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KAJIAN EKONOMI DAN KEUANGAN

- **Indonesia Dalam Menghadapi Liberalisasi Bidang Jasa Pada Tahun 2010**
- **Factors Affecting Finance Companies**
- **Analisis Butterfly Strategy Dalam Portofolio Surat Utang Negara di Perdagangan Pasar Sekunder**
- **Pengaruh Program Pemerintah Bidang Pendidikan Terhadap APK Wajar : 2006- 2008**
- **Analisis Potensi Pendapatan Dari Mekanisme REDD Sektor Kehutanan di Indonesia**
- **Analisis Sektor-Sektor Unggulan Dalam Menggerakkan Sektor Riil**

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Pusat Kebijakan Ekonomi Makro
Badan Kebijakan Fiskal
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KAJIAN

EKONOMI KEUANGAN



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- Indonesia Dalam Menghadapi Liberalisasi Bidang Jasa Pada Tahun 2010
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- Analisis Sektor-Sektor Unggulan Dalam Menggerakkan Sektor Riil

KATA SAMBUTAN

Kami panjatkan rasa syukur kepada Tuhan Yang Maha Esa atas terbitnya Kajian Ekonomi dan Keuangan edisi ini ke hadapan pembaca sekalian. Pada edisi ini, kami menyajikan berbagai topik yang berkaitan dengan analisis dan dampak kebijakan publik di bidang ekonomi dan keuangan negara.

Kajian pada volume kali ini diisi oleh berbagai topik tulisan yaitu Indonesia Dalam Menghadapi Liberalisasi Bidang Jasa Pada Tahun 2010; *Factors Affecting Finance Companies*; Analisis *Butterfly Strategy* Dalam Portofolio Surat Utang Negara di Perdagangan Pasar Sekunder; Pengaruh Program Pemerintah Bidang Pendidikan Terhadap APK Wajar : 2006-2008; Analisis Potensi Pendapatan Dari Mekanisme REDD Sektor Kehutanan di Indonesia; dan Analisis Sektor-sektor Unggulan Dalam Menggerakkan Sektor Riil. Adapun para penulis yang berkontribusi pada penerbitan kali ini yaitu R. Nurhidajat, Yoopi Abimanyu, Mohamad Nasir, Abdul Aziz, Adrianus Dwi Siswanto, dan Arti Dyah Woroutami.

Demikianlah kata pengantar yang dapat kami sampaikan. Ibarat peribahasa tiada gading yang tak retak, maka kami menyadari kajian ini tentunya masih terdapat kekurangan baik yang disengaja maupun yang tidak kami sengaja. Oleh karena itu, kami mengharapkan masukan dari para pembaca guna perbaikan di masa yang akan datang. Selanjutnya, kami berharap jurnal ini dapat memberikan manfaat kepada para pembaca sekalian. Selamat membaca!

Jakarta, 2010
Dewan Redaksi

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**Nurhidajat, R, et. al. (Badan Kebijakan Fiskal, Kementerian Keuangan)
Indonesia Dalam Menghadapi Liberalisasi Bidang Jasa Pada Tahun 2010
Kajian Ekonomi dan Keuangan Volume 14 Nomor 1 Tahun 2010, halaman
1-16**

This is a paper aiming to capture Indonesia's position with regard implementation of Vientiane Action Programme (VAP) mainly in services sector. According to the programe, there are four services sector that will be applied in 2010 which are air travel, information and comunication technology, healthcare, and tourism. A description analysis is used to describe the services sector in both ASEAN and domestic scope. The findings suggest that tourism is one of the sectors which need more atention. Compared with the others, This sector has the biggest share of GDP and national employment. Finally, services liberalization should be applied gardually to minimised negative impact of liberalization..

