

## Attachment 1

### Companies' list on LQ-45 period August 2017- January 2018

#### LQ45 Index Constituents for the period of August 2017 – January 2018

No.	Code	Stock Name
1.	AALI	Astra Agro Lestari Tbk. [S] ( <i>Plantation, 12</i> ) .....
2.	ADHI	Adhi Karya (Persero) Tbk. [S] ( <i>Building Construction, 62</i> ) .....
3.	ADRO	Adaro Energy Tbk. [S] ( <i>Coal Mining, 21</i> ) .....
4.	AKRA	AKR Corporindo Tbk. [S] ( <i>Wholesale (Durable and Non-Durable Goods, 91)</i> ) .....
5.	ANTM	Aneka Tambang Tbk. [S] ( <i>Metal and Mineral Mining, 23</i> ) .....
6.	ASII	Astra International Tbk. [S] ( <i>Automotive and Components, 42</i> ) .....
7.	BBCA	Bank Central Asia Tbk. ( <i>Bank, 81</i> ) .....
8.	BBNI	Bank Negara Indonesia (Persero) Tbk. ( <i>Bank, 81</i> ) .....
9.	BBRI	Bank Rakyat Indonesia (Persero) Tbk. ( <i>Bank, 81</i> ) .....
10.	BBTN	Bank Tabungan Negara (Persero) Tbk. ( <i>Bank, 81</i> ) .....
11.	BJBR	BPD Jawa Barat dan Banten Tbk. ( <i>Bank, 81</i> ) .....
12.	BMRI	Bank Mandiri (Persero) Tbk. ( <i>Bank, 81</i> ) .....
13.	BMTR	Global Mediacom Tbk. [S] ( <i>Investment Company, 98</i> ) .....
14.	BRPT	Barito Pacific Tbk. [S]. ( <i>Chemical, 34</i> ) .....
15.	BSDE	Bumi Serpong Damai Tbk. [S] ( <i>Property and Real Estate, 61</i> ) .....
16.	BUMI	Bumi Resources Tbk. ( <i>Coal Mining, 21</i> ) .....
17.	EXCL	XL Axiata Tbk. [S] ( <i>Telecommunication, 73</i> ) .....
18.	GGRM	Gudang Garam Tbk. ( <i>Tobacco Manufacturers, 52</i> ) .....
19.	HMSP	HM Sampoerna Tbk. ( <i>Tobacco Manufacturers, 52</i> ) .....
20.	ICBP	Indofood CBP Sukses Makmur Tbk. [S] ( <i>Food and Beverages, 51</i> ) .....
21.	INCO	Vale Indonesia Tbk. [S] ( <i>Metal and Mineral Mining, 23</i> ) .....
22.	INDF	Indofood Sukses Makmur Tbk. [S] ( <i>Food and Beverages, 51</i> ) .....
23.	INTP	Indocement Tunggul Prakasa Tbk. [S] ( <i>Cement, 31</i> ) .....
24.	JSMR	Jasa Marga (Persero) Tbk. [S] ( <i>Toll Road, Airport, Harbor and Allied Products, 72</i> ) .....
25.	KLBF	Kalbe Farma Tbk. [S] ( <i>Pharmaceuticals, 53</i> ) .....
26.	LPKR	Lippo Karawaci Tbk. [S] ( <i>Property and Real Estate, 61</i> ) .....
27.	LPPF	Matahari Department Store Tbk. [S] ( <i>Retail Trade, 93</i> ) .....
28.	LSIP	PP London Sumatera Tbk. [S] ( <i>Plantation, 12</i> ) .....
29.	MNCN	Media Nusantara Citra Tbk. [S] ( <i>Advertising, Printing and Media, 95</i> ) .....
30.	MYRX	Hanson International Tbk. [S] ( <i>Investment Company, 98</i> ) .....
31.	PGAS	Perusahaan Gas Negara (Persero) Tbk. [S] ( <i>Energy, 71</i> ) .....
32.	PPRO	PP Properti Tbk. [S] ( <i>Property And Real Estate, 61</i> ) .....
33.	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk. [S] ( <i>Coal Mining, 21</i> ) .....
34.	PTPP	PP (Persero) Tbk. [S] ( <i>Building Construction, 62</i> ) .....
35.	PWON	Pakuwon Jati Tbk. [S] ( <i>Property and Real Estate, 61</i> ) .....
36.	SCMA	Surya Citra Media Tbk. ( <i>Advertising, Printing And Media, 95</i> ) .....
37.	SMGR	Semen Indonesia (Persero) Tbk. [S] ( <i>Cement, 31</i> ) .....
38.	SMRA	Summarecon Agung Tbk. [S] ( <i>Property and Real Estate, 61</i> ) .....
39.	SRIL	Sri Rejeki Isman Tbk. ( <i>Textile, Garment, 43</i> ) .....
40.	SSMS	Sawit Sumbermas Sarana Tbk. [S] ( <i>Plantation, 12</i> ) .....
41.	TLKM	Telekomunikasi Indonesia (Persero) Tbk. [S] ( <i>Telecommunication, 73</i> ) .....
42.	UNTR	United Tractors Tbk. [S] ( <i>Wholesale (Durable and Non-Durable Goods, 91)</i> ) .....
43.	UNVR	Unilever Indonesia Tbk. [S] ( <i>Cosmetics and Household, 54</i> ) .....
44.	WIKA	Wijaya Karya (Persero) Tbk. [S] ( <i>Building Construction, 62</i> ) .....
45.	WSKT	Waskita Karya (Persero) Tbk. [S] ( <i>Building Construction, 62</i> ) .....

## Attachment 2

### Companies' list on LQ-45 period 2013-2017

#### LQ45 Index Constituents for the period of February – July 2013

No.	Code	Stock Name
1.	AALI	Astra Agro Lestari Tbk. [S] (Plantation, 12)
2.	ADRO	Adaro Energy Tbk. [S] (Coal Mining, 21)
3.	AKRA	AKR Corporindo Tbk. [S] (Wholesale (Durable and Non Durable Goods, 01))
4.	ANTM	Aneka Tambang (Persero) Tbk. [S] (Metal and Mineral Mining, 23)
5.	ASII	Astra International Tbk. [S] (Automotive and Components, 42)
6.	ASRI	Alam Sutera Realty Tbk. [S] (Property and Real Estate, 01)
7.	BBCA	Bank Central Asia Tbk. (Bank, 01)
8.	BBNI	Bank Negara Indonesia Tbk. (Persero) (Bank, 01)
9.	BBRI	Bank Rakyat Indonesia (Persero) Tbk. (Bank, 01)
10.	BBTN	Bank Tabungan Negara (Persero) Tbk. (Bank, 01)
11.	BDMN	Bank Danamon Tbk. (Bank, 01)
12.	BHIT	Bhakti Investama Tbk. (Investment Company, 08)
13.	BKSL	Sentul City Tbk. [S] (Property and Real Estate, 01)
14.	BMRI	Bank Mandiri (Persero) Tbk. (Bank, 01)
15.	BMTR	Global Mediacom Tbk. [S] (Investment Company, 08)
16.	BSDE	Bumi Serpong Damai Tbk. [S] (Property and Real Estate, 01)
17.	BUMI	Bumi Resources Tbk. (Coal Mining, 21)
18.	BWPT	BW Plantation Tbk. (Plantation, 12)
19.	CPIN	Charoen Pokphand Indonesia Tbk. [S] (Animal Feed, 30)
20.	EXCL	XL Axiata Tbk. [S] (Telecommunication, 73)
21.	GGRM	Gudang Garam Tbk. (Tobacco Manufacturers, 52)
22.	GIAA	Garuda Indonesia (Persero) Tbk. [S] (Transportation, 74)
23.	HRUM	Hanum Energy Tbk. [S] (Coal Mining, 21)
24.	ICBP	Indofood CBP Sukses Makmur Tbk. [S] (Food and Beverages, 51)
25.	IMAS	Indomobil Sukses Internasional Tbk. (Automotive and Components, 42)
26.	INCO	Vale Indonesia Tbk. [S] (Metal and Mineral Mining, 23)
27.	INDF	Indofood Sukses Makmur Tbk. [S] (Food and Beverages, 51)
28.	INDY	Indika Energy Tbk. [S] (Non-Building Construction, 75)
29.	INTP	Indocement Tunggul Prakasa Tbk. [S] (Cement, 31)
30.	ITMG	Indo Tambangraya Megah Tbk. [S] (Coal Mining, 21)
31.	JSMR	Jasa Marga (Persero) Tbk. (Toll Road, Airport, Harbor and Allied Products, 72)
32.	KLBF	Kalbe Farma Tbk. [S] (Pharmaceuticals, 53)
33.	LPKR	Lippo Karawaci Tbk. [S] (Property and Real Estate, 01)
34.	LSIP	PP London Sumatera Tbk. [S] (Plantation, 12)
35.	MAIN	Malindo Feedmill Tbk. [S] (Animal Feed, 30)
36.	MAPI	Mitra Adiperkasa Tbk. [S] (Retail Trade, 03)
37.	MNCN	Media Nusantara Citra Tbk. [S] (Advertising, Printing and Media, 05)
38.	PGAS	Perusahaan Gas Negara (Persero) Tbk. [S] (Energy, 71)
39.	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk. [S] (Coal Mining, 21)
40.	SMCB	Holcim Indonesia Tbk. [S] (Cement, 31)
41.	SMGR	Semen Indonesia (Persero) Tbk. [S] (Cement, 31)
42.	SSIA	Surya Semesta Intermusa Tbk. [S] (Building Construction, 02)
43.	TLKM	Telekomunikasi Indonesia (Persero) Tbk. (Telecommunication, 73)
44.	UNTR	United Tractors Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 01))
45.	UNVR	Unilever Indonesia Tbk. [S] (Cosmetics and Household, 54)

## LQ45 Index Constituents for the period of August 2013 – January 2014

No.	Code	Stock Name
1.	AALI	Astra Agro Lestari Tbk. [S] (Plantation, 12)
2.	ADRO	Adaro Energy Tbk. [S] (Coal Mining, 21)
3.	AKRA	AKR Corporindo Tbk. [S] (Wholesale (Durable and Non Durable Goods, 01))
4.	ASII	Astra International Tbk. [S] (Automotive and Components, 42)
5.	ASRI	Alam Sutera Realty Tbk. [S] (Property and Real Estate, 01)
6.	BBCA	Bank Central Asia Tbk. (Bank, 01)
7.	BBNI	Bank Negara Indonesia (Persero) Tbk. (Bank, 01)
8.	BBRI	Bank Rakyat Indonesia (Persero) Tbk. (Bank, 01)
9.	BBTN	Bank Tabungan Negara (Persero) Tbk. (Bank, 01)
10.	BDMN	Bank Danamon Tbk. (Bank, 01)
11.	BHIT	MNC Investama Tbk. (Investment Company, 08)
12.	BKSL	Sentul City Tbk. [S] (Property and Real Estate, 01)
13.	BMRI	Bank Mandiri (Persero) Tbk. (Bank, 01)
14.	BMTR	Global Mediacom Tbk. [S] (Investment Company, 08)
15.	BSDE	Bumi Serpong Damai Tbk. [S] (Property and Real Estate, 01)
16.	BUMI	Bumi Resources Tbk. (Coal Mining, 21)
17.	BWPT	BW Plantation Tbk. (Plantation, 12)
18.	CPIN	Charoen Pokphand Indonesia Tbk. [S] (Animal Feed, 30)
19.	EXCL	XL Axiata Tbk. [S] (Telecommunication, 73)
20.	GGRM	Gudang Garam Tbk. (Tobacco Manufacturers, 52)
21.	HRUM	Hanum Energy Tbk. [S] (Coal Mining, 21)
22.	ICBP	Indofood CBP Sukses Makmur Tbk. [S] (Food and Beverages, 51)
23.	IMAS	Indomobil Sukses Internasional Tbk. (Automotive and Components, 42)
24.	INCO	Vale Indonesia Tbk. [S] (Metal and Mineral Mining, 23)
25.	INDF	Indofood Sukses Makmur Tbk. [S] (Food and Beverages, 51)
26.	INTP	Indocement Tunggul Prakasa Tbk. [S] (Cement, 31)
27.	ITMG	Indo Tambangraya Megah Tbk. [S] (Coal Mining, 21)
28.	JSMR	Jasa Marga (Persero) Tbk. (Toll Road, Airport, Harbor and Allied Products, 72)
29.	KLBF	Kalbe Farma Tbk. [S] (Pharmaceuticals, 53)
30.	LPKR	Lippo Karawaci Tbk. [S] (Property and Real Estate, 01)
31.	LSIP	PP London Sumatera Tbk. [S] (Plantation, 12)
32.	MAIN	Malindo Feedmill Tbk. [S] (Animal Feed, 30)
33.	MAPI	Mitra Adiperkasa Tbk. [S] (Retail Trade, 03)
34.	MLPL	Multipolar Tbk. [S] (Investment Company, 08)
35.	MNCN	Media Nusantara Citra Tbk. [S] (Advertising, Printing and Media, 05)
36.	PGAS	Perusahaan Gas Negara (Persero) Tbk. [S] (Energy, 71)
37.	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk. [S] (Coal Mining, 21)
38.	PWON	Pakuwon Jati Tbk. [S] (Property and Real Estate, 01)
39.	SMCB	Holdim Indonesia Tbk. [S] (Cement, 31)
40.	SMGR	Semen Indonesia (Persero) Tbk. [S] (Cement, 31)
41.	SSIA	Surya Semesta Intemusa Tbk. [S] (Building Construction, 02)
42.	TLKM	Telekomunikasi Indonesia (Persero) Tbk. (Telecommunication, 73)
43.	UNTR	United Tractors Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 01))
44.	UNVR	Unilever Indonesia Tbk. [S] (Cosmetics and Household, 54)
45.	WIKA	Wijaya Karya (Persero) Tbk. [S] (Building Construction, 02)

