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THE IMPACT OF REDDI ON INSTITUTIONS INCOME: A SOCIAL ACCOUNTING MATRIX APPROACH[1]

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ABSTRACT

Indonesia is one of the three largest tropical forest countries. Indonesia's forest area is about 120.35 million hectares or about 60% of Indonesia's land area. Indonesia's forest is not only important for the people of Indonesia both in terms of its ecologic and economic role, but also important for the global environment, particularly in relation to climate change. Forests could become carbon storage in large quantities, but also can be a source of carbon emissions.

Indonesia's forests currently facing problems of deforestation and degradation, which contributed approximately 20% of global CO_2 emissions, so that the Indonesian government put a high attention on the issue of REDD (Reducing Emissions from Deforestation and Forest Degradation). REDD schemes is expected to assist Indonesia in reducing deforestation and forest degradation for forest sustainability and provide economic income from carbon trading.

This paper aims to identify the impact of carbon trading under Reducing Emissions from Deforestation and Forest Degradation in Indonesia (REDDI) scheme on income of institutions that consist of households, companies and government using the Social Accounting Matrix (SAM) approach. Accounting multiplier is used to calculate the impact of REDDI scheme on institutions income in the year 2005.

The results indicate that the impact of REDDI on institution income for the minimum scenario is U.S.$ 0.68 billion whereas for the maximum scenario is U.S. $. 28.86 billion REDDI give the greatest impact on households' income (59.66%) than followed companies (28.17%) and government (12.17%).

***Keywords**: carbon trading, deforestation, degradation, forest*

INTRODUCTION

Forests account for almost half of the global terrestrial carbon pool, and if vegetation is considered alone (excluding soils) they hold about 75% of the living carbon. The total carbon content of forest ecosystems in 2005 was estimated at 638 Gt (FAO, 2006). Thus, tropical forests play a particularly important role in the global carbon budget because they contain about as much carbon in their vegetation and soils as temperate and boreal forests combined (Melillo *et al.*, 1993; Dixon *et al.*, 1994; Field *et al.*, 1998). Per unit area, tropical forests store on average about 50%

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more carbon than forests outside the tropics. It means that tropical forests have very important role in the climate change.

Beside as a large carbon pool, forests also become big carbon emitters that come from deforestation and forest degradation. Deforestation is typically associated with large immediate reductions in forest carbon stocks, through land clearing. Forest degradation—a reduction in forest biomass through non-sustainable harvest or land use practices—can also result in substantial reductions of forest carbon stocks from selective logging, fire and other anthropogenic disturbances, and fuelwood collection (Asner *et al.*, 2005).

According to Global Forest Resource Assessment, deforestation—mainly conversion of forests to agricultural land—continued at an alarming rate globally during 1990–2005, of about 13 million hectares per year (ha/year), with few signs of a significant decrease over time (FAO, 2006). Deforestation and forest degradation emitting 2.1 Gt of Carbon, that is 17% of of global anthropogenic carbon emissions, and are a primary source of emissions for many tropical developing countries (IPCC, 2007).

Countries with the largest emissions from land use change are Indonesia and Brazil, with 34% and 18% of the total global, respectively (Houghton, 2003). Continued deforestation at current rates in these two countries alone would equal four-fifths of the annual reductions targets for Annex I countries in the Kyoto Protocol (Santilli *et al.*, 2005). It's more complicated while Indonesia as a country with largest emission from land use change also facing high rate of deforestation.

Indonesia's tropical forest area is about 120.35 million hectares or about 60% of Indonesia's land area is one of the three largest tropical forest countries. Along with deforestation problem in the tropics, Indonesia has lost approximately 1.7 million ha of its forest per year during the period of 1985 – 1997. The highest forest lost occurred during 1997-2000, reaching the figure of 2.8 million ha per year. The latest published data showed that net forest lost has decreased during 2003-2006, reaching about 1.2 million ha (MoF, 2008).

Indonesia's tropical forest have important role for global climate and sustainability of national economic development. Indonesia has felt the negative impact of the damage to forests both in the environment (loss of biodiversity, including genetic resources, in line with the environmental disaster of forest damage), social (destruction of forest resources where the people who live in / around the forests depend for livelihood), and economic (declining contribution of the forestry sector in national economic development). So that Indonesia is required to implement sustainable forest management for national and global necessity.

Sustainable forest management is a form of mitigation and adaptation measures is a survival issue for Indonesia. As a country with thousands of island and high dependency on agricultural sector, Indonesia is vulnerable to climate change impact not only from environmental aspect but also economic and social aspect.