Key words: Vientiane Action Programme, services, liberalization. ASEAN

Abimanyu, Yoopi, et. al. (Badan Pengawas Pasar Modal dan Lembaga Keuangan, Kementerian Keuangan)

Factors Affecting Finance Companies

**Kajian Ekonomi dan Keuangan Volume 14 Nomor 1 Tahun 2010, halaman
17 - 26**

Perusahaan pembiayaan sebagai salah satu bentuk dari lembaga keuangan dipengaruhi oleh gerakan dari variabel moneter, yakni antara lain nilai tukar dan tingkat bunga pinjaman. Hipotesa dari tulisan singkat ini adalah bahwa kedua variabel moneter tersebut mampu mempengaruhi kinerja dari perusahaan pembiayaan, baik dari sisi aktiva maupun dari sisi pasiva. Data yang digunakan adalah data bulanan periode Desember 2006 sampai dengan Juni 2009. Analisa yang digunakan adalah pendekatan grafik (visual inspection) dan ekonometri, yakni Johansen Cointegration untuk hubungan jangka panjang dan Granger Causality untuk hubungan jangka pendek. Hasil analisa grafik menunjukkan bahwa dari sisi asset, total pembiayaan (termasuk komponennya yakni pembiayaan melalui consumer finance maupun leasing) tidak converge, baik dengan nilai tukar maupun tingkat bunga pinjaman. Hasil analisa ekonometri Johansen Cointegration juga menunjukkan bahwa total pembiayaan termasuk komponennya tidak memiliki hubungan jangka panjang dengan nilai tukar dan

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tingkat bunga pinjaman. Mereka tidak cointegrated. Analisa jangka pendek dengan menggunakan Granger Causality juga tidak menunjukkan pola keterkaitan antara variabel moneter dan komponen asset dari perusahaan pembiayaan. Dari sisi pasiva, pendekatan grafik ternyata menunjukkan bahwa total pinjaman (dan komponennya, yakni pinjaman dalam negeri dan luar negeri) nampaknya converge dengan nilai tukar maupun tingkat bunga pinjaman. Analisa formal dengan ekonometri menunjukkan bahwa total pinjaman dan komponennya weakly cointegrated dengan nilai tukar dan sepenuhnya cointegrated dengan tingkat bunga pinjaman. Secara umum dapat disimpulkan bahwa kebijakan makroekonomi yang tepat (realisasi kebijakan sama dengan target kebijakan dimana tidak ada over excessive ataupun under excessive macropolicies) yang mampu menghasilkan nilai tukar yang stabil dan tingkat bunga yang relatif rendah, akan mampu meningkatkan kinerja perusahaan pembiayaan dari sisi pasiva.

Kata Kunci : macroeconomics, financing, granger causality tests, exchange rate

Nasir, Mohamad , et. al. (Badan Kebijakan Fiskal, Kementerian Keuangan)

Analisis *Butterfly Strategy* Dalam Portofolio Surat Utang Negara di Perdagangan Pasar Sekunder

Kajian Ekonomi dan Keuangan Volume 14 Nomor 1 Tahun 2010, halaman 27-52

Regularly, Government of Indonesia funds its deficit budget by issuing government bond called Surat Utang Negara (SUN). For investors, existing SUN is an opportunity investment to reach return. However, to reach it is not easy, and it needs strategy. The report describes the performance of SUN's portfolio by using butterfly strategy approach. By using sample data and assumptions, those strategies have a good performance for portfolio A B and C. It can be showed by positive pay off resulted by the strategy. Portfolio A that contains SUN FR 21, 26 and 34 can result positive pay off with probability 88.84%, portfolio B can reach 93.41% chance to reach profit and portfolio C can result 74.39% chance..

Keywords : Butterfly Strategy, Cash Matching, Macaulay Duration, Modified Duration, Immunization, Surat Utang Negara, Yield

MAJALAH KAJIAN EKONOMI DAN KEUANGAN**ISSN 1410-3249****KEK Terakreditasi C****No. Akreditasi : 233/AU1/P2MBI/08/2009****Volume 14 Nomor 1 Tahun 2010***Keywords used are free terms. Abstracts can be reproduced without permission or charge.***ABSTRAKSI****Aziz, Abdul, et. al. (Badan Kebijakan Fiskal, Kementerian Keuangan)****Pengaruh Program Pemerintah Bidang Pendidikan terhadap APK Wajar : 2006 – 2008****Kajian Ekonomi dan Keuangan Volume 14 Nomor 1 Tahun 2010, halaman 53 - 100**