## LQ45 Index Constituents for the period of February – July 2014

No.	Code	Stock Name
1.	AALI	Astra Agro Lestari Tbk. [S] (Plantation, 12)
2.	ADHI	Adhi Karya (Persero) Tbk. [S] (Building Construction, 62)
3.	ADRO	Adaro Energy Tbk. [S] (Coal Mining, 21)
4.	AKRA	AKR Corporindo Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 91))
5.	ASII	Astra International Tbk. [S] (Automotive and Components, 42)
6.	ASRI	Alam Sutera Realty Tbk. [S] (Property and Real Estate, 61)
7.	BBCA	Bank Central Asia Tbk. (Bank, 81)
8.	BBNI	Bank Negara Indonesia (Persero) Tbk. (Bank, 81)
9.	BBRI	Bank Rakyat Indonesia (Persero) Tbk. (Bank, 81)
10.	BDMN	Bank Danamon Tbk. (Bank, 81)
11.	BKSL	Sentul City Tbk. [S] (Property and Real Estate, 61)
12.	BMRI	Bank Mandiri (Persero) Tbk. (Bank, 81)
13.	BMTR	Global Mediacom Tbk. [S] (Investment Company, 98)
14.	BSDE	Bumi Serpong Damai Tbk. [S] (Property and Real Estate, 61)
15.	CPIN	Charoen Pokphand Indonesia Tbk. [S] (Animal Feed, 36)
16.	CTRA	Ciputra Development Tbk. [S] (Property and Real Estate, 61)
17.	EXCL	XL Axiata Tbk. [S] (Telecommunication, 73)
18.	GGRM	Gudang Garam Tbk. (Tobacco Manufacturers, 52)
19.	HRUM	Hanum Energy Tbk. [S] (Coal Mining, 21)
20.	ICBP	Indofood CBP Sukses Makmur Tbk. [S] (Food and Beverages, 51)
21.	INDF	Indofood Sukses Makmur Tbk. [S] (Food and Beverages, 51)
22.	INTP	Indocement Tungal Prakasa Tbk. [S] (Cement, 31)
23.	ITMG	Indo Tambangraya Megah Tbk. [S] (Coal Mining, 21)
24.	JSMR	Jasa Marga (Persero) Tbk. [S] (Toll Road, Airport, Harbor and Allied Products, 72)
25.	KLBF	Kaibe Farma Tbk. [S] (Pharmaceuticals, 53)
26.	LPKR	Lippo Karawaci Tbk. [S] (Property and Real Estate, 61)
27.	LSIP	PP London Sumatera Tbk. [S] (Plantation, 12)
28.	MAIN	Malindo Feedmill Tbk. [S] (Animal Feed, 36)
29.	MLPL	Multipolar Tbk. [S] (Investment Company, 98)
30.	MNCN	Media Nusantara Citra Tbk. [S] (Advertising, Printing and Media, 95)
31.	PGAS	Perusahaan Gas Negara (Persero) Tbk. [S] (Energy, 71)
32.	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk. [S] (Coal Mining, 21)
33.	PTPP	PP (Persero) Tbk. [S] (Building Construction, 62)
34.	PWON	Pakuwon Jati Tbk. [S] (Property and Real Estate, 61)
35.	SMGR	Semen Indonesia (Persero) Tbk. [S] (Cement, 31)
36.	SMRA	Summarecon Agung Tbk. [S] (Property and Real Estate, 61)
37.	SSIA	Surya Semesta Intermusa Tbk. [S] (Building Construction, 62)
38.	TAXI	Express Transindo Utama Tbk. [S] (Transportation, 74)
39.	TBIG	Tower Bersama Infrastructure Tbk. (Non Building Construction, 75)
40.	TLKM	Telekomunikasi Indonesia (Persero) Tbk. [S] (Telecommunication, 73)
41.	UNTR	United Tractors Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 91))
42.	UNVR	Unilever Indonesia Tbk. [S] (Cosmetics and Household, 54)
43.	VIVA	Visi Media Asia Tbk. [S] (Advertising, Printing and Media, 95)
44.	WIKA	Wijaya Karya (Persero) Tbk. [S] (Building Construction, 62)
45.	WSKT	Waskita Karya (Persero) Tbk. [S] (Building Construction, 62)

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4.	AKRA	AKR Corporindo Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 91))
5.	ANTM	Aneka Tambang Tbk. [S] (Metal and Mineral Mining, 23)
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14.	BMTR	Global Mediacom Tbk. [S] (Investment Company, 98)
15.	BSDE	Bumi Serpong Damai Tbk. [S] (Property and Real Estate, 61)
16.	CPIN	Charoen Pokphand Indonesia Tbk. [S] (Animal Feed, 30)
17.	CTRA	Ciputra Development Tbk. [S] (Property and Real Estate, 61)
18.	EXCL	XL Axiata Tbk. [S] (Telecommunication, 73)
19.	GGRM	Gudang Garam Tbk. (Tobacco Manufacturers, 52)
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26.	LPKR	Lippo Karawaci Tbk. [S] (Property and Real Estate, 61)
27.	LPPF	Matahari Department Store Tbk. (Retail Trade, 93)
28.	LSIP	PP London Sumatera Tbk. [S] (Plantation, 12)
29.	MNCN	Media Nusantara Citra Tbk. [S] (Advertising, Printing and Media, 95)
30.	MPPA	Matahari Putra Prima Tbk. [S] (Retail Trade, 93)
31.	PGAS	Perusahaan Gas Negara (Persero) Tbk. [S] (Energy, 71)
32.	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk. [S] (Coal Mining, 21)
33.	PTPP	PP (Persero) Tbk. [S] (Building Construction, 62)
34.	PWON	Pakuwon Jati Tbk. [S] (Property and Real Estate, 61)
35.	SCMA	Surya Citra Media Tbk. [S] (Advertising, Printing And Media, 95)
36.	SIL0	Siloam International Hospitals Tbk. [S] (Healthcare, 96)
37.	SMGR	Semen Indonesia (Persero) Tbk. [S] (Cement, 31)
38.	SMRA	Summarecon Agung Tbk. [S] (Property and Real Estate, 61)
39.	SSMS	Sawit Sumbermas Sarana Tbk. [S] (Plantation, 12)
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5.	ASII	Astra International Tbk. [S] (Automotive and Components, 42)
6.	ASRI	Alam Sutera Realty Tbk. [S] (Property and Real Estate, 61)
7.	BBCA	Bank Central Asia Tbk. (Bank, 81)
8.	BBNI	Bank Negara Indonesia (Persero) Tbk. (Bank, 81)
9.	BBRI	Bank Rakyat Indonesia (Persero) Tbk. (Bank, 81)
10.	BBTN	Bank Tabungan Negara (Persero) Tbk. (Bank, 81)
11.	BMRI	Bank Mandiri (Persero) Tbk. (Bank, 81)
12.	BMTR	Global Mediacom Tbk. [S] (Investment Company, 98)
13.	BSDE	Bumi Serpong Damai Tbk. [S] (Property and Real Estate, 61)
14.	CPIN	Charoen Pokphand Indonesia Tbk. [S] (Animal Feed, 36)
15.	EXCL	XL Axiata Tbk. (Telecommunication, 73)
16.	GGRM	Gudang Garam Tbk. (Tobacco Manufacturers, 52)
17.	ICBP	Indofood CBP Sukses Makmur Tbk. [S] (Food and Beverages, 51)
18.	INCO	Vale Indonesia Tbk. [S] (Metal and Mineral Mining, 23)
19.	INDF	Indofood Sukses Makmur Tbk. [S] (Food and Beverages, 51)
20.	INTP	Indocement Tunggul Prakasa Tbk. [S] (Cement, 31)
21.	ITMG	Indo Tambangraya Megah Tbk. [S] (Coal Mining, 21)
22.	JSMR	Jasa Marga (Persero) Tbk. [S] (Toll Road, Airport, Harbor and Allied Products, 72)
23.	KLBF	Kalbe Farma Tbk. [S] (Pharmaceuticals, 53)
24.	LPKR	Lippo Karawaci Tbk. [S] (Property and Real Estate, 61)
25.	LPPF	Matahari Department Store Tbk. [S] (Retail Trade, 93)
26.	LSIP	PP London Sumatera Tbk. [S] (Plantation, 12)
27.	MNCN	Media Nusantara Citra Tbk. [S] (Advertising, Printing and Media, 95)
28.	MPPA	Matahari Putra Prima Tbk. [S] (Retail Trade, 93)
29.	PGAS	Perusahaan Gas Negara (Persero) Tbk. [S] (Energy, 71)
30.	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk. [S] (Coal Mining, 21)
31.	PTPP	PP (Persero) Tbk. [S] (Building Construction, 62)
32.	PWON	Pakuwon Jati Tbk. [S] (Property and Real Estate, 61)
33.	SCMA	Surya Citra Media Tbk. [S] (Advertising, Printing And Media, 95)
34.	SILO	Siloam International Hospitals Tbk. [S] (Healthcare, 96)
35.	SMGR	Semen Indonesia (Persero) Tbk. [S] (Cement, 31)
36.	SMRA	Summarecon Agung Tbk. [S] (Property and Real Estate, 61)
37.	SRIL	Sri Rejeki Isman Tbk. (Textile, Garment, 43)
38.	SSMS	Sawit Sumbermas Sarana Tbk. [S] (Plantation, 12)
39.	TBIG	Tower Bersama Infrastructure Tbk. (Non Building Construction, 75)
40.	TLKM	Telekomunikasi Indonesia (Persero) Tbk. [S] (Telecommunication, 73)
41.	UNTR	United Tractors Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 91))
42.	UNVR	Unilever Indonesia Tbk. [S] (Cosmetics and Household, 54)
43.	WIKA	Wijaya Karya (Persero) Tbk. [S] (Building Construction, 62)
44.	WSKT	Waskita Karya (Persero) Tbk. [S] (Building Construction, 62)
45.	WTON	Wijaya Karya Beton Tbk. [S] (Cement, 31)