Government of Indonesia put a high attention on the issue of REDD (Reducing Emissions from Deforestation and Forest Degradation). REDD *(Reducing Emissions from Deforestation and Degradation in developing countries)* is an international mechanism that is intended to provide incentives that are positive for developing countries that succeeded in reducing emissions from deforestation and forest degradation. REDD is a voluntary international mechanism and respect for state sovereignty.

As a part of the response to the international process and in order to prepare the negotiation in COP-13, Indonesia has performed a quick study/analysis concerning

its preparedness, in terms of methodology and policy, and formed Indonesia Forest Climate Alliance (IFCA) in July 2007. IFCA is a hub or forum to communicate with/coordinate stakeholders in discussing REDD issues, including the progress and output of the REDD study on that year. The REDD study in Indonesia in 2007 which was coordinated by the Ministry of Forestry involved experts from the national and international levels and was funded by the World Bank, Governments of UK, Australia and Germany. The progress and result of the study is communicated through IFCA by involving three pillars of governance (government, private sector, civil society including academicians) and international partners.

REDD Indonesia (REDDI) is not only forms a part of the strategy and efforts of Indonesia to achieve Sustainable Management of forest for sustainable development. Besides, its expected provide economic income from carbon trading to support economic development.

This paper aims to identify the impact of carbon trading under (REDDI) (Reducing Emissions from Deforestation and Forest Degradation in Indonesia) scheme on income of institutions that consist of households, companies and government using the Social Accounting Matrix (SAM) approach.

We limited the scope of our analysis on carbon trading based on REDDI on institutions income based on existing pros and cons about the benefit of REDDI for households. We did not the asses the transaction costs and the risks associated with implementation of the program.

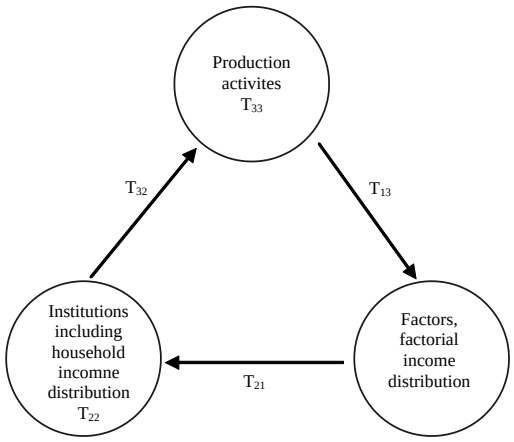
METHODS

A. Framework of SAM

SAM is a traditional double accounting economic matrix in the form of a partition matrix that records all economic transactions between agents, especially between sectors in production blocks, sectors within institution blocks (including households) and sectors within production factors, in the economy (Pyatt and Round, 1979; Sadoulet and de Janvry, 1995; Hartono and Resosudarmo, 1998). It is a solid database system, since it summarizes all transaction activities in an economy within a certain period of time, thus giving a general picture of the socio-economic structure in an economy and illustrating the income distribution situation. SAM is also an important analyzing tool, because: (1) its multiplier coefficients are able to properly describe economic policy impacts on a household's income, hence illustrating the economic policy impact on income distribution (Hartono and Resosudarmo, 2008).

The Social Accounting Matrix (SAM) has become used increasingly in the last years as a general equilibrium data system linking, among other accounts, production activities, factors of production and institutions (companies and households). As such, it captures the circular interdependence characteristic of any economic system among (a) production, (b) the factorial income distribution (i.e. the distribution of value added generated by each production activity to the various factors), and (c) the income distribution among institutions and, particularly, among different socio-economic household groups.

Under certain assumptions, such as excess capacity (i.e. availability of unused resources) and fixed prices, the SAM can be used as the basis for simple modelling. More specifically, the effects of exogenous injections on the whole economic system can be explored by multiplier analysis which requires partitioning the SAM into endogenous and exogenous accounts. Typically the former include (i) factors; (ii) institutions (companies and households); and, (iii) production activities; while the exogenous accounts consist of (iv) government; (v) capital; and (vi) rest of the world. Figure 1. Illustrates the major interrelationship among principal SAM accounts.



Source: Thorbecke (1985)

Figure 1.