Penelitian ini fokus pada analisis pengaruh program-program pemerintah bidang pendidikan terhadap Angka Partisipasi Kasar SD dan SMP: 2006 – 2008. Penelitian ini adalah penelitian kuantitatif dengan menggunakan estimasi Data Panel Model Efek Tetap. Hasil penelitian ini menyarankan keharusan adanya koordinasi antara Pemerintah Pusat dan Pemerintah Daerah serta pihak-pihak lain yang berkepentingan dalam keberhasilan pendidikan nasional dan menyarankan agar ada sinergi dalam perencanaan dan pelaksanaan program tersebut sehingga dampak positif dari kebijakan pendidikan yang diterapkan dapat dirasakan oleh masyarakat luas. Peneliti ini juga menyarankan agar pemerintah dapat meningkatkan jumlah dana pada program bidang pendidikan ini karena hasil estimasi menunjukkan adanya korelasi yang kuat antara peningkatan dana dan peningkatan APK.

Kata Kunci: Pengaruh Program Pemerintah Bidang Pendidikan, APK Wajar

Siswanto, Adrianus Dwi, et. al. (Badan Kebijakan Fiskal, Kementerian Keuangan)**Analisis Potensi Pendapatan Dari Mekanisme REDD Sektor Kehutanan di Indonesia****Kajian Ekonomi dan Keuangan Volume 14 Nomor 1 Tahun 2010, halaman 101 – 122**

Indonesia faces serious problems in the forestry sector. The forest area covers about 70 percent of the total area spread over 33 provinces, have been damaged more than 37 percent on many levels. Department of Forestry reported deforestation reached 1 million hectares per year since 2000. If the condition is not change then the year 2050 the entire forest will be gone.

This study focus to calculate the value of potential income that can be accepted if the REDD mechanism is applied in Indonesia. The methodology used in this study are mathematics and descriptive statistics using secondary data. Source of data are obtained the Central Bureau of Statistics and Ministry of Forestry and other sources.

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The results showed that according the baseline, the growth trends in deforestation by using 2000 - 2005, Indonesian forest destruction reached 35.277 million hectares on 2017 with 15 percent growth assumption damage.

By implementing 3 simulations assuming that the decreased the rate of deforestation by 15 percent, 50 percent and 75 percent, the study provides results that the potential revenue are vary from of U.S. \$ 20.155 million to U.S. \$ 532.530 million. Estimated potential revenue is determined by the ability to decrease the growth rate of deforestation. The higher the ability to decrease the rate of deforestation, the higher the potential for carbon stock is maintained. On the other side encouraging the increasing deforestation of forest produce higher emissions more carbon stock disappear.

Keywords: REDD, deforestation, potential revenues, the stock of carbon.

Woroutami, Arti Dyah, et. al. (Badan Kebijakan Fiskal, Kementerian Keuangan)

Analisis Sektor-sektor Unggulan Dalam Menggerakkan Sektor Riil

Kajian Ekonomi dan Keuangan Volume 14 Nomor 1 Tahun 2010, halaman 123 - 142

External fluctuation happened on global economy could be anticipated by Indonesia Government through a good coordination between fiscal and monetary policy. It is reflected from the Indonesia's positive economic growth on 2009 which reached 4,5 percent. But Indonesia's economic growth acceleration still retained by the low activity on real sector, so worried about the creation of sustainable economic growth. Regarding that, it needs priority sharpening for sectors which has superiority on motivating the economy.

To answer the problem, this article seek to identify business sectors which has superiority within economy and to formulate the policy needed to develop those sectors. The analysis is done by using Input Output table with backward linkage and forward linkage approach. Because of the limited data source, the analysis only from year 2000 until 2005.

The output shows that there are 6 (six) sectors which has superiority within economy, that is Chemical Industry, Pesticide Fertilizer Industry, Other Food Industry, Rubber and Pesticide Industry, All-kind of Flour Industry, and Water, Gas and Electricity. For those superior sectors needs to be done a priority program thorough budget spending policy.

Keywords: Economic growth, superior sector, backward linkage and forward linkage.