## LQ45 Index Constituents for the period of February – July 2016

No.	Code	Stock Name
1.	AALI	Astra Agro Lestari Tbk. [S] (Plantation, 12)
2.	ADHI	Adhi Karya (Persero) Tbk. [S] (Building Construction, 62)
3.	ADRO	Adaro Energy Tbk. [S] (Coal Mining, 21)
4.	AKRA	AKR Corporindo Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 91))
5.	ANTM	Aneka Tambang Tbk. [S] (Metal and Mineral Mining, 23)
6.	ASII	Astra International Tbk. [S] (Automotive and Components, 42)
7.	ASRI	Alam Sutera Realty Tbk. [S] (Property and Real Estate, 61)
8.	BBCA	Bank Central Asia Tbk. (Bank, 81)
9.	BBNI	Bank Negara Indonesia (Persero) Tbk. (Bank, 81)
10.	BBRI	Bank Rakyat Indonesia (Persero) Tbk. (Bank, 81)
11.	BBTN	Bank Tabungan Negara (Persero) Tbk. (Bank, 81)
12.	BMRI	Bank Mandiri (Persero) Tbk. (Bank, 81)
13.	BMTR	Global Mediacom Tbk. [S] (Investment Company, 98)
14.	BSDE	Bumi Serpong Damai Tbk. [S] (Property and Real Estate, 61)
15.	CPIN	Charoen Pokphand Indonesia Tbk. [S] (Animal Feed, 36)
16.	GGRM	Gudang Garam Tbk. (Tobacco Manufacturers, 52)
17.	HMSP	HM Sampoerna Tbk. (Tobacco Manufacturers, 52)
18.	ICBP	Indofood CBP Sukses Makmur Tbk. [S] (Food and Beverages, 51)
19.	INCO	Vale Indonesia Tbk. [S] (Metal and Mineral Mining, 23)
20.	INDF	Indofood Sukses Makmur Tbk. [S] (Food and Beverages, 51)
21.	INTP	Indocement Tunggul Prakasa Tbk. [S] (Cement, 31)
22.	JSMR	Jasa Marga (Persero) Tbk. [S] (Toll Road, Airport, Harbor and Allied Products, 72)
23.	KLBF	Kalbe Farma Tbk. [S] (Pharmaceuticals, 53)
24.	LPKR	Lippo Karawaci Tbk. [S] (Property and Real Estate, 61)
25.	LPPF	Matahari Department Store Tbk. [S] (Retail Trade, 93)
26.	LSIP	PP London Sumatera Tbk. [S] (Plantation, 12)
27.	MNCN	Media Nusantara Citra Tbk. [S] (Advertising, Printing and Media, 95)
28.	MPPA	Matahari Putra Prima Tbk. [S] (Retail Trade, 93)
29.	MYRX	Hanson International Tbk. [S] (Investment Company, 98)
30.	PGAS	Perusahaan Gas Negara (Persero) Tbk. [S] (Energy, 71)
31.	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk. [S] (Coal Mining, 21)
32.	PTPP	PP (Persero) Tbk. [S] (Building Construction, 62)
33.	PWON	Pakuwon Jati Tbk. [S] (Property and Real Estate, 61)
34.	SCMA	Surya Citra Media Tbk. (Advertising, Printing And Media, 95)
35.	SILO	Siloam International Hospitals Tbk. [S] (Healthcare, 96)
36.	SMGR	Semen Indonesia (Persero) Tbk. [S] (Cement, 31)
37.	SMRA	Summarecon Agung Tbk. [S] (Property and Real Estate, 61)
38.	SRIL	Sri Rejeki Isman Tbk. (Textile, Garment, 43)
39.	SSMS	Sawit Sumbermas Sarana Tbk. [S] (Plantation, 12)
40.	TBIG	Tower Bersama Infrastructure Tbk. (Non Building Construction, 75)
41.	TLKM	Telekomunikasi Indonesia (Persero) Tbk. [S] (Telecommunication, 73)
42.	UNTR	United Tractors Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 91))
43.	UNVR	Unilever Indonesia Tbk. [S] (Cosmetics and Household, 54)
44.	WIKA	Wijaya Karya (Persero) Tbk. [S] (Building Construction, 62)
45.	WSKT	Waskita Karya (Persero) Tbk. [S] (Building Construction, 62)



## LQ45 Index Constituents for the period of August 2016 – January 2017

No.	Code	Stock Name
1.	AALI	Astra Agro Lestari Tbk. [S] (Plantation, 12)
2.	ADHI	Adhi Karya (Persero) Tbk. [S] (Building Construction, 62)
3.	ADRO	Adaro Energy Tbk. [S] (Coal Mining, 21)
4.	AKRA	AKR Corporindo Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 91))
5.	ANTM	Aneka Tambang Tbk. [S] (Metal and Mineral Mining, 23)
6.	ASII	Astra International Tbk. [S] (Automotive and Components, 42)
7.	ASRI	Alam Sutera Realty Tbk. [S] (Property and Real Estate, 61)
8.	BBCA	Bank Central Asia Tbk. (Bank, 81)
9.	BBNI	Bank Negara Indonesia (Persero) Tbk. (Bank, 81)
10.	BBRI	Bank Rakyat Indonesia (Persero) Tbk. (Bank, 81)
11.	BBTN	Bank Tabungan Negara (Persero) Tbk. (Bank, 81)
12.	BMRI	Bank Mandiri (Persero) Tbk. (Bank, 81)
13.	BMTR	Global Mediacom Tbk. [S] (Investment Company, 98)
14.	BSDE	Bumi Serpong Damai Tbk. [S] (Property and Real Estate, 61)
15.	CPIN	Charoen Pokphand Indonesia Tbk. [S] (Animal Feed, 36)
16.	ELSA	Elinusa Tbk. [S] (Crude Petroleum & Natural Gas Production, 22)
17.	GGRM	Gudang Garam Tbk. (Tobacco Manufacturers, 52)
18.	HMSP	HM Sampoerna Tbk. (Tobacco Manufacturers, 52)
19.	ICBP	Indofood CBP Sukses Makmur Tbk. [S] (Food and Beverages, 51)
20.	INCO	Vale Indonesia Tbk. [S] (Metal and Mineral Mining, 23)
21.	INDF	Indofood Sukses Makmur Tbk. [S] (Food and Beverages, 51)
22.	INTP	Indocement Tunggul Prakasa Tbk. [S] (Cement, 31)
23.	JSMR	Jasa Marga (Persero) Tbk. [S] (Toll Road, Airport, Harbor and Allied Products, 72)
24.	KLBF	Kalbe Farma Tbk. [S] (Pharmaceuticals, 53)
25.	LPKR	Lippo Karawaci Tbk. [S] (Property and Real Estate, 61)
26.	LPPF	Matahari Department Store Tbk. [S] (Retail Trade, 93)
27.	LSIP	PP London Sumatera Tbk. [S] (Plantation, 12)
28.	MNCN	Media Nusantara Citra Tbk. [S] (Advertising, Printing and Media, 95)
29.	MPPA	Matahari Putra Prima Tbk. [S] (Retail Trade, 93)
30.	MYRX	Hanson International Tbk. [S] (Investment Company, 98)
31.	PGAS	Perusahaan Gas Negara (Persero) Tbk. [S] (Energy, 71)
32.	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk. [S] (Coal Mining, 21)
33.	PTPP	PP (Persero) Tbk. [S] (Building Construction, 62)
34.	PWON	Pakuwon Jati Tbk. [S] (Property and Real Estate, 61)
35.	SCMA	Surya Citra Media Tbk. (Advertising, Printing And Media, 95)
36.	SILO	Siloam International Hospitals Tbk. [S] (Healthcare, 96)
37.	SMGR	Semen Indonesia (Persero) Tbk. [S] (Cement, 31)
38.	SMRA	Summarecon Agung Tbk. [S] (Property and Real Estate, 61)
39.	SRIL	Sri Rejeki Isman Tbk. (Textile, Garment, 43)
40.	SSMS	Sawit Sumbermas Sarana Tbk. [S] (Plantation, 12)
41.	TLKM	Telekomunikasi Indonesia (Persero) Tbk. [S] (Telecommunication, 73)
42.	UNTR	United Tractors Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 91))
43.	UNVR	Unilever Indonesia Tbk. [S] (Cosmetics and Household, 54)
44.	WIKA	Wijaya Karya (Persero) Tbk. [S] (Building Construction, 62)
45.	WSKT	Waskita Karya (Persero) Tbk. [S] (Building Construction, 62)

## LQ45 Index Constituents for the period of February – July 2017

No.	Code	Stock Name
1.	AALI	Astra Agro Lestari Tbk. [S] (Plantation, 12)
2.	ADHI	Adhi Karya (Persero) Tbk. [S] (Building Construction, 62)
3.	ADRO	Adaro Energy Tbk. [S] (Coal Mining, 21)
4.	AKRA	AKR Corporindo Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 91))
5.	ANTM	Aneka Tambang Tbk. [S] (Metal and Mineral Mining, 23)
6.	ASII	Astra International Tbk. [S] (Automotive and Components, 42)
7.	ASRI	Alam Sutera Realty Tbk. [S] (Property and Real Estate, 61)
8.	BBCA	Bank Central Asia Tbk. (Bank, 81)
9.	BBNI	Bank Negara Indonesia (Persero) Tbk. (Bank, 81)
10.	BBRI	Bank Rakyat Indonesia (Persero) Tbk. (Bank, 81)
11.	BBTN	Bank Tabungan Negara (Persero) Tbk. (Bank, 81)
12.	BMRI	Bank Mandiri (Persero) Tbk. (Bank, 81)
13.	BSDE	Bumi Serpong Damai Tbk. [S] (Property and Real Estate, 61)
14.	BUMI	Bumi Resources Tbk. (Coal Mining, 21)
15.	CPIN	Charoen Pokphand Indonesia Tbk. [S] (Animal Feed, 36)
16.	ELSA	Elnusa Tbk. [S] (Crude Petroleum & Natural Gas Production, 22)
17.	EXCL	XL Axiata Tbk. [S] (Telecommunication, 73)
18.	GGRM	Gudang Garam Tbk. (Tobacco Manufacturers, 52)
19.	HMSP	HM Sampoerna Tbk. (Tobacco Manufacturers, 52)
20.	ICBP	Indofood CBP Sukses Makmur Tbk. [S] (Food and Beverages, 51)
21.	INCO	Vale Indonesia Tbk. [S] (Metal and Mineral Mining, 23)
22.	INDF	Indofood Sukses Makmur Tbk. [S] (Food and Beverages, 51)
23.	INTP	Indocement Tunggak Prakasa Tbk. [S] (Cement, 31)
24.	JSMR	Jasa Marga (Persero) Tbk. [S] (Toll Road, Airport, Harbor and Allied Products, 72)
25.	KLBF	Kalbe Farma Tbk. [S] (Pharmaceuticals, 53)
26.	LPKR	Lippo Karawaci Tbk. [S] (Property and Real Estate, 61)
27.	LPPF	Matahari Department Store Tbk. [S] (Retail Trade, 93)
28.	LSIP	PP London Sumatera Tbk. [S] (Plantation, 12)
29.	MNCN	Media Nusantara Citra Tbk. [S] (Advertising, Printing and Media, 95)
30.	MYRX	Hanson International Tbk. [S] (Investment Company, 98)
31.	PGAS	Perusahaan Gas Negara (Persero) Tbk. [S] (Energy, 71)
32.	PPRO	PP Properti Tbk. [S] (Property And Real Estate, 61)
33.	PTBA	Tambang Batubara Bukit Asam (Persero) Tbk. [S] (Coal Mining, 21)
34.	PTPP	PP (Persero) Tbk. [S] (Building Construction, 62)
35.	PWON	Pakuwon Jati Tbk. [S] (Property and Real Estate, 61)
36.	SCMA	Surya Citra Media Tbk. (Advertising, Printing And Media, 95)
37.	SMGR	Semen Indonesia (Persero) Tbk. [S] (Cement, 31)
38.	SMRA	Summarecon Agung Tbk. [S] (Property and Real Estate, 61)
39.	SRIL	Sri Rejeki Isman Tbk. (Textile, Garment, 43)
40.	SSMS	Sawit Sumbermas Sarana Tbk. [S] (Plantation, 12)
41.	TLKM	Telekomunikasi Indonesia (Persero) Tbk. [S] (Telecommunication, 73)
42.	UNTR	United Tractors Tbk. [S] (Wholesale (Durable and Non-Durable Goods, 91))
43.	UNVR	Unilever Indonesia Tbk. [S] (Cosmetics and Household, 54)
44.	WIKA	Wijaya Karya (Persero) Tbk. [S] (Building Construction, 62)
45.	WSKT	Waskita Karya (Persero) Tbk. [S] (Building Construction, 62)

### Attachment 3

#### Rate of individual return ( $R_i$ )

No	Period		ADRO		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	1.650	10,65	
2		February	1.570		-0,04848
3		March	1.310		-0,16561
4		April	1.230		-0,06107
5		May	930		-0,24390
6		June	860	12,36	-0,06198
7		July	700		-0,18605
8		August	930		0,32857
9		September	900		-0,03226
10		October	1.020		0,13333
11		November	1.130		0,10784
12		December	1.090		-0,03540
13	2014	January	950	15,30	-0,11440
14		February	995		0,04737
15		March	980		-0,01508
16		April	1.185		0,20918
17		May	1.225		0,03376
18		June	1.175	13,47	-0,02982
19		July	1.185		0,00851
20		August	1.315		0,10970
21		September	1.175		-0,10646
22		October	1.135		-0,03404
23		November	1.080		-0,04846
24		December	1.040		-0,03704
25	2015	January	1.000	11,73	-0,02718
26		February	960		-0,04000
27		March	950		-0,01042
28		April	875		-0,07895
29		May	860	18,52	0,00402
30		June	760		-0,11628
31		July	590		-0,22368
32		August	595		0,00847

**Continued Attachment 3**

No	Period		ADRO		
	Year	Month	Close price	Dividend	$R_i$
33		September	535		-0,10084
34		October	595		0,11215
35		November	550		-0,07563
36		December	515		-0,06364
Total					-0,85374
Average					-0,02372