Simplified interrelationship among principal SAM accounts (production activities, factors and institutions. T_{ij} stands for the corresponding matrix in the simplified SAM which appears on Table 1. Thus for example, T_{13} refers to the matrix which appears at the intersection of row 1 (account 1), i.e. 'factors' and column 3 (account 3), i.e. 'production activities"

Simplified SAM shown in Table 1. The structure of production can be defined in terms of a set of production activities classified according to criteria such as type of commodity, level of technology, and prevailing form of organization. These production activities generate a flow of value added which accrues to the various factors of production which, in turn, can be broken down according to labour skills, type of capital, and land classification according to agro ecological criteria. The resulting factorial income distribution provides the major source of income for the institutions including different types of households which might be classified according to socioeconomic criteria. Then transfers (including taxes and subsidies) are added, the income distribution among institutions, and particularly among household categories, is determined. Finally, the various institutions, which include

Table 1. A Simplified Social Accounting Matrix (Source: Thorbecke, 1985)

				Expenditures				
				Endogenous Accounts			Exogenous Accounts	Total
				Production Factors	*Institutions*	*Productions Activities*		
				1	2	3	4	5
Receipt	Endogenous Accounts	*Production Factors*	1	T_{11} 0	T_{12} 0	T_{13} *Factorial Income Distribution*	X_1 *Receipt of Factors from The Rest of The World*	Y_1 *Income of Factors*
		Institution	2	T_{21} *Income Distribution to Households and other institutions*	T_{22} *Transfer, Taxes and Subsidies*	T_{23} 0	X_2 *Receipt of Institution from Rest of The World*	Y_2 *Income of Institutions*
		Kegiatan Produksi *Production Activities*	3	T_{31} 0	T_{32} *Institutional Demand for Goods and Services*	T_{33} *Interindustry Demand*	X_3 *Export*	Y_3 *Gross Demand=gross Output*
		Exogenous Accounts	4	L_1 *Expenditure of Institution from The Rest of The World*	L_2 *Domestic Saving*	L_3 *Import and Indirect Taxes*	R *Balance of Payments Current Account Deficit*	*Total Foreign Exchange Outflow*
		Jumlah	5	Y_1' *Outlay (Income of Factors)*	Y_2' *Expenditure of Institution*	Y_3' *Gross Output*	*Total Foreign Exchange Inflow*	

corporate and unincorporated firms as well as government, in addition to the different classes of households, spend their incomes on a variety of commodities and services which are supplied by the production activities, thus completing the feedback system (loop) shown in Figure 1 (Thorbecke, 1985).

The major causal relationships which are shown in the interdependent diagram in Figure 1 find their counterpart in the simplified SAM data system presented in Table.1. Thus, the factorial income distribution is derived from the value added generated by various production activities - a transformation that is represented by matrix T_{13} (the intersection of row 1, "factors," and column 3,"production activities") in Table 1. Likewise, the mapping of the distribution of income among institutions (including households) from the factorial income distribution is given by matrix $T_{2.1}$. In addition, the former distribution is affected by transfers, taxes, and subsidies which appear in T_{22}. The final loop in Figure 1, showing the expenditures of institutions on the various commodities supplied by the production activities, appears on Table 1 as T_{32}.

It is important to recall that in a SAM table the various causal relations (such as those shown in Figure 1) reveal the situation prevailing at one point in time. The causal process which generates any given SAM may be very complex and nonlinear and would have to be explicitly specified in equation form in a conceptual model. The generating mechanism is, of course, not reflected in the resulting static matrices in Table 1. Only in a special (linear) case does the SAM as a data system become identical with the SAM as a conceptual framework or model.

The basic framework of a SAM is a 4x4 partition matrix as shown in Table 1. The accounts in a SAM are grouped into endogenous and exogenous accounts. The main endogenous accounts are divided into three blocks: production factor, institutional and production activity blocks. The row shows income, while the column shows expenditure. Sub-matrix T_{ij} shows the income of the account in rows i from the account of column j. Vector Y_i shows the total incomes of all accounts, and vector Y_j' shows the total expenditure account of all accounts. In addition, SAM requires that the vector Y_i is the same as vector Y_j', or in other words Y_j' is a transpose of Y_i, for every i= j. The relations in Table 1 can be written as (Defourny and Thorbecke, 1984).

$$Y = AY + X$$

Where Y is total income (receipts) vectors of the first three accounts; X represent the vector of exogenous injection of the other accounts (namely, capital and rest of the world); and A the matrix whose members are $A_{ij} = T_{ij}/\hat{Y}_j$.

B. Accounting Multiplier Analysis to Simulate The Impact of REDDI on Institutions

Multiplier analysis in SAM model can be divided into two main groups, that is: accounting multiplier and fixed price multiplier. An accounting multiplier matrix in a SAM framework is very important since it captures overall impacts of changes in a particular sector on other sectors within the economy, and is thus also used to explain the impacts of changes in exogenous accounts on endogenous accounts. The accounting multiplier matrix, which is a standard inversion of the (I-A) matrix, can be derived from the basic SAM framework (Defourny and Thorbecke, 1984).