FACTORS AFFECTING FINANCE COMPANIES¹

Oleh:

Yoopi Abimanyu, Ph.D²

Abstrak

Perusahaan pembiayaan sebagai salah satu bentuk dari lembaga keuangan dipengaruhi oleh gerakan dari variabel moneter, yakni antara lain nilai tukar dan tingkat bunga pinjaman. Hipotesa dari tulisan singkat ini adalah bahwa kedua variabel moneter tersebut mampu mempengaruhi kinerja dari perusahaan pembiayaan, baik dari sisi aktiva maupun dari sisi pasiva. Data yang digunakan adalah data bulanan periode Desember 2006 sampai dengan Juni 2009. Analisa yang digunakan adalah pendekatan grafik (visual inspection) dan ekonometri, yakni Johansen Cointegration untuk hubungan jangka panjang dan Granger Causality untuk hubungan jangka pendek. Hasil analisa grafik menunjukkan bahwa dari sisi asset, total pembiayaan (termasuk komponennya yakni pembiayaan melalui consumer finance maupun leasing) tidak converge, baik dengan nilai tukar maupun tingkat bunga pinjaman. Hasil analisa ekonometri Johansen Cointegration juga menunjukkan bahwa total pembiayaan termasuk komponennya tidak memiliki hubungan jangka panjang dengan nilai tukar dan tingkat bunga pinjaman. Mereka tidak cointegrated. Analisa jangka pendek dengan menggunakan Granger Causality juga tidak menunjukkan pola keterkaitan antara variabel moneter dan komponen asset dari perusahaan pembiayaan. Dari sisi pasiva, pendekatan grafik ternyata menunjukkan bahwa total pinjaman (dan komponennya, yakni pinjaman dalam negeri dan luar negeri) nampaknya converge dengan nilai tukar maupun tingkat bunga pinjaman. Analisa formal dengan ekonometri menunjukkan bahwa total pinjaman dan komponennya weakly cointegrated dengan nilai tukar dan sepenuhnya cointegrated dengan tingkat bunga pinjaman. Secara umum dapat disimpulkan bahwa kebijakan makroekonomi yang tepat (realisasi kebijakan sama dengan target kebijakan dimana tidak ada over excessive ataupun under excessive macropolicies) yang mampu menghasilkan nilai tukar yang stabil dan tingkat bunga yang relatif rendah, akan mampu meningkatkan kinerja perusahaan pembiayaan dari sisi pasiva.

Kata Kunci : macroeconomics, financing, granger causality tests, exchange rate

I. INTRODUCTION

This short paper attempts to see the macroeconomic aspect of non bank financial institutions, in particular, the relationship between finance companies with some macroeconomics variables such as exchange rate and interest rate using graphical and statistical approach. This paper is divided into three sections. The first section is the introduction. The second section is the content which consists of two subsections. They are the role and performances of finance companies, and factors affecting the finance companies. The last section is the conclusion. All data

¹ Paper presented at the World Bank International Workshop, Shangri-la Hotel, Jakarta, Indonesia, 9-10 December 2009.

² Ministry of Finance of the Republic of Indonesia

used in this paper is aggregate data for industry while all calculations reported in this paper were performed using Eviews version 4.0.

II. CONTENT

2.1. Role and Performance of Finance Companies

The role of finance companies, as shown in table 2.1 below, is small but stable, relative to GDP between 2004 and 2008.

Table 2.1 Contribution of Non Bank Financial Institution in GDP

Subsector	2004	2005	2006	2007	2008
Finance Companies to GDP (%)	3.44%	3.48%	3.26%	3.22%	3.40%

Source: Ministry of Finance, 2009

The financing in this industry mostly dominated by consumer finance followed by leasing where the source of fund comes both from domestic and foreign with somewhat relatively equal values (table 2.2 below).

Table 2.2 Finance Companies Activities

Details	(Trillion IDR)			
	2005	2006	2007	2008
Number Of Companies(unit)	236	214	211	212
Total Assets	96.5	108.9	127.3	168.5
Financing	67.6	93.1	110.6	137.2
Leasing	19.1	32.6	36.5	50.7
Factoring	1.4	1.3	2.2	2.2
Credit Cards	1.8	1.5	2.9	1.1
Consumers Finance	45.4	57.7	69.0	83.2
Borrowing	61.1	65.2	80.3	109.9
Domestic	29.7	33.2	41.6	55.5
Foreign	31.4	32.0	38.7	54.3
Bonds	10.2	10.1	12.8	11.5
Paid In Capital	12.5	13.8	16.3	17.4
Profits and Losses	3.5	3.1	4.4	6.4

Source: Ministry of Finance, 2009

2.2. Factors Affecting The Finance Companies³

Despite their relatively small ratio to GDP, finance companies as part of non bank financial institutions serve the same goal as capital market (stock and bonds) and financial intermediaries (banks and mutual funds), that is directing the resources of savers into the hands of borrowers. Together all of them have the important role of coordinating the economy's saving and investment, where the saving and investment are important determinants of long run growth in the GDP and thereby the living standard of the society. Any policy that might affect the finance companies would have impact on the economy (Dornbusch et al, 2003; Mankiw, 2009; Parkin, 2009; World Bank, 2006).