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{1.570 - 1.650 + 0}{1.650} \\
 &= -0,04848
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		AKRA		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	3.875	40,00	
2		February	4.475		0,15484
3		March	5.000		0,11732
4		April	5.150		0,03000
5		May	5.350		0,03883
6		June	5.300	46,00	0,00280
7		July	4.325		-0,18396
8		August	3.975		-0,08092
9		September	4.000		0,00629
10		October	4.850	50,00	0,22500
11		November	4.675		-0,03608
12		December	4.375		-0,06417
13	2014	January	4.400		0,00571
14		February	4.560		0,03636
15		March	4.835		0,06031
16		April	4.770		-0,01344
17		May	4.125		-0,13522
18		June	4.330	65,00	0,06545
19		July	4.400		0,01617
20		August	5.250		0,19318
21		September	5.450	50,00	0,04762
22		October	4.925		-0,09633
23		November	4.650		-0,05584
24		December	4.120		-0,11398
25	2015	January	4.695		0,13956
26		February	4.870		0,03727
27		March	5.125		0,05236
28		April	5.200		0,01463
29		May	5.475	80,00	0,06827
30		June	5.925		0,08219
31		July	5.750		-0,02954
32		August	6.075	100,00	0,07391

**Continued Attachment 3**

No	Period		AKRA		
	Year	Month	Close price	Dividend	$R_i$
33		September	5.850		-0,03704
34		October	5.900		0,00855
35		November	6.100		0,03390
36		December	7.175		0,17623
Total					0,84025
Average					0,02334

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{4.475 - 3.875 + 0}{3.875} \\
 &= 0,15484
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		ASII		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	7.350		
2		February	7.950		0,08163
3		March	7.900		-0,06290
4		April	7.350		-0,06963
5		May	7.050		-0,04082
6		June	7.000		-0,00709
7		July	6.500	150,00	-0,05000
8		August	6.050		-0,06923
9		September	6.450		0,06612
10		October	6.650	64,00	0,04093
11		November	6.250		-0,06015
12		December	6.800		0,08800
13	2014	January	6.425		-0,05515
14		February	6.950		0,08171
15		March	7.375		0,06115
16		April	7.425		0,00678
17		May	7.075		-0,04714
18		June	7.275	152,00	0,04975
19		July	7.725		0,06186
20		August	7.575		-0,01942
21		September	7.050		-0,06931
22		October	6.775	64,00	-0,02993
23		November	7.125		0,05166
24		December	7.425		0,04211
25	2015	January	7.850		0,05724
26		February	7.850		0,00000
27		March	8.575		0,09236
28		April	6.850		-0,20117
29		May	7.300	152,00	0,08788
30		June	7.075		-0,03082
31		July	6.650		-0,06007
32		August	5.925		-0,10902

**Continued Attachment 3**

No	Period		ASII		
	Year	Month	Close Price	Dividend	$R_i$
33		September	5.225		-0,11814
34		October	5.900	64,00	0,14144
35		November	5.925		0,00424
36		December	6.000		0,01266
Total					-0,01586
Average					-0,00044

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{7.950 - 7.350 + 0}{7.350} \\
 &= 0,08163
 \end{aligned}$$



**Rate of individual return ( $R_i$ )**

No	Period		BBCA		
	Year	Month	Close	Dividend	$R_i$
1	2013	January	9.650		
2		February	11.000		0,13990
3		March	11.400		0,03636
4		April	10.750		-0,57020
5		May	10.350		-0,03721
6		June	10.000	71	-0,02696
7		July	10.400		0,04000
8		August	9.050		-0,12981
9		September	10.000		0,10497
10		October	10.450		0,04500
11		November	9.650		-0,07656
12		December	9.600	45,00	-0,00052
13	2014	January	9.925		0,03385
14		February	10.225		0,03023
15		March	10.600		0,00367
16		April	11.000		0,03774
17		May	10.775	120,00	-0,00955
18		June	11.000		0,02088
19		July	11.600		0,05455
20		August	11.200		-0,34480
21		September	13.075		0,16741
22		October	13.050		-0,00191
23		November	13.100		0,00383
24		December	13.125	50,00	0,00573
25	2015	January	13.375		0,01905
26		February	14.100		0,05421
27		March	14.825		0,05142
28		April	13.475		-0,09106
29		May	14.125	148,00	0,05922
30		June	13.500		-0,04425
31		July	13.100		-0,02963
32		August	12.900		-0,01527

**Continued Attachment 3**

No	Period		BBCA		
	Year	Month	Close Price	Dividend	$R_i$
33		September	12.275		-0,04845
34		October	12.900		0,05992
35		November	12.375		-0,04070
36		December	13.300	55,00	0,07919
Total					0,42776
Average					0,01188

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{11.000 - 9.650 + 0}{9.650} \\
 &= 0,13990
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		BBNI		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	3.925		
2		February	4.600		0,17197
3		March	5.050		0,09783
4		April	6.400		0,26733
5		May	4.875	113,35	-0,02257
6		June	4.300		-0,11795
7		July	4.275		-0,00581
8		August	3.850		-0,09942
9		September	4.075		0,05844
10		October	4.800		0,17791
11		November	4.100		-0,14583
12		December	3.950		-0,03659
13	2014	January	4.360		0,10380
14		February	4.550		0,04358
15		March	4.960		0,09011
16		April	4.815		-0,02923
17		May	4.775	145,71	0,02195
18		June	4.765		-0,00209
19		July	5.100		-0,07030
20		August	5.350		0,04902
21		September	5.525		0,03271
22		October	5.950		0,07692
23		November	6.025		0,01261
24		December	6.100		0,01245
25	2015	January	6.250		0,02459
26		February	6.875		0,10000
27		March	7.225		0,05091
28		April	6.425	144,55	-0,09072
29		May	6.875		0,07004
30		June	5.300		-0,22909
31		July	4.760		-0,10189
32		August	4.950		0,03992

**Continued Attachment 3**

No	Period		BBNI		
	Year	Month	Close Price	Dividend	$R_i$
33		September	4.135		-0,16465
34		October	4.755		0,14994
35		November	4.770		0,00315
36		December	4.990		0,04612
Total					0,52776
Average					0,01466

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{4.600 - 3.925 + 0}{3.925} \\
 &= 0,17197
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		BBRI		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	7.950		
2		February	9.450		0,18868
3		March	8.750		-0,07407
4		April	9.400	225.23	0,09980
5		May	8.900		-0,05319
6		June	7.750		-0,12921
7		July	8.250		0,06452
8		August	6.600		-0,20000
9		September	7.250		0,09848
10		October	7.900		0,08966
11		November	7.450		-0,05696
12		December	7.250		-0,02685
13	2014	January	8.325		0,01483
14		February	9.275		0,11411
15		March	9.575		0,03235
16		April	9.900		0,03394
17		May	10.200	257,33	0,05630
18		June	10.325		0,01225
19		July	11.200		0,08475
20		August	11.050		-0,90625
21		September	10.425		-0,05656
22		October	11.075		0,06235
23		November	11.525		0,04063
24		December	11.650		0,01085
25	2015	January	11.675		0,00215
26		February	12.875		0,10278
27		March	13.275		0,03107
28		April	11.625	294,80	-0,10209
29		May	11.775		0,01290
30		June	10.350		-0,12102
31		July	10.000		-0,03382
32		August	10.625		0,06250

**Continued Attachment 3**

No	Period		BBRI		
	Year	Month	Close Price	Dividend	$R_i$
33		September	8.650		-0,18588
34		October	10.525		0,21676
35		November	10.775		0,02375
36		December	11.425		0,06032
Total					0,59613
Average					0,01656

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{9.450 - 7.950 + 0}{7.950} \\
 &= 0,18868
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		BMRI		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	9.050		
2		February	10.050		0,11050
3		March	10.000		-0,00498
4		April	10.500		0,05000
5		May	9.700	199,33	-0,07216
6		June	9.000		-0,07216
7		July	8.900		-0,01111
8		August	7.100		0,20225
9		September	7.950		0,11972
10		October	8.600		0,08176
11		November	7.650		-0,11047
12		December	7.850		0,02614
13	2014	January	8.700		0,10828
14		February	9.100		0,04598
15		March	9.450		0,03846
16		April	9.825	234,05	0,06445
17		May	10.175		0,03562
18		June	9.725		-0,04423
19		July	10.250		0,05398
20		August	10.375		0,01220
21		September	10.075		-0,02892
22		October	10.350		0,02730
23		November	10.525		0,01691
24		December	10.775		0,02375
25	2015	January	11.000		0,02088
26		February	12.000		0,09091
27		March	12.475		0,03058
28		April	10.750	212,91	-0,12121
29		May	10.775		0,00233
30		June	10.050		-0,06729
31		July	9.525		-0,05224
32		August	9.100		-0,04462

**Continued Attachment 3**

No	Period		BMRI		
	Year	Month	Close Price	Dividend	$R_i$
33		September	7.925		0,12912
34		October	8.700		0,09779
35		November	8.500		-0,02299
36		December	9.250		0,08824
Total					0,18600
Average					0,00517

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{10.050 - 9.050 + 0}{9.050} \\
 &= 0,11050
 \end{aligned}$$



**Rate of individual return ( $R_i$ )**

No	Period		BSDE		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	1.400		
2		February	1.600		0,14286
3		March	1.750		0,09375
4		April	1.730		-0,01143
5		May	2.200		0,27168
6		June	1.800		-0,18182
7		July	1.580	15,00	-0,11386
8		August	1.310		-0,17089
9		September	1.440		0,09924
10		October	1.570		0,09028
11		November	1.350		-0,14013
12		December	1.290		-0,04444
13	2014	January	1.440		0,11628
14		February	1.535		0,06597
15		March	1.636		0,06580
16		April	1.560		-0,04645
17		May	1.610		0,03205
18		June	1.485		-0,07764
19		July	1.585	15,00	0,07744
20		August	1.605		0,01262
21		September	1.545		-0,03738
22		October	1.605		0,03883
23		November	1.770		0,10280
24		December	1.805		0,01977
25	2015	January	2.020		0,11911
26		February	2.220		0,09901
27		March	2.135		-0,03829
28		April	1.865		-0,12646
29		May	1.905		0,02145
30		June	1.670	15,00	-0,11549
31		July	1.790		0,07186
32		August	1.605		-0,10355

**Continued Attachment 3**

No	Period		BSDE		
	Year	Month	Close Price	Dividend	$R_i$
33		September	1.402		-0,12648
34		October	1.620		0,15549
35		November	1.685		0,04012
36		December	1.800		0,06825
Total					0,47052
Average					0,01307

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{1.600 - 1.400 + 0}{1.400} \\
 &= 0,14286
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		GGRM		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	51.850		
2		February	48.300		-0,06847
3		March	48.950		0,01346
4		April	49.400		0,00919
5		May	53.500		0,08300
6		June	50.600		-0,05421
7		July	42.350		-0,16304
8		August	37.950	800,00	-0,08501
9		September	35.000		-0,07773
10		October	36.900		0,05429
11		November	37.000		0,00271
12		December	42.000		0,13514
13	2014	January	41.900		-0,00238
14		February	47.700		0,13842
15		March	49.400		0,03564
16		April	56.500		0,14372
17		May	52.050		-0,07876
18		June	53.500		0,02786
19		July	54.200		0,01308
20		August	54.000	800,00	0,01107
21		September	56.675		0,04954
22		October	57.750		0,01897
23		November	61.175		0,05931
24		December	60.700		-0,00776
25	2015	January	57.800		-0,04778
26		February	53.425		-0,07569
27		March	51.000		-0,04539
28		April	50.000		-0,01961
29		May	47.100		-0,05800
30		June	45.100		-0,04246
31		July	49.500	800,00	0,11530
32		August	44.500		-0,10101

**Continued Attachment 3**

No	Period		GGRM		
	Year	Month	Close Price	Dividend	$R_i$
33		September	42.000		-0,05618
34		October	42.950		0,02262
35		November	48.900		0,13853
36		December	55.000		0,12474
Total					0,21311
Average					0,00962

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{48.300 - 51.850 + 0}{51.850} \\
 &= -0,06847
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		ICBP		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	8.000		
2		February	8.500		0,06250
3		March	9.600		0,12941
4		April	11.450		0,19271
5		May	13.100		0,14410
6		June	12.200		-0,06870
7		July	11.200		-0,08197
8		August	10.000		-0,10714
9		September	10.250		0,02500
10		October	11.200		0,09268
11		November	10.000		-0,10714
12		December	10.200		0,02000
13	2014	January	11.000		0,07843
14		February	11.175		0,01591
15		March	10.100		-0,09629
16		April	10.000		-0,00990
17		May	10.200		0,02000
18		June	10.000		-0,01961
19		July	10.450		0,04500
20		August	10.500	190,00	0,02297
21		September	11.350		0,08095
22		October	11.050		-0,02643
23		November	11.250		0,01810
24		December	13.100		0,16444
25	2015	January	14.500		0,10687
26		February	14.300		-0,01379
27		March	14.675		0,02622
28		April	13.200		-0,10051
29		May	14.100		0,06818
30		June	12.475	222,00	-0,09950
31		July	12.300		-0,01403
32		August	12.750		0,03659