Thorbecke (1985) explained that each of the elements of the T_{ij} matrices can be expressed as a proportion of the corresponding column sum total which yields a new set of matrices A_{ij}. Thus, A_{ij} is obtained from T_{ij} by dividing elements of the latter by the sum of the column, in which they appear,

$$A_{ij} = T_{ij}\hat{Y}_j^{-1} \quad (1)$$

where $\hat{Y}_j^{-1}$ is a diagonal matrix of column sum.

Since the fourth row and column represent the sum of all other accounts which are assumed to be exogenously given, it follows that the vectors of injections X_i and of leakages L_j, respectively, are determined outside the SAM framework. Conversely the endogenous part of the SAM consists of the income and expenditure determination of the first three accounts (factors, institutions, and production activities). Hence, the five nonzero A, matrices representing the interacting endogenous part of the SAM can be grouped into a corresponding partitioned matrix A such that

$$A = \begin{bmatrix} 0 & 0 & A_{13} \\ A_{21} & A_{22} & 0 \\ 0 & A_{32} & A_{33} \end{bmatrix} \quad (2)$$

It follows that

$$Y = AY + X \quad (3)$$

where Y stands for the total income (receipts) vectors of the first three accounts and where X represents the vector of exogenous injections of the other accounts (namely, capital and rest of the world), which accrue as receipts or income to accounts 1 to 3.

It follows (3) that

$$Y = (I\text{-}A)^{-1} X \quad (4)$$

The meaning of this equation is that the income levels of factors (Y_1), institutions (Y_2), and production activities (Y_3) are endogenously determined as functions of the exogenous demand on the other accounts. All the behavioural and technical coefficients of the underlying interdependent system are explicitly incorporated in the partitioned (fixed coefficient) matrix A. Thus, by way of illustration, A_{l3} allocates the value added generated by the various production activities to the various factors such as labour skills as a proportion of the value of gross output of each activity (sector). Likewise, A_{33} represents the intermediate (input-output) demand. As such, the elements of A_{13} and A33 must be based on an empirical knowledge of the sectoral production functions. Each column of the production activities account represents, in fact, a linear Leontief-type sectoral production function.

If $Ma = (I - A)^{-1}$ so:

$$Y = Ma\ X \quad (5)$$

The $Ma = (I - A)^{-1}$ is known as accounting multiplier matrix, which shows global impacts of changes in a particular economic sector on other sectors. Where *A* is direct coefficients that show change of a sector to another sectors.

Ma which known as accounting multiplier matrix explained that change 1 unit output of a sector will change output of whole economic sector will equal to Ma. Assumed that fixed price variable and income (expenditure) elasticity is 1.

To analyze the impact of REDDI on institutions, the accounting multiplier (Ma) used as basic analysis. Every 1 unit shock (injection) on forestry sector will give impact on total economic sector equal to the Ma (accounting multiplier).

SOURCES OF DATA

The Indonesian SAM data used in this study is based on the Indonesian SAM data in year of 2005, available at the Indonesian Central Agency of Statistics (Badan Pusat Statistik or BPS). BPS publishes the Indonesian SAM every 5 years and has done this since 1975. The fact that many researchers—for example Lewis (1991), Thorbecke (1992), Azis (2000), Azis and Mansury (2003), Bourguignon *et al.* (2003)

and Clements *et al.* (2007)—have used these SAMs in their publications indicates the validity and reliability of the SAMs published by BPS (Hartono and Resosudarmo, 2008).

In SAM framework, institutions are consisting of households, corporate and government. The Indonesian SAM data 2005 in this study comprises formal and informal labour both in rural and urban areas. Each labour group consists of agricultural, manual, clerical and professional workers. The household groups are:

- Agricultural Employee: Agricultural workers who do not own land.
- Small Farmer: Agricultural land owners with land between 0.0 and 0.5 ha.
- Medium Farmer: Agricultural land owners with land between 0.5 and 1.0 ha.
- Large Farmer: Agricultural land owners with land larger than 1.0 ha.
- Rural Non-labour: Non-agricultural households, consisting of non-labour force and unclassified households in rural areas.
- Rural Low Income: Non-agricultural households, consisting of small retail store owners, small entrepreneurs, small personal service providers, and clerical and manual workers in rural areas.
- Rural High Income: Non-agricultural households, consisting of managers, technicians, professionals, military officers, teachers, big entrepreneurs, big retail store owners, big personal service providers and skilled clerical workers in rural areas.
- Urban Non-labour: Non-agricultural households, consisting of non-labour force and unclassified households in urban areas.
- Urban Low Income: Non-agricultural households, consisting of small retail store owners, small entrepreneurs, small personal service providers and clerical and manual workers in urban areas.
- Urban High: Non-agricultural households, consisting of managers, technicians, professionals, military officers, teachers, big entrepreneurs, big retail store owners, big personal service providers and skilled clerical workers in urban areas.

