based on the Structural Equation Modeling (SEM) equation, it can be explained that; (a) Profitability Coefficient (ROA) of 0.192 indicates that each increase in profitability (ROA) of one unit will result in an increase in Stock Return by the value of the profitability coefficient (ROA) of 0.192; (b) Market Value Coefficient (PER) of -0.156 indicates that each increase in Market Value (PER) of one unit will result in a decrease in Stock Return by a Market Value coefficient (PER) of -0.156; (c) Liquidity regression coefficient (C.R.) of -0.036 indicates that each increase in Liquidity (C.R.) of one unit will result in a decrease in Stock Return by the value of the Liquidity coefficient (C.R.) of -0.036; (d) The Leverage Regression Coefficient (DER) of -0.146 indicates that each increase in Leverage (DER) of one unit will result in a decrease in Stock Return by the value of the Leverage coefficient (DER) of -0.146.

Next, Figure 2 below shows a model with a CFA value in rounding two digits behind the comma. However, the model presented still has weaknesses in the assumption of model conformity (Goodness of Fit), i.e. no numbers appear in the suitability index of the model described.

Figure 2. Full Model of Research Results

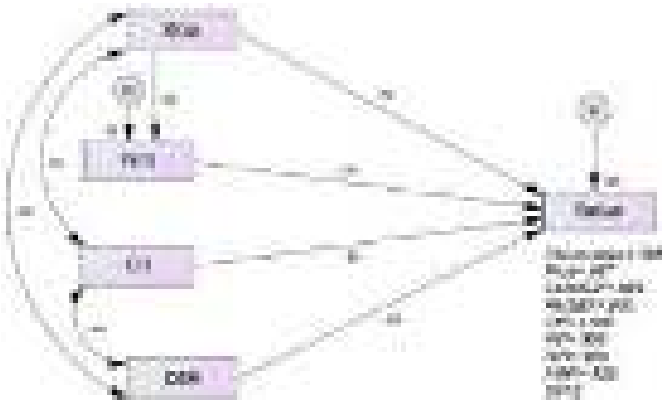


The model modification is performed. A structural model that can be statistically proven fit and between variables has a significant relationship; it is not then said to be the single best model (Santoso, 2018). In other words, it is more precisely said that the model is one of the many possible forms of other models that can be statistically accepted. Santoso (2018) explains that an SEM model can be modified. The purpose of the modification is to see whether the modifications made can reduce the value of Chi-Square; as is known the smaller the Chi-Square value indicates, the more fit the model is with existing data.

Hair et al. (2006); Competing Modeling Strategy, intended to compare the model with several alternative models, to see which model is the best fit with existing data, including in this way is to add a variable to the existing model. Modification of the model is done by making the Price Earning Ratio the focus of modification, which is to draw a constructed line from Return On Assets to Price Earning Ratio. After modifying the model, the value of goodness of fit looks like the following picture.

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)

Figure.3
Full Model Modification



Regression Weight Analysis

Hypothesis testing in this study uses the Lambda test seen from the C.R. value with a significance level of 5%. The testing criteria are; if the C.R. value is> 2, then the hypothesis is accepted, meaning that there is a direct influence on profitability, market value, liquidity and leverage on the stock returns of basic and chemical industry companies. Tests that show the significant influence of profitability, market value, liquidity and leverage on stock returns of basic and chemical industry companies are shown in the following table.

Table 4. Partial Test Results

			C.R.	P
Return	<---	ROA	1.287	.198
Return	<---	PER	-1.074	.283
Return	<---	DER	-.242	.809
Return	<---	CR	-.962	.336

Source: Output SEM Amos (2019)

Variable Profitability (ROA) on Stock Return has a value of C.R of 1,287 <2 with a positive direction, then Ha is accepted, and Ho is rejected, and significant value of 0.198> 0.05. This means that Profitability has no influence on the Stock Returns of Basic and Chemical Industrial Companies listed on the Indonesia Stock Exchange.

Market Value Variable (PER) to Stock Return has a C.R value of 1.074 <2 with a negative direction, then Ha is rejected, and Ho is accepted, and significant value of 0.283> 0.05. This means that Market Value does not influence the Stock Return of Basic and Chemical Industrial Companies listed on the Indonesia Stock Exchange.

The variable Liquidity (C.R.) to Stock Return has a value of C.R of 0.962 <2 with a negative direction, then Ha is accepted, and Ho is rejected, and significant value of 0.809> 0.05. This means that Liquidity (C.R.) does not influence the Stock Return of Basic and Chemical Industrial Companies listed on the Indonesia Stock Exchange.

The variable Leverage (DER) on Stock Return has a C.R value of 0.962 <2 with a negative direction, then Ha is accepted, and Ho is rejected, and significant value of 0.336> 0.05. This means that Leverage has no influence on the Stock Returns of Basic and Chemical Industrial Companies listed on the Indonesia Stock Exchange.