**Continued Attachment 3**

No	Period		ICBP		
	Year	Month	Close Price	Dividend	$R_i$
33		September	12.400		-0,02745
34		October	13.200		0,06452
35		November	12.625		-0,04356
36		December	13.475		0,06733
Total					0,66598
Average					0,01850

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{8.500 - 8.000 + 0}{8.000} \\
 &= 0,06250
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		INDF		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	6.050		
2		February	7.300		0,20661
3		March	7.450		0,02055
4		April	7.350		-0,01342
5		May	7.350		0,00000
6		June	7.350		0,00000
7		July	6.500		-0,11565
8		August	6.500	185,00	0,02846
9		September	7.050		0,08462
10		October	6.650		-0,05674
11		November	6.650		0,00000
12		December	6.600		-0,00752
13	2014	January	6.975		0,05682
14		February	7.175		0,02867
15		March	7.300		0,01742
16		April	7.050		-0,03425
17		May	6.825		-0,03191
18		June	6.700		-0,01832
19		July	7.075		0,05597
20		August	6.875	142,00	-0,00820
21		September	7.000		0,01818
22		October	6.825		-0,02500
23		November	6.700		-0,01832
24		December	6.750		0,00746
25	2015	January	7.550		0,11852
26		February	7.400		-0,01987
27		March	7.450		0,00676
28		April	6.750		-0,09396
29		May	7.300		0,08148
30		June	6.576	220,00	-0,06904
31		July	6.100		-0,07238
32		August	5.300		-0,13115

**Continued Attachment 3**

No	Period		INDF		
	Year	Month	Close Price	Dividend	$R_i$
33		September	5.500		0,03774
34		October	5.525		0,00455
35		November	4.875		-0,11765
36		December	5.175		0,06154
Total					0,00198
Average					0,00005

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{7.300 - 6.050 + 0}{6.050} \\
 &= 0,20661
 \end{aligned}$$



**Rate of individual return ( $R_i$ )**

No	Period		INTP		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	21.750		
2		February	21.950		0,00920
3		March	23.300		0,06150
4		April	26.400		0,13305
5		May	23.750		-0,10038
6		June	24.450		0,02947
7		July	20.850	450,00	-0,12883
8		August	19.700		-0,05516
9		September	18.000		-0,08629
10		October	20.900		0,16111
11		November	18.850		-0,09809
12		December	20.000		0,06101
13	2014	January	22.400		0,12000
14		February	22.450		0,00223
15		March	23.375		0,04120
16		April	21.950		-0,06096
17		May	22.650		0,03189
18		June	22.550		-0,00442
19		July	24.950	900,00	0,14634
20		August	24.250		-0,02806
21		September	21.550		-0,11134
22		October	24.000		0,11369
23		November	24.675		0,02813
24		December	25.000		0,01317
25	2015	January	23.000		-0,08000
26		February	24.050		0,04565
27		March	21.925		-0,08826
28		April	21.000		-0,04219
29		May	22.400		0,06667
30		June	20.875	1350,00	-0,00781
31		July	20.025		-0,04072
32		August	19.625		-0,01998

**Continued Attachment 3**

No	Period		INTP		
	Year	Month	Close Price	Dividend	$R_i$
33		September	16.450		-0,16178
34		October	18.000		0,09422
35		November	18.700		0,03889
36		December	22.325		0,19385
Total					0,27691
Average					0,00769

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{21.950 - 21.750 + 0}{21.750} \\
 &= 0,00920
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		KLBF		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	1.090		
2		February	1.290		0,18249
3		March	1.240		-0,03876
4		April	1.390		0,12097
5		May	1.450		0,04317
6		June	1.440		-0,00069
7		July	1.430	19,00	0,00625
8		August	1.350		-0,05594
9		September	1.180		-0,12593
10		October	1.300		0,10169
11		November	1.220		-0,06154
12		December	1.250		0,02459
13	2014	January	1.405		0,12400
14		February	1.450		0,03203
15		March	1.465		0,01034
16		April	1.545		0,05461
17		May	1.540		-0,00324
18		June	1.660		0,07792
19		July	1.730	17,00	0,05241
20		August	1.660		-0,04046
21		September	1.700		0,02410
22		October	1.705		0,00294
23		November	1.750		0,02639
24		December	1.830		0,04571
25	2015	January	1.865		0,01913
26		February	1.805		-0,03217
27		March	1.865		0,03324
28		April	1.795		-0,03753
29		May	1.840		0,02507
30		June	1.875	19,00	0,02935
31		July	1.745		-0,06933
32		August	1.675		-0,04011

**Continued Attachment 3**

No	Period		KLBF		
	Year	Month	Close Price	Dividend	$R_i$
33		September	1.375		-0,17910
34		October	1.430		0,04000
35		November	1.335		-0,06643
36		December	1.320		-0,01124
Total					0,30871
Average					0,00858

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{1.290 - 1.090 + 0}{1.090} \\
 &= 0,18249
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		LSIP		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	2.200		
2		February	2.075		-0,05682
3		March	1.930		-0,06988
4		April	1.520		0,21244
5		May	1.920		0,26316
6		June	1.720		-0,10417
7		July	1.120	66,00	-0,31047
8		August	1.490		0,33036
9		September	1.270		-0,14765
10		October	1.600		0,25984
11		November	1.840		0,15000
12		December	1.930		0,04891
13	2014	January	1.655		-0,14249
14		February	2.070		0,25076
15		March	2.210		0,06763
16		April	2.450		0,10860
17		May	2.310		-0,05714
18		June	2.315		0,00216
19		July	2.100	46,00	-0,07300
20		August	1.870		-0,10952
21		September	1.900		0,01604
22		October	1.945		0,02368
23		November	1.985		0,02057
24		December	1.890		-0,04786
25	2015	January	1.840		-0,02646
26		February	1.880		0,02174
27		March	1.730		-0,07979
28		April	1.425		-0,17630
29		May	1.665		0,16842
30		June	1.555	53,00	-0,03423
31		July	1.355		-0,12862
32		August	1.080		-0,20295

**Continued Attachment 3**

No	Period		LSIP		
	Year	Month	Close Price	Dividend	$R_i$
33		September	1.385		0,28241
34		October	1.550		0,11913
35		November	1.200		-0,22581
36		December	1.320		0,10000
Total					0,02783
Average					0,00077

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{2.075 - 2.200 + 0}{2.200} \\
 &= -0,05682
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		PTBA		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	15.500		
2		February	15.100		-0,02581
3		March	14.400		-0,04636
4		April	15.250		0,05903
5		May	12.200		-0,20000
6		June	13.300	720,75	0,14924
7		July	9.950		-0,25188
8		August	12.100		0,21608
9		September	12.750		0,05372
10		October	12.150		-0,04706
11		November	12.000		-0,01235
12		December	10.200		-0,15000
13	2014	January	9.250		-0,09314
14		February	9.575		0,03514
15		March	9.325		-0,02611
16		April	9.875		0,05898
17		May	10.700	461,97	0,13033
18		June	10.725		0,00234
19		July	11.650		0,08625
20		August	13.350		0,14592
21		September	13.200		-0,01124
22		October	12.950		-0,01894
23		November	13.150		0,01544
24		December	12.500		-0,04943
25	2015	January	11.375		-0,09000
26		February	10.675		-0,06154
27		March	10.750		0,00703
28		April	9.350	324,57	-0,10004
29		May	9.825		0,05080
30		June	8.400		-0,14504
31		July	6.000		-0,25871
32		August	5.850		-0,02500

**Continued Attachment 3**

No	Period		PTBA		
	Year	Month	Close Price	Dividend	$R_i$
33		September	5.625		-0,03846
34		October	7.300		0,29778
35		November	5.600		-0,23288
36		December	4.525		-0,19196
Total					-0,79487
Average					-0,02208

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{15.100 - 15.500 + 0}{15.500} \\
 &= -0,02581
 \end{aligned}$$



**Rate of individual return ( $R_i$ )**

No	Period		SMGR		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	15.750		
2		February	17.350		0,10159
3		March	17.700		0,02017
4		April	18.400		0,03955
5		May	18.000		-0,02174
6		June	17.100	367,74	-0,02957
7		July	15.200		-0,11111
8		August	12.600		-0,17105
9		September	13.000		0,03175
10		October	14.350		0,10385
11		November	12.800		-0,10801
12		December	14.150		0,10547
13	2014	January	14.200		0,00353
14		February	15.000		0,05634
15		March	15.800		0,05333
16		April	14.850		-0,06013
17		May	14.725	407,42	0,01902
18		June	15.075		0,02377
19		July	16.575		0,09950
20		August	16.225		-0,02112
21		September	15.425		-0,04931
22		October	15.875		0,02917
23		November	16.000		0,00787
24		December	16.200		0,01250
25	2015	January	14.575		-0,10031
26		February	14.875		0,02058
27		March	13.650		-0,08235
28		April	12.500		-0,08425
29		May	13.450	375,34	0,10603
30		June	12.000		-0,10781
31		July	10.100		-0,15833
32		August	9.250		-0,08416

**Continued Attachment 3**

No	Period		SMGR		
	Year	Month	Close Price	Dividend	$R_i$
33		September	9.050		-0,02162
34		October	9.800		0,08287
35		November	10.625		0,08418
36		December	11.400		0,07294
Total					-0,13685
Average					-0,00380

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{17.350 - 15.750 + 0}{15.750} \\
 &= 0,10159
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		UNTR		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	19.750		
2		February	19.300		-0,02278
3		March	18.200		-0,05699
4		April	17.750		-0,02473
5		May	16.300	620,00	-0,04676
6		June	18.200		0,22656
7		July	16.800		-0,07692
8		August	15.800		-0,05952
9		September	16.300		0,03165
10		October	17.500	175,00	0,08436
11		November	18.250		0,04286
12		December	19.000		0,04110
13	2014	January	19.300		0,01579
14		February	18.975		-0,01684
15		March	20.750		0,09354
16		April	21.700		0,04578
17		May	21.675		-0,00115
18		June	23.100	515,00	0,08950
19		July	22.900		-0,00866
20		August	22.150		-0,03275
21		September	19.900		-0,10158
22		October	18.375	195,00	-0,06683
23		November	18.325		-0,00272
24		December	17.350		-0,05321
25	2015	January	17.900		0,03170
26		February	20.750		0,15922
27		March	21.800		0,05060
28		April	21.400		-0,01835
29		May	20.300	740,00	-0,01682
30		June	20.375		0,00369
31		July	20.200		-0,00859
32		August	19.125		-0,05322

**Continued Attachment 3**

No	Period		UNTR		
	Year	Month	Close Price	Dividend	$R_i$
33		September	17.475		-0,08627
34		October	18.100	251,00	0,05013
35		November	16.300		-0,09945
36		December	16.950		0,03988
Total					0,04221
Average					0,00117

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{19.300 - 19.750 + 0}{19.750} \\
 &= -0,02278
 \end{aligned}$$

**Rate of individual return ( $R_i$ )**

No	Period		UNVR		
	Year	Month	Close Price	Dividend	$R_i$
1	2013	January	22.050		
2		February	22.850		0,03628
3		March	22.800		-0,00219
4		April	26.250		0,15132
5		May	30.500		0,16190
6		June	30.750		0,00820
7		July	31.800	334,00	0,04501
8		August	31.200		-0,01887
9		September	30.150		-0,03365
10		October	30.000		-0,00498
11		November	26.600		-0,11333
12		December	26.000	330,00	-0,01015
13	2014	January	28.550		0,09808
14		February	28.575		0,00088
15		March	29.250		0,02362
16		April	29.250		0,00000
17		May	29.125		-0,00427
18		June	29.275		0,00515
19		July	30.750	371,00	0,06306
20		August	31.029		0,00907
21		September	31.800		0,02485
22		October	30.400		-0,04403
23		November	31.800		0,04605
24		December	32.300	336,00	0,02629
25	2015	January	35.825		0,10913
26		February	36.000		0,00488
27		March	39.650		0,10139
28		April	42.650		0,07566
29		May	43.300		0,01524
30		June	39.500		-0,08776
31		July	40.000		0,01266
32		August	39.725		-0,00688