Data of REDDI potency based on IFCA studi (2007). Assumed that reducing emission from deforestation between 10–50% and the price of carbon USD 7-12/tCO_2. Based on this study, the Indonesia's carbon trading potency under REDDI scheme is about 0.31 – 13.25 Billion US$. It based on deforestation rate between year 2000 until 2005 (1.2 million ha/year) and assumption of carbon stock is between 100 – 300 tC/ha (368-1104 tCO_2/ha) (Masripatin, 2007).

One of the principal arguments for REDD is the assumption that Green House Gas mitigation through these measures can be cost-effective in comparison to other options, because REDD does not require the development of new technology, with the exception perhaps for monitoring (Stern, 2006). In addition, it is usually assumed that forest related mitigation options can be designed and implemented to be compatible with adaptation, and can have substantial co-benefits in terms of employment, income generation, biodiversity and watershed conservation, renewable energy supply and poverty alleviation.

SCENARIOS

The scenarios simulated are categorized into two groups. The first group is minimum scenario, and the second group in maximum scenario. The scenario are as follows "

- Minimum scenario: This scenario simulates a situation in which the rate of emission reduction is 10%, the rate of deforestation in 1.2 million ha/year and the price of carbon is 7 USD/tCO_2
- Maximum scenario: This scenario simulates a situation in which the rate of emission reduction is 50%, the rate of deforestation in 1.2 million ha/year and the price of carbon is 12 USD/tCO_2

RESULTS AND DISCUSSIONS

Solving the problem of deforestation and forest degradation at the national level cannot

be separated from solving problems of national development as a whole because the causes of deforestation are often derived from non-forestry sector. So REDD policies should be an integral part of policy / programs and national sector, thereby exploiting the REDD scheme is to support national development.

Carbon trading under REDD scheme is expected not only to the strategies and efforts of Indonesia to achieve sustainable forest development *(Sustainable Forest Development)*, but also a source of national income from the forestry sector. REDDI is expected to increase the forestry sector revenue, which means an increase in output of the forestry sector. In the national economy, improvement of one unit of output of the forestry sector will influence on other sectors that their output udes by forestry sector as an input to create an output equal to the accounting multiplier. The impact is also felt by other sectors that use the output of forestry sector as an input in the production process with a magnitude equal to the accounting multiplier.

In the analysis using the SAM framework, the impact of changes in the output of a production sector to the overall economic system arena of exogenous injection can be detected by the multiplier analysis. Because SAM is a general equilibrium system data linking Among other accounts, production activities, factors of production and institutions, then the impact of increasing output of forestry sector caused by REDDI can be felt by the whole economic system of Indonesia.

This article limited the impact of REDDI on institutions that is consisting of households, firms and governments in order to identify institutions that feel the biggest impact of REDDI. This emphasis based on the existing public opinion by the sceptic group which is assumed the implementation of REDDI only give benefit to certain groups.

The results of calculation of REDDI's impact on institution are presented in Table 2.

Under the minimal scenario, the biggest impact of REDDI felt by households, which amounted to US$ 0.40 billion (59.66%), followed by the company amounted to US$ 0.19 billion (28.17%) and the smallest impact felt by the government, amounting to US$ 0.08 billion (12.17%). In the group of households, the biggest impact felt by urban high, which amounted to US$ 0.07 billion (10.90%). The smallest impact is felt by rural non-labour, which amounted to US$ 0.02

Table 2. The Impact of REDDI on Institution (Source: data analysis)

Sector			No.	Minimal Scenario		Maximal Scenario	
				US$	%	US$	%
Institution	Households	Agriculture Employee	18	0.0340	5.04	1.4540	5.04
		Small Farmer	19	0.0471	6.98	2.0135	6.98
		Medium Farmer	20	0.0245	3.63	1.0486	3.63
		Large Farmer	21	0.0247	3.65	1.0538	3.65
		Rural Low Income	22	0.0530	7.85	2.2645	7.85
		Rural Non-Labour	23	0.0203	3.01	0.8681	3.01
		Rural High-Income	24	0.0519	7.69	2.2186	7.69
		Urban Low Income	25	0.0527	7.81	2.2546	7.81
		Urban Non-Labour	26	0.0209	3.10	0.8945	3.10
		Urban High-Income	27	0.0736	10.90	3.1440	10.90
	Total Households			0.4027	59.66	17.2141	59.66
	Firm		28	0.1902	29.17	8.1293	29.17
	Government		29	0.0822	12.17	3.5117	12.17
Total Institutions				0.6751	100.00	28.8551	100.00

billion (3.01%).