Macroeconomics policy, in particular monetary policy, could determine (either through several policies such as open market operations or persuasion policy), the banking lending rate. Also, whether through direct or indirect interventions and sterilizations, monetary policy could somehow influence the exchange rate even though the adopted regime is the flexible exchange rate system. Noted that those rates would be determined through the combinations of the macroeconomics policies and the market forces (Agenor et al, 2009; Gillis et al, 2001; Romer, 2005).

Under the hypotheses that those monetary variables, determined by the combination of macroeconomics policies and market forces, would affects the performance of the finance companies, this section will try to find out whether the lending rate and the exchange rate will partially affect the finance companies through their borrowing and their financing⁴. The following approach would use graphical and statistical analysis to find out the impact of those variables on finance companies.

Before running the graphical and statistical analysis, time series properties of all variables will be analyzed (Banerjee et al, 1993; Enders, 1995; Holden et al, 1994; Perron, 1994). All related variables are in logarithm. They are all will be tested for unit roots to find out in what order they are integrated to. The Phillips-Perron unit root test will be used here⁵. Under the null hypothesis that unit root

³ As stated in the introduction, all calculations reported in this paper were performed using Eviews version 4.0.

⁴ Ferry Irawan in his mimeograph (Indeks Stabilitas Pasar Modal sebagai tools Early Warning, 2008) reported that monetary variables (i.e. interest rate) will have some impacts on the performance of capital market, either in the long-run or in the short-run. A permanent increase in the Central Bank rate (Bank Indonesia's rate) will give negative impact on the stability index of capital market in the long-run while a temporary increase in the rate will have negative impact in the short-run

⁵ The distribution theory supporting the Dickey-Fuller test assumes that the errors are statistically independent and have a constant variance (Enders, 1995, p. 239). Phillips and Perron developed a generalization of the Dickey-Fuller procedure that allows for fairly mild assumption concerning the distribution of the errors. Instead of the Dickey-Fuller assumptions of independence and homogeneity, the Phillips-Perron test allows the disturbance to be weakly dependent and heterogeneously distributed.

exists in each variable, or the variables are integrated to the order of one, the value of the t-statistics of the Phillips-Perron test is then referred to the MacKinnon critical values. The MacKinnon critical values used here to find out the orders of integrability are the 1%, 5%, and 10% critical values.

The values of the t-statistics from the Phillips-Perron unit root test for all variables (using constant, constant and trend, no constant nor trend), and therefore the variables' order of integration, can be seen in table 2.3 below. As expected, the level data of all variables are not stationary in that they are integrated of order one, or $I(1)$. Some of the data shows weak stationarity when trend and intercept are excluded. Running unit root test on the first difference of the level data, all variables are stationary, they are integrated of order zero or $I(0)$.

**Table 2.3 Phillips-Perron Unit Root Tests
(Observations = 41)**

Variables	t-statistics			Order
	Constant	Constant and trend	No constant nor trend	
Log Total Financing	-1.194717	-1.175323	2.932667**	$I(1)$
Δ Log Total Financing	-5.619903***	-5.824290***	-4.661533***	$I(0)$
Log Consumer Finance	-1.194086	-1.946201	3.498794**	$I(1)$
Δ Log Consumer Finance	-12.61067***	-12.43656***	-12.78980***	$I(0)$
Log Leasing	-1.207398	-1.546028	1.568031	$I(1)$
Δ Log Leasing	-20.35693***	-19.21755***	-20.45291***	$I(0)$
Log Factoring	-0.818622	-1.503531	0.936977	$I(1)$
Δ Log Factoring	-6.989896***	-6.928246***	-6.905651***	$I(0)$
Log Credit Card	0.796240	-0.798468	-4.536348**	$I(1)$
Δ Log Credit Card	-6.641423***	-6.532428***	-4.437671***	$I(0)$
Log Borrowing	-0.354601	-2.529841	2.047702**	$I(1)$
Δ Log Borrowing	-17.71603***	-16.35526***	-18.07954***	$I(0)$
Log Domestic	-0.413987	-2.900135	2.178766**	$I(1)$
Δ Log Domestic	-14.42628***	-14.27635***	-14.67723***	$I(0)$
Log Foreign	-0.800648	-2.369936	1.140410	$I(1)$