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)

Assumption of Goodness of Fit

Structural models are categorized as the goodness of fit if they meet several requirements. The following is the suitability index of the model in testing whether a model can be accepted or rejected, as presented in Table 5 below.

Table 5. Testing of Goodness of Fit

The goodness of Fit Index	***Value***	***Cut-off Value***	**Assumption**
Chi-square (χ2)	1.398	< 5.99 (DF=2)	*Fit*
Significance Probability	0.497	≥ 0.05	*Fit*
CMIN/DF	0.699	≤ 2.0	*Fit*
RMSEA	0.000	≤ 0.08	*Fit*
CFI	1.000	≥ 0.95	*Fit*
NFI	0.950	≥ 0.95	*Fit*
GFI	0.990	≥ 0.90	*Fit*
AGFI	0.925	≥ 0.90	*Fit*

Source: Amos 24 SEM Output Results (2019)

Based on testing the suitability of the model (goodness of fit), it can be seen that the suitability index value of the model that appears meets the assumption of goodness of fit so that the model used in this study is appropriate and said to be good.

Assumption of F-Test

The F test shows whether all independent variables entered in the model have a simultaneous influence on the dependent variable. The testing criteria, at the 5% significance level, is F arithmetic> F table. Its phenomena shows that the hypothesis is accepted. In the other words, there is a simultaneous effect of Profitability, Market Value, Liquidity, and Leverage on Stock Returns of Basic and Chemical Industrial Companies listed on the Indonesia Stock Exchange. The value of F table with N1 = 4 and N2 = 51 is 2.55. Simultaneous test results are presented in Table 6 below.

Table 6. Simultaneous Testing

DF		**F table**	**F count**	**Sig**
N_1	4	2.55	0.562	0.691
N_2	51			
Total	55			
Y	1			
Sample	56			

Based on the table above, the calculated F value is 0.562 <2.55 (F-*count* <F table), then Ha is accepted, and Ho is rejected, and the significant value is 0.691> 0.05. This means that Profitability, Market Value, Liquidity, and Leverage simultaneously do not affect the Stock Return of Basic and Chemical Industrial Companies listed on the Indonesia Stock Exchange.

Coefficient of determination

The coefficient of determination (R2) essentially measures how far the model's ability to explain variations in the dependent variable. A small R2 value means that the ability of the independent variable to explain the variation of the dependent variable is very limited. A value close to one means that the independent variable provides almost all the information needed to predict variations in the dependent variable. Squared Multiple Correlation value is 0.042 or 4.2%. In comparison, the remaining 95.8% is influenced by other variables outside the research model.

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)

Furthermore, based on the results have been presented above, it is described the disscussion as follows.

1. Effect of profitability on stock returns

Based on the test results, the direct effect is seen that profitability has a C.R. of 1,287 <2 with a positive direction, and significant value of 0.198> 0.05. Based on this analysis, the results of the study show that profitability does not affect stock returns. This means that the rise and fall of profitability do not affect the increase or decrease in stock returns. The higher the sales turnover of a company, the generally better financial performance.

The level of profit of the company is able to provide confidence to investors in assessing the performance of the company which will certainly have an impact on increasing stock prices which causes the rate of return of stock (return) also increases. However, a large burden tends to close the income turnover so that it produces less than maximum profits. So that investor confidence is reduced and no longer interested in the company's shares. The results of this study are relevant to Soedjatmiko et al. (2018) which shows that profitability does not influence stock returns.

2. Effect of Market Value on Stock Returns

Based on the test results of direct influence, it appears that the market value has a C.R. of 1,074 <2 with a negative direction, and significant value of 0.283> 0.05. Based on the analysis, the results of this study indicate that Market Value does not affect Stock Return. This means that the rise and fall of Market Value have no effect on increasing or decreasing Stock Return. The absence of the effect of PER on stock returns shows that investors pay less attention to PER in calculating the shares of a company. When stock prices increase or decrease investors immediately sell, then PER is more related to other factors, besides that it is also due to economic and political conditions and because of sentiment from the stock market itself.

The willingness of investors to accept PER increases is highly dependent on the company's prospects. Companies that have very low profits or suffer losses cause PER has no meaning. The results of this study are relevant to Sinaga (2019), which shows that the Market Value proxied by PER has no effect on Stock Returns.

3. Effect of Liquidity on Stock Returns

Based on the test results of direct influence, it appears that liquidity has a C.R. value of 0.962 <2 with a negative direction, and significant value of 0.336> 0.05. Based on the analysis, the results of the study showed that liquidity had no effect on stock returns. This means that the rise and fall of liquidity do not affect the increase or decrease in Stock Return. High liquidity towards current liabilities reflects idle funds so that the company's operational activities cannot run optimally and will reduce the company's optimal output (Raningsih and Putra 2015). The results of this study are relevant to Febrioni (2016), which shows that liquidity has no effect on stock returns.