**Continued Attachment 3**

No	Period		UNVR		
	Year	Month	Close Price	Dividend	$R_i$
33		September	38.000		-0,04342
34		October	37.000		-0,02632
35		November	36.750		-0,00676
36		December	37.000	342,00	0,01611
Total					0,63223
Average					0,01756

Calculation example:

$$\begin{aligned}
 R_i \text{ February 2013} &= \frac{\text{close price Feb} - \text{close price Jan} + \text{Dividend Feb}}{\text{close price Jan}} \\
 &= \frac{22.850 - 22.050 + 0}{22.050} \\
 &= 0,03628
 \end{aligned}$$

### Attachment 4

#### Beta Calculation

No	Period		ADRO							
	Year	Month	a	b	C	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{It}}$	$R_{it} - \overline{R_{It}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	-0,04848	-0,02372	-0,02476	0,07681	0,00165	0,07516	-0,001861	0,005649
3		March	-0,16561	-0,02372	-0,14189	0,03028	0,00165	0,02863	-0,004062	0,000820
4		April	-0,06107	-0,02372	-0,03735	0,01884	0,00165	0,01719	-0,000642	0,000295
5		May	-0,24390	-0,02372	-0,22018	0,00687	0,00165	0,00522	-0,001149	0,000027
6		June	-0,06198	-0,02372	-0,03826	-0,04927	0,00165	-0,05092	0,001948	0,002593
7		July	-0,18605	-0,02372	-0,16233	-0,04327	0,00165	-0,04492	0,007292	0,002018
8		Aug	0,32857	-0,02372	0,35229	-0,09008	0,00165	-0,09173	-0,032316	0,008414
9		Sept	-0,03226	-0,02372	-0,00854	0,02886	0,00165	0,02721	-0,000232	0,000740
10		Oct	0,13333	-0,02372	0,15705	0,04505	0,00165	0,04340	0,006816	0,001884
11		Nov	0,10784	-0,02372	0,13156	-0,05458	0,00165	-0,05623	-0,007398	0,003162
12		Dec	-0,03540	-0,02372	-0,01168	0,00228	0,00165	0,00063	-0,000007	0,000000
13	2014	Jan	-0,11440	-0,02372	-0,09068	0,03383	0,00165	0,03218	-0,002918	0,001036
14		Feb	0,04737	-0,02372	0,07109	0,04559	0,00165	0,04394	0,003124	0,001931
15		March	-0,01508	-0,02372	0,00864	0,03205	0,00165	0,03040	0,000263	0,000924
16		April	0,20918	-0,02372	0,23290	0,01507	0,00165	0,01342	0,003126	0,000180
17		May	0,03376	-0,02372	0,05748	0,01111	0,00165	0,00946	0,000544	0,000089
18		June	-0,02982	-0,02372	-0,00610	-0,00313	0,00165	-0,00478	0,000029	0,000023
19		July	0,00851	-0,02372	0,03223	0,04309	0,00165	0,04144	0,001336	0,001717
20		Aug	0,10970	-0,02372	0,13342	0,00944	0,00165	0,00779	0,001039	0,000061
21		Sept	-0,10646	-0,02372	-0,08274	0,00014	0,00165	-0,00151	0,000125	0,000002

**Continued Attachment 4**

No	Period		ADRO							covariance c*f	Variance f <sup>2</sup>
	Year	Month	a	b	c	d	e	f			
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$			
22	2015	Oct	-0,03404	-0,02372	-0,01032	-0,00935	0,00165	-0,01100	0,000114	0,000121	
23		Nov	-0,04846	-0,02372	-0,02474	0,01186	0,00165	0,01021	-0,000253	0,000104	
24		Dec	-0,03704	-0,02372	-0,01332	0,01496	0,00165	0,01331	-0,000177	0,000177	
25		Jan	-0,02718	-0,02372	-0,00346	0,01195	0,00165	0,01030	-0,000036	0,000106	
26		Feb	-0,04000	-0,02372	-0,01628	0,03042	0,00165	0,02877	-0,000468	0,000828	
27		March	-0,01042	-0,02372	0,01330	0,01255	0,00165	0,01090	0,000145	0,000119	
28		April	-0,07895	-0,02372	-0,05523	-0,07832	0,00165	-0,07997	0,004417	0,006395	
29		May	0,00402	-0,02372	0,02774	0,02555	0,00165	0,02390	0,000663	0,000571	
30		June	-0,11628	-0,02372	-0,09256	-0,05861	0,00165	-0,06026	0,005578	0,003631	
31		July	-0,22368	-0,02372	-0,19996	-0,02202	0,00165	-0,02367	0,004733	0,000560	
32		Aug	0,00847	-0,02372	0,03219	-0,06099	0,00165	-0,06264	-0,002016	0,003924	
33		Sept	-0,10084	-0,02372	-0,07712	-0,06335	0,00165	-0,06500	0,005013	0,004225	
34	Oct	0,11215	-0,02372	0,13587	0,05475	0,00165	0,05310	0,007215	0,002820		
35	Nov	-0,07563	-0,02372	-0,05191	-0,00196	0,00165	-0,00361	0,000187	0,000013		
36	Dec	-0,06364	-0,02372	-0,03992	0,03296	0,00165	0,03131	-0,001250	0,000980		
Total									-0,001081	0,056140	
Beta									-0,01926		

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(-0,04848 - (-0,02372)) \times (0,07681 - 0,00165)] + \dots + [(-0,06364 - (-0,02372)) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{-0,001081}{0,056140} = -0,01926$$



**Beta Calculation**

No	Period		AKRA,							
	Year	Month	a	b	c	d	e	F	Covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,15484	0,02334	0,13150	0,07681	0,00165	0,07516	0,009884	0,005649
3		March	0,11732	0,02334	0,09398	0,03028	0,00165	0,02863	0,002691	0,000820
4		April	0,03000	0,02334	0,00666	0,01884	0,00165	0,01719	0,000114	0,000295
5		May	0,03883	0,02334	0,01549	0,00687	0,00165	0,00522	0,000081	0,000027
6		June	0,00280	0,02334	-0,02054	-0,04927	0,00165	-0,05092	0,001046	0,002593
7		July	-0,18396	0,02334	-0,20730	-0,04327	0,00165	-0,04492	0,009312	0,002018
8		Aug	-0,08092	0,02334	-0,10426	-0,09008	0,00165	-0,09173	0,009564	0,008414
9		Sept	0,00629	0,02334	-0,01705	0,02886	0,00165	0,02721	-0,000464	0,000740
10		Oct	0,22500	0,02334	0,20166	0,04505	0,00165	0,04340	0,008752	0,001884
11		Nov	-0,03608	0,02334	-0,05942	-0,05458	0,00165	-0,05623	0,003341	0,003162
12		Dec	-0,06417	0,02334	-0,08751	0,00228	0,00165	0,00063	-0,000055	0,000000
13	2014	Jan	0,00571	0,02334	-0,01763	0,03383	0,00165	0,03218	-0,000567	0,001036
14		Feb	0,03636	0,02334	0,01302	0,04559	0,00165	0,04394	0,000572	0,001931
15		March	0,06031	0,02334	0,03697	0,03205	0,00165	0,03040	0,001124	0,000924
16		April	-0,01344	0,02334	-0,03678	0,01507	0,00165	0,01342	-0,000494	0,000180
17		May	-0,13522	0,02334	-0,15856	0,01111	0,00165	0,00946	-0,001500	0,000089
18		June	0,06545	0,02334	0,04211	-0,00313	0,00165	-0,00478	-0,000201	0,000023
19		July	0,01617	0,02334	-0,00717	0,04309	0,00165	0,04144	-0,000297	0,001717
20		Aug	0,19318	0,02334	0,16984	0,00944	0,00165	0,00779	0,001323	0,000061
21		Sept	0,04762	0,02334	0,02428	0,00014	0,00165	-0,00151	-0,000037	0,000002
22		Oct	-0,09633	0,02334	-0,11967	-0,00935	0,00165	-0,01100	0,001316	0,000121

**Continued Attachment 4**

No	Period		AKRA							
	Year	Month	a	b	c	d	e	F	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
23		Nov	-0,05584	0,02334	-0,07918	0,01186	0,00165	0,01021	-0,000808	0,000104
24		Dec	-0,11398	0,02334	-0,13732	0,01496	0,00165	0,01331	-0,001828	0,000177
25	2015	Jan	0,13956	0,02334	0,11622	0,01195	0,00165	0,01030	0,001197	0,000106
26		Feb	0,03727	0,02334	0,01393	0,03042	0,00165	0,02877	0,000401	0,000828
27		March	0,05236	0,02334	0,02902	0,01255	0,00165	0,01090	0,000316	0,000119
28		April	0,01463	0,02334	-0,00871	-0,07832	0,00165	-0,07997	0,000697	0,006395
29		May	0,06827	0,02334	0,04493	0,02555	0,00165	0,02390	0,001074	0,000571
30		June	0,08219	0,02334	0,05885	-0,05861	0,00165	-0,06026	-0,003546	0,003631
31		July	-0,02954	0,02334	-0,05288	-0,02202	0,00165	-0,02367	0,001252	0,000560
32		Aug	0,07391	0,02334	0,05057	-0,06099	0,00165	-0,06264	-0,003168	0,003924
33		Sept	-0,03704	0,02334	-0,06038	-0,06335	0,00165	-0,06500	0,003925	0,004225
34		Oct	0,00855	0,02334	-0,01479	0,05475	0,00165	0,05310	-0,000785	0,002820
35		Nov	0,03390	0,02334	0,01056	-0,00196	0,00165	-0,00361	-0,000038	0,000013
36		Dec	0,17623	0,02334	0,15289	0,03296	0,00165	0,03131	0,004787	0,000980
Total									0,048979	0,056140
Beta									0,87244	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,15484 - 0,02334) \times (0,07681 - 0,00165)] + \dots + [(0,17623 - 0,02334) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,048979}{0,056140} = 0,87244$$

**Beta Calculation**

No	Period		ASII							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$R_{it}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,08163	-0,00044	0,08207	0,07681	0,00165	0,07516	0,006168	0,005649
3		March	-0,06290	-0,00044	-0,06246	0,03028	0,00165	0,02863	-0,001788	0,000820
4		April	-0,06963	-0,00044	-0,06919	0,01884	0,00165	0,01719	-0,001189	0,000295
5		May	-0,04082	-0,00044	-0,04038	0,00687	0,00165	0,00522	-0,000211	0,000027
6		June	-0,00709	-0,00044	-0,00665	-0,04927	0,00165	-0,05092	0,000339	0,002593
7		July	-0,05000	-0,00044	-0,04956	-0,04327	0,00165	-0,04492	0,002226	0,002018
8		Aug	-0,06923	-0,00044	-0,06879	-0,09008	0,00165	-0,09173	0,006310	0,008414
9		Sept	0,06612	-0,00044	0,06656	0,02886	0,00165	0,02721	0,001811	0,000740
10		Oct	0,04093	-0,00044	0,04137	0,04505	0,00165	0,04340	0,001795	0,001884
11		Nov	-0,06015	-0,00044	-0,05971	-0,05458	0,00165	-0,05623	0,003357	0,003162
12		Dec	0,08800	-0,00044	0,08844	0,00228	0,00165	0,00063	0,000056	0,000000
13	2014	Jan	-0,05515	-0,00044	-0,05471	0,03383	0,00165	0,03218	-0,001761	0,001036
14		Feb	0,08171	-0,00044	0,08215	0,04559	0,00165	0,04394	0,003610	0,001931
15		March	0,06115	-0,00044	0,06159	0,03205	0,00165	0,03040	0,001872	0,000924
16		April	0,00678	-0,00044	0,00722	0,01507	0,00165	0,01342	0,000097	0,000180
17		May	-0,04714	-0,00044	-0,04670	0,01111	0,00165	0,00946	-0,000442	0,000089
18		June	0,04975	-0,00044	0,05019	-0,00313	0,00165	-0,00478	-0,000240	0,000023
19		July	0,06186	-0,00044	0,06230	0,04309	0,00165	0,04144	0,002582	0,001717
20		Aug	-0,01942	-0,00044	-0,01898	0,00944	0,00165	0,00779	-0,000148	0,000061
21		Sept	-0,06931	-0,00044	-0,06887	0,00014	0,00165	-0,00151	0,000104	0,000002
22		Oct	-0,02993	-0,00044	-0,02949	-0,00935	0,00165	-0,01100	0,000324	0,000121