This test arise from the consideration of the limiting distribution of the various Dickey-Fuller statistics when the assumption that the residual is assumed to define a sequence of independently and identically distributed (IID) process is relaxed (Holden and Perman, 1994, p. 66). In addition to that consideration, in the augmented Dickey-Fuller test, power of the unit root test may be adversely affected by misspecifying the lag length in the augmented Dickey-Fuller regression, where the Phillips-Perron tests have the advantage that this choice does not have to be made (Holden and Perman, 1994, p. 67). Also, the standard augmented Dickey-Fuller test may provide somewhat biased result toward nonrejection of unit root due to major changes in the data, such as oil shock, financial deregulation, and major intervention in the monetary policy by the Central Bank, where these changes could have created a permanent change in the series. In this case, the Phillips-Perron test could provide a more appropriate test.

Δ Log Foreign	-19.02462***	-20.11915***	-19.16975***	I(0)
Log Lending Rate	-0.684994	-1.816305	-1.380733	I(1)
Δ Log Lending Rate	-7.301608***	-7.263916***	-6.933616***	I(0)
Log Exchange Rate	-1.511751	-2.688279	0.122762	I(1)
Δ Log Exchange Rate	-5.270052***	-5.166816***	-5.330496***	I(0)

Notes:

(*) denotes rejection of the null hypothesis at the 10% MacKinnon critical values;

(**) denotes rejection of the null hypothesis at the 5% MacKinnon critical values;

(***) denotes rejection of the null hypothesis at the 1% MacKinnon critical values.

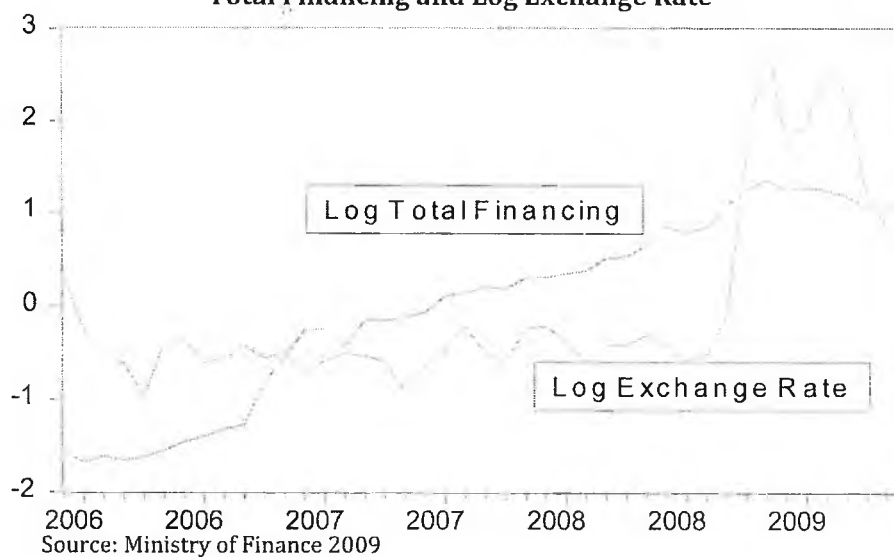
Source: Ministry of Finance 2009

Graph 2.1 and graph 2.2 below shows the comparison between exchange rate and total financing. Both graphs were normalized to omit the difference of units between series to make them comparable. Using either level data or first difference, both graphs show that both series do not move in the same direction.