4. Effect of Leverage on Stock Returns

Based on the test results, the direct effect is seen that leverage has a C.R value of 0.242 <2 with a negative direction, and significant value of 0.809> 0.05. Based on the analysis, the results of the study indicate that leverage does not affect stock returns. This means that the rise and fall of leverage do not affect the increase or decrease in stock returns. A high leverage ratio indicates that the company's performance is getting worse because the level of capital dependence of the company on outsiders is higher. If the company makes a profit, the company tends to use that profit to pay its debt compared to dividend distribution. This triggers investors to immediately release their shares in the company because they are no longer profitable. The results of this study are relevant to Sinaga (2019), which shows that leverage does not have an effect on stock returns.

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)

5. Effect of Profitability, Market Value, Liquidity, and Leverage on Stock Returns

The results of the analysis showed simultaneously that Profitability, Market Value, Liquidity, and Leverage have a calculated F value of 0.562 <2.55 (F derived <F table), and significant amount of 0.691> 0.05. Based on this analysis, the fifth hypothesis is known the results of the study show that Profitability, Market Value, Liquidity, and Leverage simultaneously have no effect on Stock Returns of Basic and Chemical Industrial Companies listed on the Indonesia Stock Exchange, while the contribution made is 4.2% while the remaining 95.8% is caused by other factors outside of this research test.

E. Conclusions

Based on the results of the analysis and discussion above, it can be concluded that the profitability variables, market value and liquidity and leverage have no significant effect on stock returns either partially or simultaneously. This, indeed, becomes an issue for primary and chemical industry companies listed on the Jakarta Stock Exchange. Limitations of this study are; 1) selection of non-random companies is limited to 14 companies; 2) the size of the company (size effect) needs to be considered because it also affects the company's ability to obtain that can affect the level of shares acquired by investors, and 3) need to take into account the company's financial ratios because they affect the company's shares. Future studies can expand on the same research by considering economic factors, such as inflation rates, interest rates, foreign exchange rates.

References

[1]. Alviansyah, M. R., Suzan, L., & Kurnia. (2018). Pengaruh Profitabilitas, Leverage, dan Ukuran Perusahaan terhadap Return Saham (Studi Kasus Pada Perusahaan Sektor Pertambangan Yang Terdaftar Di Bursa Efek Indonesia Pada Tahun 2011–2015). *E-Proceeding of Management*, *5*(1), 778–785.

[2]. Ardiansyah, E. F. (2017). *Pengaruh Leverage, Likuiditas, Dan Ukuran Perusahaan Terhadap Profitabilitas Pada Perusahaan Pertambangan Yang Terdaftar Di Bursa Efek Indonesia*. Sekolah Tinggi Ilmu Ekonomi Surabaya.

[3]. Aryaningsih, Y. N., Fathoni, A., & Harini, C. (2018). Pengaruh Return on Asset (ROA), Return on Equity (ROE) dan Earning per Share (EPS) terhadap Return Saham pada Perusahaan Consumer Good (Food and Beverages) yang Terdaftar di Bursa Efek Indonesia (BEI) Periode 2013-2016. *Journal of Management*, *4*(4). https://doi.org/2502-7689

[4]. Azizah Nur Alfi. (2019). Emiten Industri Dasar Masih Menarik pada 2019, Ini Rekomendasinya. *Bisnis.com*. Retrieved from https://market.bisnis.com/read/20190103/7/874959/

[5]. Benedicta Prima. (2019). Sektor industri dasar dan kimia jadi jawara di bulan Juli, sektor tambang masih keok. *Kontan Academy*. Retrieved from https://investasi.kontan.co.id/news/

[6]. Brama, A. (2019). Investor Perlu Perhatikan Saham Emiten Dengan Kinerja Mencemaskan Sepanjang 2016-2018.

[7]. Dewi, N. L. P. S. U., & Sudiartha, I. G. M. (2019). Pengaruh Profitabilitas, Likuiditas, Leverage, dan Ukuran Perusahaan Terhadap Return Saham Pada Perusahaan Food and Beverage. *E-Jurnal Manajemen Universitas Udayana*, *8*(2), 7892–7921.

[8]. Fanggidae, J. P. (2019). Relationships between advertising value and dimensions of advertising. *The International Journal of Social Sciences World (TIJOSSW)*, *1*(01), 48-57.