**Continued Attachment 4**

No	Period		ASII							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
23		Nov	0,05166	-0,00044	0,05210	0,01186	0,00165	0,01021	0,000532	0,000104
24		Dec	0,04211	-0,00044	0,04255	0,01496	0,00165	0,01331	0,000566	0,000177
25	2015	Jan	0,05724	-0,00044	0,05768	0,01195	0,00165	0,01030	0,000594	0,000106
26		Feb	0,00000	-0,00044	0,00044	0,03042	0,00165	0,02877	0,000013	0,000828
27		March	0,09236	-0,00044	0,09280	0,01255	0,00165	0,01090	0,001012	0,000119
28		April	-0,20117	-0,00044	-0,20073	-0,07832	0,00165	-0,07997	0,016052	0,006395
29		May	0,08788	-0,00044	0,08832	0,02555	0,00165	0,02390	0,002111	0,000571
30		June	-0,03082	-0,00044	-0,03038	-0,05861	0,00165	-0,06026	0,001831	0,003631
31		July	-0,06007	-0,00044	-0,05963	-0,02202	0,00165	-0,02367	0,001411	0,000560
32		Aug	-0,10902	-0,00044	-0,10858	-0,06099	0,00165	-0,06264	0,006801	0,003924
33		Sept	-0,11814	-0,00044	-0,11770	-0,06335	0,00165	-0,06500	0,007651	0,004225
34		Oct	0,14144	-0,00044	0,14188	0,05475	0,00165	0,05310	0,007534	0,002820
35		Nov	0,00424	-0,00044	0,00468	-0,00196	0,00165	-0,00361	-0,000017	0,000013
36		Dec	0,01266	-0,00044	0,01310	0,03296	0,00165	0,03131	0,000410	0,000980
Total									0,071375	0,056140
Beta									1,27136	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,08163 - (-0,00044)) \times (0,07681 - 0,00165)] + \dots + [(0,01266 - (-0,00044)) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,071375}{0,056140} = 1,27136$$

**Beta Calculation**

No	Period		BBCA							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,13990	0,01188	0,12802	0,07681	0,00165	0,07516	0,009622	0,005649
3		March	0,03636	0,01188	0,02448	0,03028	0,00165	0,02863	0,000701	0,000820
4		April	-0,57020	0,01188	-0,58208	0,01884	0,00165	0,01719	-0,010006	0,000295
5		May	-0,03721	0,01188	-0,04909	0,00687	0,00165	0,00522	-0,000256	0,000027
6		June	-0,02696	0,01188	-0,03884	-0,04927	0,00165	-0,05092	0,001978	0,002593
7		July	0,04000	0,01188	0,02812	-0,04327	0,00165	-0,04492	-0,001263	0,002018
8		Aug	-0,12981	0,01188	-0,14169	-0,09008	0,00165	-0,09173	0,012997	0,008414
9		Sept	0,10497	0,01188	0,09309	0,02886	0,00165	0,02721	0,002533	0,000740
10		Oct	0,04500	0,01188	0,03312	0,04505	0,00165	0,04340	0,001437	0,001884
11		Nov	-0,07656	0,01188	-0,08844	-0,05458	0,00165	-0,05623	0,004973	0,003162
12		Dec	-0,00052	0,01188	-0,01240	0,00228	0,00165	0,00063	-0,000008	0,000000
13	2014	Jan	0,03385	0,01188	0,02197	0,03383	0,00165	0,03218	0,000707	0,001036
14		Feb	0,03023	0,01188	0,01835	0,04559	0,00165	0,04394	0,000806	0,001931
15		March	0,00367	0,01188	-0,00821	0,03205	0,00165	0,03040	-0,000250	0,000924
16		April	0,03774	0,01188	0,02586	0,01507	0,00165	0,01342	0,000347	0,000180
17		May	-0,00955	0,01188	-0,02143	0,01111	0,00165	0,00946	-0,000203	0,000089
18		June	0,02088	0,01188	0,00900	-0,00313	0,00165	-0,00478	-0,000043	0,000023
19		July	0,05455	0,01188	0,04267	0,04309	0,00165	0,04144	0,001768	0,001717
20		Aug	-0,34480	0,01188	-0,35668	0,00944	0,00165	0,00779	-0,002779	0,000061
21		Sept	0,16741	0,01188	0,15553	0,00014	0,00165	-0,00151	-0,000235	0,000002
22		Oct	-0,00191	0,01188	-0,01379	-0,00935	0,00165	-0,01100	0,000152	0,000121
23		Nov	0,00383	0,01188	-0,00805	0,01186	0,00165	0,01021	-0,000082	0,000104

**Continued Attachment 4**

No	Period		BBCA							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	0,00573	0,01188	-0,00615	0,01496	0,00165	0,01331	-0,000082	0,000177
25	2015	Jan	0,01905	0,01188	0,00717	0,01195	0,00165	0,01030	0,000074	0,000106
26		Feb	0,05421	0,01188	0,04233	0,03042	0,00165	0,02877	0,001218	0,000828
27		March	0,05142	0,01188	0,03954	0,01255	0,00165	0,01090	0,000431	0,000119
28		April	-0,09106	0,01188	-0,10294	-0,07832	0,00165	-0,07997	0,008232	0,006395
29		May	0,05922	0,01188	0,04734	0,02555	0,00165	0,02390	0,001131	0,000571
30		June	-0,04425	0,01188	-0,05613	-0,05861	0,00165	-0,06026	0,003382	0,003631
31		July	-0,02963	0,01188	-0,04151	-0,02202	0,00165	-0,02367	0,000983	0,000560
32		Aug	-0,01527	0,01188	-0,02715	-0,06099	0,00165	-0,06264	0,001701	0,003924
33		Sept	-0,04845	0,01188	-0,06033	-0,06335	0,00165	-0,06500	0,003921	0,004225
34		Oct	0,05992	0,01188	0,04804	0,05475	0,00165	0,05310	0,002551	0,002820
35		Nov	-0,04070	0,01188	-0,05258	-0,00196	0,00165	-0,00361	0,000190	0,000013
36		Dec	0,07919	0,01188	0,06731	0,03296	0,00165	0,03131	0,002107	0,000980
Total									0,048737	0,056140
Beta									0,86812	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,13990 - 0,01188) \times (0,07681 - 0,00165)] + \dots + [(0,07919 - 0,01188) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,048737}{0,056140} = 0,86812$$

**Beta Calculation**

No	Period		BBNI							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,17197	0,01466	0,15731	0,07681	0,00165	0,07516	0,011823	0,005649
3		March	0,09783	0,01466	0,08317	0,03028	0,00165	0,02863	0,002381	0,000820
4		April	0,26733	0,01466	0,25267	0,01884	0,00165	0,01719	0,004343	0,000295
5		May	-0,02257	0,01466	-0,03723	0,00687	0,00165	0,00522	-0,000194	0,000027
6		June	-0,11795	0,01466	-0,13261	-0,04927	0,00165	-0,05092	0,006753	0,002593
7		July	-0,00581	0,01466	-0,02047	-0,04327	0,00165	-0,04492	0,000920	0,002018
8		Aug	-0,09942	0,01466	-0,11408	-0,09008	0,00165	-0,09173	0,010465	0,008414
9		Sept	0,05844	0,01466	0,04378	0,02886	0,00165	0,02721	0,001191	0,000740
10		Oct	0,17791	0,01466	0,16325	0,04505	0,00165	0,04340	0,007085	0,001884
11		Nov	-0,14583	0,01466	-0,16049	-0,05458	0,00165	-0,05623	0,009024	0,003162
12		Dec	-0,03659	0,01466	-0,05125	0,00228	0,00165	0,00063	-0,000032	0,000000
13	2014	Jan	0,10380	0,01466	0,08914	0,03383	0,00165	0,03218	0,002869	0,001036
14		Feb	0,04358	0,01466	0,02892	0,04559	0,00165	0,04394	0,001271	0,001931
15		March	0,09011	0,01466	0,07545	0,03205	0,00165	0,03040	0,002294	0,000924
16		April	-0,02923	0,01466	-0,04389	0,01507	0,00165	0,01342	-0,000589	0,000180
17		May	0,02195	0,01466	0,00729	0,01111	0,00165	0,00946	0,000069	0,000089
18		June	-0,00209	0,01466	-0,01675	-0,00313	0,00165	-0,00478	0,000080	0,000023
19		July	-0,07030	0,01466	-0,08496	0,04309	0,00165	0,04144	-0,003521	0,001717
20		Aug	0,04902	0,01466	0,03436	0,00944	0,00165	0,00779	0,000268	0,000061
21		Sept	0,03271	0,01466	0,01805	0,00014	0,00165	-0,00151	-0,000027	0,000002
22		Oct	0,07692	0,01466	0,06226	-0,00935	0,00165	-0,01100	-0,000685	0,000121
23		Nov	0,01261	0,01466	-0,00205	0,01186	0,00165	0,01021	-0,000021	0,000104

**Continued Attachment 4**

No	Period		BBNI							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	0,01245	0,01466	-0,00221	0,01496	0,00165	0,01331	-0,000029	0,000177
25	2015	Jan	0,02459	0,01466	0,00993	0,01195	0,00165	0,01030	0,000102	0,000106
26		Feb	0,10000	0,01466	0,08534	0,03042	0,00165	0,02877	0,002455	0,000828
27		March	0,05091	0,01466	0,03625	0,01255	0,00165	0,01090	0,000395	0,000119
28		April	-0,09072	0,01466	-0,10538	-0,07832	0,00165	-0,07997	0,008427	0,006395
29		May	0,07004	0,01466	0,05538	0,02555	0,00165	0,02390	0,001324	0,000571
30		June	-0,22909	0,01466	-0,24375	-0,05861	0,00165	-0,06026	0,014688	0,003631
31		July	-0,10189	0,01466	-0,11655	-0,02202	0,00165	-0,02367	0,002759	0,000560
32		Aug	0,03992	0,01466	0,02526	-0,06099	0,00165	-0,06264	-0,001582	0,003924
33		Sept	-0,16465	0,01466	-0,17931	-0,06335	0,00165	-0,06500	0,011655	0,004225
34		Oct	0,14994	0,01466	0,13528	0,05475	0,00165	0,05310	0,007183	0,002820
35		Nov	0,00315	0,01466	-0,01151	-0,00196	0,00165	-0,00361	0,000042	0,000013
36		Dec	0,04612	0,01466	0,03146	0,03296	0,00165	0,03131	0,000985	0,000980
Total									0,104169	0,056140
Beta									1,85551	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,17197 - 0,01466) \times (0,07681 - 0,00165)] + \dots + [(0,04612 - 0,01466) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,104169}{0,056140} = 1,85551$$



**Beta Calculation**

No	Period		BBRI							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,18868	0,01656	0,17212	0,07681	0,00165	0,07516	0,012937	0,005649
3		March	-0,07407	0,01656	-0,09063	0,03028	0,00165	0,02863	-0,002595	0,000820
4		April	0,09980	0,01656	0,08324	0,01884	0,00165	0,01719	0,001431	0,000295
5		May	-0,05319	0,01656	-0,06975	0,00687	0,00165	0,00522	-0,000364	0,000027
6		June	-0,12921	0,01656	-0,14577	-0,04927	0,00165	-0,05092	0,007423	0,002593
7		July	0,06452	0,01656	0,04796	-0,04327	0,00165	-0,04492	-0,002154	0,002018
8		Aug	-0,20000	0,01656	-0,21656	-0,09008	0,00165	-0,09173	0,019865	0,008414
9		Sept	0,09848	0,01656	0,08192	0,02886	0,00165	0,02721	0,002229	0,000740
10		Oct	0,08966	0,01656	0,07310	0,04505	0,00165	0,04340	0,003173	0,001884
11		Nov	-0,05696	0,01656	-0,07352	-0,05458	0,00165	-0,05623	0,004134	0,003162
12		Dec	-0,02685	0,01656	-0,04341	0,00228	0,00165	0,00063	-0,000027	0,000000
13	2014	Jan	0,01483	0,01656	-0,00173	0,03383	0,00165	0,03218	-0,000056	0,001036
14		Feb	0,11411	0,01656	0,09755	0,04559	0,00165	0,04394	0,004286	0,001931
15		March	0,03235	0,01656	0,01579	0,03205	0,00165	0,03040	0,000480	0,000924
16		April	0,03394	0,01656	0,01738	0,01507	0,00165	0,01342	0,000233	0,000180
17		May	0,05630	0,01656	0,03974	0,01111	0,00165	0,00946	0,000376	0,000089
18		June	0,01225	0,01656	-0,00431	-0,00313	0,00165	-0,00478	0,000021	0,000023
19		July	0,08475	0,01656	0,06819	0,04309	0,00165	0,04144	0,002826	0,001717
20		Aug	-0,90625	0,01656	-0,92281	0,00944	0,00165	0,00779	-0,007189	0,000061
21		Sept	-0,05656	0,01656	-0,07312	0,00014	0,00165	-0,00151	0,000110	0,000002
22		Oct	0,06235	0,01656	0,04579	-0,00935	0,00165	-0,01100	-0,000504	0,000121
23		Nov	0,04063	0,01656	0,02407	0,01186	0,00165	0,01021	0,000246	0,000104