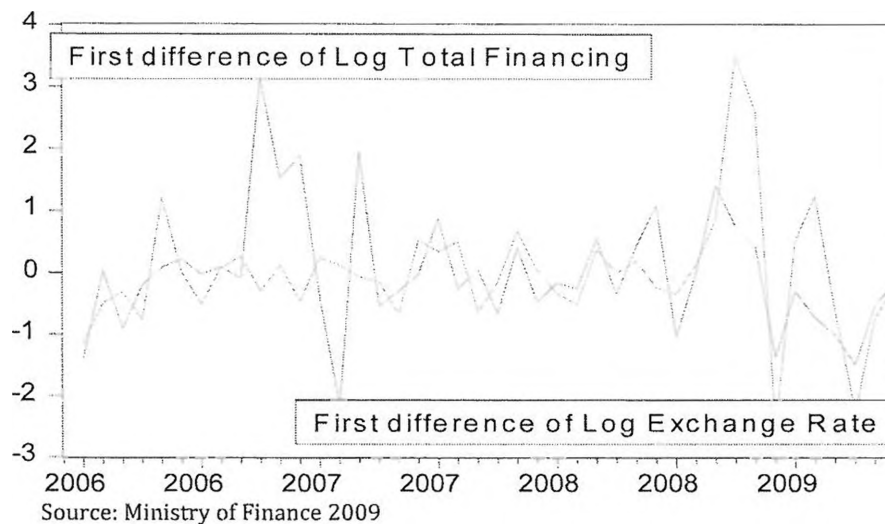
Since both series are not stationary in their level, there might exist a long-run relationship between them. Running cointegration test between the two series, shows that under the hypotheses of no cointegration, both trace test and Max-eigenvalue test indicates no cointegration at both 5% and 1% levels.

Testing for Granger Causality between the same series using first difference, in the short-run the exchange rate does not cause the total financing or the other way around.

Graph 2.1: Comparison Between Log Total Financing and Log Exchange Rate



Graph 2.2: Comparison Between First Difference of Log Total Financing and First Difference of Log Exchange Rate.



Similar approach, which are visual inspection and cointegration test, used for the lending rate and the total financing gives the same result. Both series tend to have a pattern but they are not cointegrated.

Intuitively, there is a possibility that lower interest rate would provide cheaper fund available for finance companies to be channeled as financing. Thus lower interest rate is directly related with higher total financing. However, testing for Granger Causality between the same series using first difference, in the short-run the lending rate does not cause the total financing or the other way around.

As stated above, total financing mostly consists of consumer finance and leasing. To be able to get a more detailed analysis, a similar analysis would be done on the consumer finance and the leasing.

Graphical inspection, cointegration, and Granger Causality tests between the exchange rate and the consumer finance however, gives similar result. They are not cointegrated. There are no short-run causality either between them.

Running a comparison between the lending rate and the consumer finance, either using graphical approach, cointegration, or Granger Causality approach, give the same result as above.

Again when the series of the exchange rate and the lending rate are compared to the series of the leasing, either using graphical presentations, or long-run and short-run statistical approach, the result does not change. There is no long-run relationship between them nor short-run causality between both series.

So far, all tests show that the asset sides of the finance companies, which are total financing and its components, have no long-run nor short-run relationship with the exchange rate and the lending rate.

One might argue that it would be more appropriate to find out the impact of the movement of the exchange rate and the lending rate on the liabilities side of the industry, that is on the total borrowing (see table 2.2 above), either from domestic or foreign.

Visual inspection of the exchange rate and total borrowing shows that both series, either in level or in first difference, tend to move in the same direction. Running a Johansen Cointegration test give result that the Trace test indicates a cointegrating equation only at the 5% level while Max-eigenvalue test indicates no cointegration at both 5% and 1% levels. There might exist a weak long-run relationship between the exchange rate and the total borrowing.

To see the relationship between the lending rate and the total borrowing, both series are plotted in graphs either in level or in first difference and then were run using cointegration test. Graphical presentation shows that both series move in the opposite direction. Cointegration test shows that the Trace test indicates they are cointegrated at both 5% and 1% level while Max-eigenvalue test gives similar results. Both series are cointegrated in the long-run. A higher lending rate is correlated with a lower borrowing by the industry and the other way around.

To see which part of the total borrowing that would be affected either by the exchange rate or the lending rate, the domestic borrowing and the foreign borrowing would be tested against the exchange rate and the lending rate.