[9]. Febrioni, R. (2016). Pengaruh Return On Assets, Return On Equity, Earning Per Share, dan Current Ratio Terhadap Return Saham (Pada Perusahaan Yang Terdaftar Di Indeks LQ45 Di Bursa Efek Indonesia Tahun 2011-2015). *E-Proceeding of Management*, *3*(3), 3439–3449.

[10]. Ika Puspitasari. (2019). Indeks sektor industri dasar dan kimia tumbuh naik paling kencang, ini kata analis. *Kontan Academy*. Retrieved from https://investasi.kontan.co.id/news/

[11]. Manafe, J. D., & Setyorini, T. (2019). The impact of organizational commitment as mediator and moderator relationship between budgeting participation on managerial performance. *The International Journal of Social Sciences World (TIJOSSW)*, *1*(01), 11-20.

[12]. Nadya Zul El Nuha. (2019). 3 sektor saham unggulan di januari 2019 menurut analis. *Warta Ekonomi*. Retrieved from https://www.wartaekonomi.co.id/read211633/

[13]. Oktyawati, D., & Agustia, D. (2014). Pengaruh Profitabilitas, Leverage, dan Nilai Perusahaan terhadap

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)

Income Smoothing dan Return Saham pada Perusahaan Manufaktur yang terdaftar di Bursa Efek Indonesia (BEI). *Jurnal Akuntansi & Auditing*, *10*(2), 195–214.

[14]. Oroh, M. M., Rate, P. Van, & Christoffel Kojo. (2019). Pengaruh Profitabilitas Dan Leverage Terhadap Return Saham Pada Sektor Pertanian Di Bei Periode 2013-2017 the Effect of Profitability and Leverage on Stock Returns on Agricultural Sectors on Idx 2013-2017 Period. *661 Jurnal EMBA*, *7*(1), 661–670.

[15]. Putranto, A. D., & Darmawan, A. (2018). Pengaruh Ukuran Perusahaan, Profitabilitas, Leverage, dan Nilai Pasar Terhadap Harga Saham (Studi Kasus Pada Perusahaan Pertambangan yang Terdaftar di Bursa Efek Indonesia Periode 2010-2016). *Jurnal Administrasi Bisnis*, *56*(1), 110–117.

[16]. Rahmawati, A. (2017). *Pengaruh Earning Per Share (EPS), Return On Equity (ROE), dan Debt To Ratio (DER) Terhadap Harga Saham Pada Perusahaan Food and Beverages yang terdaftar di Bursa Efek Indonesia Periode 2011-2015)*. Universitas Pakuan.

[17]. Rahyuda, H., & Puspitadewi, C. I. I. (2016). Pengaruh DER, ROA, PER dan EVA Terhadap Return Saham pada Perusahaan Food and Beverage di BEI. *E-Jurnal Akuntansi Universitas Udayana*, *5*(3), 1429–1456.

[18]. Ridwan, M. (2019). Saham Emiten Semen Dilanda Aksi Jual, Gara-Gara Investor Kecewa?

[19]. Sodikin, S., & Wuldani, N. (2016). Pengaruh Price Earning Ratio (PER) dan Earning Per Share (EPS) Terhadap Return Saham (Studi Pada PT. Unilever Indonesia Tbk.). *Jurnal Ekonomi Manajemen*, *2*(1), 18–25.

[20]. Soedjatmiko, Abdullah, H., & Taufik, A. (2018). *Pengaruh ROA , DER Dan PER Terhadap Return Saham Pada Perusahaan Consumer Goods Industry Di Bursa Efek Indonesia Periode 2010-2015*. *11*(1), 28–47.

[21]. Sujarweni, V. W. (2019). *Analisis Laporan Keuangan Teori, Aplikasi & Hasil Penelittan* (M. PR, Ed.). Yogyakarta: Pustaka Baru Press.

[22]. Sutriani, A. (2014). Pengaruh Profitabilitas, Leverage, dan Likuiditas terhadap Return Saham dengan Nilai Tukar sebagai Variabel Moderasi pada Saham LQ45. *Journal of Business and Banking*, *4*(1), 67–80.

[23]. Victor Pattiasina, Fajar Rina Sejati, Yohanes Cores Seralurin, R. W. Batilmurik & M. A. Al Aziz (2018). The impact of financial ratios towards profit changes. *International Research Journal of Management, I.T. and Social Sciences*, *5*(5). https://doi.org/10.21744/irjmis.v5n5.275

[24]. Watts, R. L., & Zimmerman, J. L. (1990). Positive Accounting Theory : A Ten Year Perspective. *The Accounting Review*, *65*(1), 131–156.

[25]. Yazid Muamar. (2019). Ini Dia Calon Jawara Indeks Sektoral BEI di 2019. *CNBC Indonesia*. Retrieved from www.cnbcindonesia.com/market/20191226120543-17-125690

ISSN 1869-0459 (print)/ ISSN 1869-2885 (online)