Under the maximum scenario, the largest impact of REDDI felt by households, which amounted to US$ 17.21 billion (59.66%), followed by the company amounted to US$ 8.13 billion (28.17%) and the smallest impact is felt by the government, amounted to US$ 3.51 billion (12.17%). In the group of households, the biggest impact is felt by urban high which is amounted to US$ 3.14 billion (10.90%). The smallest impact is felt by rural non-labour that is equal to US$ 0.89 billion (3.01%).

Generally it can be stated that household institutions felt the biggest impact of REDDI (59.66%), followed by companies (28.17%) and the government (12.17%). In the group of households, the biggest impact felt by urban high (10.90%), the smallest impact is felt rural non-labour (3.01%).This indicates that REDDI has a major impact on both agricultural households and non-agriculture in rural or urban area.

REDDI has a large impact on urban high. When analysis tools are returned on the SAM framework, it is known that there is a relationship between the balance of production activities, factors and institutions. The path of REDDI's impact on the institution through the activity occurred after production. REDDI first affects the production sector, which has links with the forestry sector and the factors of production used in the production process. REDDI also directly impact the factors of production used in the production process. After going through the production process, then the next REDDI influence the institutions income.

For urban high, source of income is closely associated with the production process either as the main owner of the production factors of labor and not labor (capital). In terms of consumption, urban high represents the group with the highest consumption figures (Central Bureau of Statistics, 2003). So it's fair if the urban high household is receiving the greatest impact REDDI on household income.

The smallest impact of REEDI was felt by rural non-labor. Due to SAM framework, the path of REDDI's impact on the institution through the activity occurred after production. REDDI first affects the production sector, which has links with the forestry sector and the factors of production used in the production process. The rural non-labor that consists of non-agricultural households, consisting of non-labour force and unclassified households in rural areas felt the smallest impact of REDDI because their source of income is not closely associated with the production process

CONCLUSIONS AND RECOMMENDATIONS

This paper used Social Accounting Matrix as framework and data used in this study is based on the Indonesian SAM data in year of 2005. The analysis results indicates that household institutions felt the biggest impact of REDDI (59.66%), followed by companies (28.17%) and the government (12.17%). In the group of households, the biggest impact felt by urban high (10.90%), the smallest impact is felt by rural non-labour (3.01%). This indicates that REDDI has a major impact on both agricultural households and non-agriculture in rural or urban area.

In the group of households, the biggest impact felt by urban high. While the smallest impact is felt by rural non-labour. This indicates that the actually REDDI has a major impact on both agricultural households and non-agriculture in rural or urban area. Thus it can be stated that the REDDI can play a role in improving the welfare and poverty alleviation of Indonesian society.

The amount of impact on household institutions also indicated that the REDDI can be a mechanism to support Indonesia's efforts toward *sustainable development* and national development priorities (e.g. economic, social: *the pro-growth, pro-job, pro-poor;* improvement of forest management, which not only

will have an impact on improving the environment but also economic and social in its long-term.

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PREVIOUS ABSTRACT
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APPLICATION OF RULE OF LAW BY JURISDICTION SYSTEM ON ILLEGAL LOGGING CASE IN INDONESIA 2002-2008[1]

Yudistira Hendra Permana[2]

ABSTRACT

The aim of this research is to analyze behavior of Supreme Court's judge on detention period sentence for illegal logging defendants in Indonesia from year 2002 through 2008. The first analysis is censored normal regression method using detention period indictment by prosecutor, detention period sentence by district court, defendant's gender, appeal effort, defendant's age, and defendant's job variables. Those variables are used to analyze how each variable affect on Supreme Court's verdict on detention period sentence for illegal logging defendants in Indonesia. Second analysis is descriptive statistic involves three levels of jurisdiction's considerations (prosecutor, district court, and Supreme Court) on determining detention period sentence for illegal logging defendants in Indonesia and suitability those three levels of jurisdiction to law. Research's result shows that detention period indictment by prosecutor, detention period sentence by district court, and defendant's age significantly affect on Supreme Court's verdict on detention period sentence for illegal logging defendants in Indonesia. But, on the other hand there is unsuitable verdict made by those three levels of jurisdiction to law.