Graphs of the exchange rate and the domestic borrowing show that they are somewhat moves in the same direction. Cointegration test shows that Trace test indicates a cointegrating equation only at the 5% level while Max-eigenvalue test indicates no cointegration at both 5% and 1% levels. Similar with the result of the cointegration test between the exchange rate and the total borrowing, there exist a weak long-run relationship between the exchange rates and the domestic borrowing.

Comparing the lending rate and the domestic borrowing, using graphical presentation and the cointegration test for both series, the result support the above finding that since the Trace test indicates they are cointegrated at both 5% and 1% level while Max-eigenvalue test gives similar results, then both series are cointegrated in the long-run. A higher lending rate is correlated with a lower domestic borrowing and the other way around.

Running a similar analysis using the exchange rate and the foreign borrowing give result that the Trace test and Max-eigenvalue test reject the hypotheses that foreign borrowing and the exchange rate are not cointegrated at 5% level. Both are weakly cointegrated.

A similar cointegration test on the relationship between the lending rate and the foreign borrowing give result that they are cointegrated under 5% level. To

sum up all of the above analysis, visual inspection shows that from the asset side, the exchange rate does not seem to move in the same direction with the total financing and its breakdown (which are the consumer finance and the leasing). They do not converge to the same level. The lending rate on the other hand, somehow seems to have a pattern *vis-à-vis* the total financing and its component. However, more formal approach for long-run relationship using Johansen cointegration test does not show any correlation. A further analysis using Granger causality which represents a short-run causality also does not give any pattern between all series.

On the liabilities side, visual inspections show that both the exchange rate and lending rate do seem to have a correlation with the borrowing, whether from domestic or foreign. Their movements tend to have a pattern. A more formal cointegration test shows that the exchange rate is weakly cointegrated with the total borrowing, the domestic borrowing, and the foreign borrowing. A stronger result is shown on the correlation between the lending rate and the total borrowing, the domestic borrowing, and the foreign borrowing. One might imply that most of the source of the finance comes from the banking sector where any policy that might affect the lending rate will have impact on the performance of the finance companies through the banking sector.

There is a possibility that the demand for the financing depend on the purchasing power of each unit of money available in the economy. Persistent increase in the overall level of prices, or inflation, might reduces this purchasing power. Therefore similar graphical presentation and Johansen cointegration test is done between the inflation, proxied by the consumer price index and the producer price index, and the financing. Cointegration tests show that the inflation do not cointegrated with the financing. There is no long-run relationship between the inflation and the financing.

III. CONCLUSION AND RECOMMENDATION

Living standard depends on productivity. The more productive one society the higher it's living of standard. *Ceteris paribus*, productivity depends on several inputs, among others physical capital. Capital could be accumulated provided that the financial system is running well. The performance of the finance companies, as one part of the financial system in macro perspective, might be affected by several variables, among others the exchange rate and the lending rate.

Under the hypotheses that those variables contribute to the performance of the finance companies, i.e. lower interest rates might be correlated with total borrowing from finance companies, Johansen cointegration (and Granger causality test at some part of the analysis) showed that none of those factors significantly

affecting the performance of the finance companies in terms of financing (even though graphical inspection of the lending rate and the total financing and its component somehow showed a pattern). The exchange rate and the lending rate however were having long-run relationships with the total borrowing of the finance companies and its component, which are the domestic borrowing and the foreign borrowing. This imply that most of the source of financing come from the banking system. Thus, a shock in terms of an increase in the lending rate through a higher Central Bank's rate will give negative impact on the liabilities of the finance companies.

Appropriate macroeconomics policy where the index of macroeconomic policies is equal to the actual macroeconomics policy where there is no over excessive or under excessive macro policies might provide a stable exchange rate and relatively low interest rates (whether they are in nominal or in real). This might boost the performance of the finance companies since their liabilities is cointegrated with those macroeconomics variables and might contribute in smoothing out the process of channeling funds from lender to borrower under the saving and investment theorem.

Note that a longer period of observations and a more detail data i.e. non-performing loan of the industry might give a more comprehensive result. Also noted that the venture capitals and the infrastructure institution were not mentioned here. The venture capitals contribution were relatively low compare to the consumer finance and the leasing, while the infrastructure institution was relatively new since it was being set up in 2008.

Next research on a stability index for finance companies, which contain shock from the Central Bank's rate, might be done to provide an early warning system for this type of industry.

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