Keywords: *court's verdict, illegal logging, censored normal regression*

THE EFFECTS OF CHANGES IN MINIMUM WAGE ON EMPLOYMENT IN THE COVERED AND UNCOVERED SECTORS IN INDONESIA[1]

Devanto Shasta Pratomo

ABSTRACT

This study examines the effects of changes in minimum wage on employment in the covered and uncovered sectors in Indonesia using an individual micro-level data set from 1989 to 2003. Since the Indonesian Labor Force Survey data are not a panel, this study applies pooled cross-sectional time-series methodology to explore the impact of the minimum wage across individual workers. All of the equations are analyzed separately in urban and rural labor markets, as well as the male and female labor market. The results suggest that an increase in minimum wage is more likely to decrease the covered sector employment and to increase the uncovered sector employment. These results also indicate a displacement effect from the covered sector to the uncovered sector, as suggested by the two-sector model. In addition, this study found the displacement effect is stronger for women, indicating that female workers are the more likely to be hurt as the result of an increase in minimum wage. Compared to urban areas, the effects in

rural areas are somewhat lower, indicating that minimum wage is less binding, given the dominance of the traditional agriculture sector.

Keywords: *Minimum Wage, Employment, Covered Sector, Uncovered Sector*

STRATEGY IMPLEMENTATION: THE EFECT OF DECENTRALIZATION, PARTICIPATION IN BUDGET SETTING, AND MANAGERS' ATTITUDE ON PERFORMANCE

Bambang Riyanto

ABSTRACT

The performance of a business unit, to a large extent, is determined by the quality of its strategy and how well the strategy is implemented. This study examines the effect of strategy implementation on performance. In particular, it investigates the extent to which the fit between two crucial strategic supporting systems, namely decentralization and budget system, and managers' attitude with the strategy of SBU on performance. It is argued that the more consistent the level of decentralization, degree of participation in the budget system and managers' attitude with the SBU strategies, the higher the performance will be, and vice versa. Unlike most prior studies, the hypothesis was tested by adopting the system of fit approach. Responses from 75 divisional managers of 75 diversified companies are analyzed. The results show that managers pursuing a strategy of differentiation (cost leadership) report high performance when they worked in highly (less) decentralized structures, are given more (less) opportunity to participate in the budget process, and had strongly positive attitude toward their jobs and their firms. These findings are consistent with the basic premise of strategy implementation that different strategies should be supported with different configuration of organizational structure and process to achieve optimal results.

Keywords: *strategy implementation, decentralization, participation, attitude, system of fit.*

DISTORTION OF CAPACITY ON INTER-REGIONAL TRADE OF IMT-GT: STUDY CASES ON FOUR SELECTED PROVINCES IN SUMATRA, INDONESIA

Benito Rio Avianto

ABSTRACT

The objective of the paper was to understand the impact of sub regional economic cooperation, known as the Indonesia-Malaysia-Thailand Growth Triangle (IMT- GT), on trade sector in Indonesia. The approach of research based on export macro information by provinces and commodities.

The method used in the analytical framework was a fixed effect method. The regional study covered Nanggroe Aceh Darussalam, North Sumatera, West Sumatera Barat, and Riau provinces, and the commodities involved CPO, coffee and rubber, with 1990-2008 data series.

Based on pooled regression, the IMT-GT, there was a significant impact on export from the four provinces to Malaysia and Thailand for all based years. One might focus on commodity level that, in fact, CPO was the only one coomodity that had a significant impact within the IMT GT region. In addition, Thai Bath and Malaysian Ringgit, with respect to GDP for both countries, had significant influenced on Export;, especially after the IMT GT endorsed.

Keywords: *IMT-GT, Province, export, CPO, coffee, and rubber export, pooled regression*

HYPOTHESIS TESTS ON HALL PERMANENT INCOME (HPI): THE CASE OF INDONESIA

R. Maryatmo

ABSTRACT

This paper is focused on the test of Hall Permanent Hypothesis. Hall hypothesizes that economic agents have perfect information on their life time income. Since economic agents have perfect information on their life time income, they tend to hold their inter-temporal consumption to be equal. There are three ways to test the Hall hypothesis. The three ways are Dickey Fuller, Augmented Dickey Fuller, Cambell and Mankiw tests. The results are inconsistent each others. The finding tends to support that the interest rate transmission mechanism for inter-temporal consumption is not working in Indonesia. The interest rate in Indonesia tends to be higher than of the neighboring countries. The interest rate in Indonesia tends to be high because of the high inflation rate, and inefficient banking practice. It is interesting to plan further research on staggering high inflation and inefficient banking practice in Indonesia.

Keywords: *Hall income permanent hypothesis, inflation, Indonesia.*

OWNERSHIP TYPE AND COMPANY PERFORMANCE: EMPIRICAL STUDIES IN THE INDONESIAN STOCK EXCHANGE

Fransiska Soejono

ABSTRACT

This study is aimed to test the difference in performance among companies with various types of ownership (foreign, state, and private) on a sample of 206 companies listed in ISE (Indonesian Stock Exchange) between 1999-2006 resulting in 795 company-year observations. The ANCOVA model and multiple comparison methods are used to test the hypothesis that private-owned companies have better performance than state-owned enterprises and foreign-owned companies have better performance than private-owned companies. Contrary with the hypothesis, the result shows that state-owned enterprises have better performance than private-owned companies. The possible explanation for this is because state-owned enterprises have more experience than private-owned companies (based on LogAge). State-owned firms may get some special facilities (including the easiness to get debt funding) from government. The result also shows that foreign-owned companies have better performance than private-owned companies which support the hypothesis. Foreign-owned companies have more experience in managing enterprises than

private-owned companies. Furthermore, foreign-owned companies in some industries tend to be more active in doing investment than private-owned companies. There are some implications of these results. First, different ownership type gives different effect to the company's performance. Second, government can consider foreign ownership in its privatization policy.

Keywords: *Ownership type, Performance, Experience, Investment.*

THE IMPACT OF FX (FOREIGN CURRENCY EXCHANGE) ON THE BOTTOM LINE OF TEXTILE/SHOES INDUSTRIES LISTED IN INDONESIA STOCK EXCHANGE 2006-2008

Hendro Subekti

ABSTRACT

During 2006-2008, Indonesia has been experiencing depreciation of IDR against world currency US$. The situation was triggered by global crisis October 2008, and IDR currency plunged. Furthermore, 17 textile/shoes industries publicly listed in ISX have been severely hit by depreciation of IDR The "Huge Loss of Bottom Line" in 2008 was recorded (IDR 617 billions) more than half of trillion IDR. To be curious the most of industry are manufacturer-exporter.

Year 2007, national textile industry overwhelmingly reports the export sales of US$ 10.05 billion and the raw material import was US$ 2.04 billions. By these facts, Income contribution from textile/shoes industries sector was US$ 8.01 billion and became a mile stone of the achievement. Depreciation of IDR currency is an advantage to the exporter as product become cheaper for foreign buyer while import goods costly to foreign seller.

The aim of this research is to describe the impact of FX on the bottom line of the Textile/Shoes Industries listed in ISX during 2006-2008, a period when the profit performance has been fallen sharply in line with the depreciation of IDR currency. By using the mathematical regression equation is surprisingly proven that FX adversely impact to the "bottom line" of the industry. The equation model selected Net Income as dependent variable while Operating Profit, Financial Charges and FX (Forex) as the independent variable.

From the outcome of the research, the dilemma between operation and financial leverage is revealed. Depreciation IDR was negatively reduced the "bottom line" this was mainly due to higher FX loss. By the end of December 2008, 17 shoes/textile industries have been suffered a huge loss of FX, and recorded FX Loss (IDR 564 billions), in connection with "high financial leverage denominated in US$ currency". The snapshot of balance sheet position is called "Net Short Asset to US $". Only 5 Industries were making money among 17 industries during 2008. Only one company had already "hedged" their exposure to FX. Only one company who reported profit show "debt to equity ratio" is much lower than average industry (US Textile Manufacturing)

However, under the operational expectation, the depreciation of IDR currency encourage better performance of "export oriented company". This is the dilemma that textile/shoes industries have been exposed to financial risk in one side and on the other side operational risk (competitiveness).

Keywords: *net short asset to US$, financial leverage and financial risk, operational risk, foreign exchange loss, depreciation of IDR.*

NON-FINANCIAL FACTORS IN THE GOING-CONCERN OPINION

Junaidi & Jogiyanto Hartono

ABSTRACT

This paper describes the influence of tenure, auditor reputation, disclosure, and the size of the client company on a going concern opinion. Audit opinion issued by the auditor is expected by users of the quality of information, because as the basis for investment decisions. Going-concern audit opinion is an opinion issued by auditors to ascertain whether the company can maintain its existence. Studies on the factors that affect the audit opinion have been carried out both overseas and in Indonesia. The factors used are vary and the results are not conclusive. This study uses 89 sample firms listed on the Indonesia Stock Exchange in 2003-2008. Logit regression analysis shows that the tenure, auditor reputation, disclosure has a significant on going-concern opinion while the client company size has no effect on going-concern opinion.

Keywords: *tenure, auditor reputation, disclosure, size, going-concern opinion*

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