**Continued Attachment 4**

No	Period		BBRI							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	0,01085	0,01656	-0,00571	0,01496	0,00165	0,01331	-0,000076	0,000177
25	2015	Jan	0,00215	0,01656	-0,01441	0,01195	0,00165	0,01030	-0,000148	0,000106
26		Feb	0,10278	0,01656	0,08622	0,03042	0,00165	0,02877	0,002481	0,000828
27		March	0,03107	0,01656	0,01451	0,01255	0,00165	0,01090	0,000158	0,000119
28		April	-0,10209	0,01656	-0,11865	-0,07832	0,00165	-0,07997	0,009488	0,006395
29		May	0,01290	0,01656	-0,00366	0,02555	0,00165	0,02390	-0,000087	0,000571
30		June	-0,12102	0,01656	-0,13758	-0,05861	0,00165	-0,06026	0,008291	0,003631
31		July	-0,03382	0,01656	-0,05038	-0,02202	0,00165	-0,02367	0,001192	0,000560
32		Aug	0,06250	0,01656	0,04594	-0,06099	0,00165	-0,06264	-0,002878	0,003924
33		Sept	-0,18588	0,01656	-0,20244	-0,06335	0,00165	-0,06500	0,013159	0,004225
34		Oct	0,21676	0,01656	0,20020	0,05475	0,00165	0,05310	0,010631	0,002820
35		Nov	0,02375	0,01656	0,00719	-0,00196	0,00165	-0,00361	-0,000026	0,000013
36		Dec	0,06032	0,01656	0,04376	0,03296	0,00165	0,03131	0,001370	0,000980
Total									0,090434	0,056140
Beta									1,61086	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,18868 - 0,01656) \times (0,07681 - 0,00165)] + \dots + [(0,06032 - 0,01656) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,090434}{0,056140} = 1,61086$$

**Beta Calculation**

No	Period		BMRI							
	Year	Month	a	b	c	d	E	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_t - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,11050	0,00517	0,10586	0,07681	0,00165	0,07516	0,007917	0,005649
3		March	-0,00498	0,00517	-0,00962	0,03028	0,00165	0,02863	-0,000291	0,000820
4		April	0,05000	0,00517	0,04536	0,01884	0,00165	0,01719	0,000771	0,000295
5		May	-0,05721	0,00517	-0,08083	0,00687	0,00165	0,00522	-0,000326	0,000027
6		June	-0,07216	0,00517	-0,07680	-0,04927	0,00165	-0,05092	0,003938	0,002593
7		July	-0,01111	0,00517	-0,01575	-0,04327	0,00165	-0,04492	0,000731	0,002018
8		Aug	0,20225	0,00517	0,19761	-0,09008	0,00165	-0,09173	-0,018078	0,008414
9		Sept	0,11972	0,00517	0,11508	0,02886	0,00165	0,02721	0,003117	0,000740
10		Oct	0,08176	0,00517	0,07712	0,04505	0,00165	0,04340	0,003324	0,001884
11		Nov	-0,11047	0,00517	-0,11511	-0,05458	0,00165	-0,05623	0,006502	0,003162
12		Dec	0,02614	0,00517	0,02150	0,00228	0,00165	0,00063	0,000013	0,000000
13	2014	Jan	0,10828	0,00517	0,10364	0,03383	0,00165	0,03218	0,003318	0,001036
14		Feb	0,04598	0,00517	0,04134	0,04559	0,00165	0,04394	0,001793	0,001931
15		March	0,03846	0,00517	0,03382	0,03205	0,00165	0,03040	0,001012	0,000924
16		April	0,06445	0,00517	0,05981	0,01507	0,00165	0,01342	0,000796	0,000180
17		May	0,03562	0,00517	0,03098	0,01111	0,00165	0,00946	0,000288	0,000089
18		June	-0,04423	0,00517	-0,04887	-0,00313	0,00165	-0,00478	0,000236	0,000023
19		July	0,05398	0,00517	0,04934	0,04309	0,00165	0,04144	0,002023	0,001717
20		Aug	0,01220	0,00517	0,00756	0,00944	0,00165	0,00779	0,000055	0,000061
21		Sept	-0,02892	0,00517	-0,03356	0,00014	0,00165	-0,00151	0,000051	0,000002
22		Oct	0,02730	0,00517	0,02266	-0,00935	0,00165	-0,01100	-0,000243	0,000121
23		Nov	0,01691	0,00517	0,01227	0,01186	0,00165	0,01021	0,000120	0,000104

**Continued Attachment 4**

No	Period		BMRI							
	Year	Month	a	b	c	d	E	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	0,02375	0,00517	0,01911	0,01496	0,00165	0,01331	0,000247	0,000177
25	2015	Jan	0,02088	0,00517	0,01624	0,01195	0,00165	0,01030	0,000162	0,000106
26		Feb	0,09091	0,00517	0,08627	0,03042	0,00165	0,02877	0,002467	0,000828
27		March	0,03058	0,00517	0,02594	0,01255	0,00165	0,01090	0,000277	0,000119
28		April	-0,12121	0,00517	-0,12585	-0,07832	0,00165	-0,07997	0,010107	0,006395
29		May	0,00233	0,00517	-0,00231	0,02555	0,00165	0,02390	-0,000068	0,000571
30		June	-0,06729	0,00517	-0,07193	-0,05861	0,00165	-0,06026	0,004366	0,003631
31		July	-0,05224	0,00517	-0,05688	-0,02202	0,00165	-0,02367	0,001359	0,000560
32		Aug	-0,04462	0,00517	-0,04926	-0,06099	0,00165	-0,06264	0,003119	0,003924
33		Sept	0,12912	0,00517	0,12448	-0,06335	0,00165	-0,06500	-0,008057	0,004225
34		Oct	0,09779	0,00517	0,09315	0,05475	0,00165	0,05310	0,004918	0,002820
35		Nov	-0,02299	0,00517	-0,02763	-0,00196	0,00165	-0,00361	0,000102	0,000013
36		Dec	0,08824	0,00517	0,08360	0,03296	0,00165	0,03131	0,002601	0,000980
Total									0,038666	0,056140
Beta									0,68874	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,11050 - 0,00517) \times (0,07681 - 0,00165)] + \dots + [(0,08824 - 0,00517) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,038666}{0,056140} = 0,68874$$

**Beta Calculation**

No	Period		BSDE							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,14286	0,01307	0,12979	0,07681	0,00165	0,07516	0,009755	0,005649
3		March	0,09375	0,01307	0,08068	0,03028	0,00165	0,02863	0,002310	0,000820
4		April	-0,01143	0,01307	-0,02450	0,01884	0,00165	0,01719	-0,000421	0,000295
5		May	0,27168	0,01307	0,25861	0,00687	0,00165	0,00522	0,001350	0,000027
6		June	-0,18182	0,01307	-0,19489	-0,04927	0,00165	-0,05092	0,009924	0,002593
7		July	-0,11386	0,01307	-0,12693	-0,04327	0,00165	-0,04492	0,005702	0,002018
8		Aug	-0,17089	0,01307	-0,18396	-0,09008	0,00165	-0,09173	0,016875	0,008414
9		Sept	0,09924	0,01307	0,08617	0,02886	0,00165	0,02721	0,002345	0,000740
10		Oct	0,09028	0,01307	0,07721	0,04505	0,00165	0,04340	0,003351	0,001884
11		Nov	-0,14013	0,01307	-0,15320	-0,05458	0,00165	-0,05623	0,008614	0,003162
12		Dec	-0,04444	0,01307	-0,05751	0,00228	0,00165	0,00063	-0,000036	0,000000
13	2014	Jan	0,11628	0,01307	0,10321	0,03383	0,00165	0,03218	0,003321	0,001036
14		Feb	0,06597	0,01307	0,05290	0,04559	0,00165	0,04394	0,002324	0,001931
15		March	0,06580	0,01307	0,05273	0,03205	0,00165	0,03040	0,001603	0,000924
16		April	-0,04645	0,01307	-0,05952	0,01507	0,00165	0,01342	-0,000799	0,000180
17		May	0,03205	0,01307	0,01898	0,01111	0,00165	0,00946	0,000180	0,000089
18		June	-0,07764	0,01307	-0,09071	-0,00313	0,00165	-0,00478	0,000434	0,000023
19		July	0,07744	0,01307	0,06437	0,04309	0,00165	0,04144	0,002667	0,001717
20		Aug	0,01262	0,01307	-0,00045	0,00944	0,00165	0,00779	-0,000004	0,000061
21		Sept	-0,03738	0,01307	-0,05045	0,00014	0,00165	-0,00151	0,000076	0,000002
22		Oct	0,03883	0,01307	0,02576	-0,00935	0,00165	-0,01100	-0,000283	0,000121
23		Nov	0,10280	0,01307	0,08973	0,01186	0,00165	0,01021	0,000916	0,000104

**Continued Attachment 4**

No	Period		BSDE							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	0,01977	0,01307	0,00670	0,01496	0,00165	0,01331	0,000089	0,000177
25	2015	Jan	0,11911	0,01307	0,10604	0,01195	0,00165	0,01030	0,001092	0,000106
26		Feb	0,09901	0,01307	0,08594	0,03042	0,00165	0,02877	0,002472	0,000828
27		March	-0,03829	0,01307	-0,05136	0,01255	0,00165	0,01090	-0,000560	0,000119
28		April	-0,12646	0,01307	-0,13953	-0,07832	0,00165	-0,07997	0,011158	0,006395
29		May	0,02145	0,01307	0,00838	0,02555	0,00165	0,02390	0,000200	0,000571
30		June	-0,11549	0,01307	-0,12856	-0,05861	0,00165	-0,06026	0,007747	0,003631
31		July	0,07186	0,01307	0,05879	-0,02202	0,00165	-0,02367	-0,001392	0,000560
32		Aug	-0,10355	0,01307	-0,11662	-0,06099	0,00165	-0,06264	0,007305	0,003924
33		Sept	-0,12648	0,01307	-0,13955	-0,06335	0,00165	-0,06500	0,009071	0,004225
34		Oct	0,15549	0,01307	0,14242	0,05475	0,00165	0,05310	0,007563	0,002820
35		Nov	0,04012	0,01307	0,02705	-0,00196	0,00165	-0,00361	-0,000098	0,000013
36		Dec	0,06825	0,01307	0,05518	0,03296	0,00165	0,03131	0,001728	0,000980
Total									0,116580	0,056140
Beta									2,07658	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,14286 - 0,01307) \times (0,07681 - 0,00165)] + \dots + [(0,06825 - 0,01307) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,116580}{0,056140} = 2,07658$$

**Beta Calculation**

No	Period		GGRM							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	-0,06847	0,00592	-0,07439	0,07681	0,00165	0,07516	-0,005591	0,005649
3		March	0,01346	0,00592	0,00754	0,03028	0,00165	0,02863	0,000216	0,000820
4		April	0,00919	0,00592	0,00327	0,01884	0,00165	0,01719	0,000056	0,000295
5		May	0,08300	0,00592	0,07708	0,00687	0,00165	0,00522	0,000402	0,000027
6		June	-0,05421	0,00592	-0,06013	-0,04927	0,00165	-0,05092	0,003062	0,002593
7		July	-0,16304	0,00592	-0,16896	-0,04327	0,00165	-0,04492	0,007590	0,002018
8		Aug	-0,08501	0,00592	-0,09093	-0,09008	0,00165	-0,09173	0,008341	0,008414
9		Sept	-0,07773	0,00592	-0,08365	0,02886	0,00165	0,02721	-0,002276	0,000740
10		Oct	0,05429	0,00592	0,04837	0,04505	0,00165	0,04340	0,002099	0,001884
11		Nov	0,00271	0,00592	-0,00321	-0,05458	0,00165	-0,05623	0,000180	0,003162
12		Dec	0,13514	0,00592	0,12922	0,00228	0,00165	0,00063	0,000081	0,000000
13	2014	Jan	-0,00238	0,00592	-0,00830	0,03383	0,00165	0,03218	-0,000267	0,001036
14		Feb	0,13842	0,00592	0,13250	0,04559	0,00165	0,04394	0,005822	0,001931
15		March	0,03564	0,00592	0,02972	0,03205	0,00165	0,03040	0,000903	0,000924
16		April	0,14372	0,00592	0,13780	0,01507	0,00165	0,01342	0,001849	0,000180
17		May	-0,07876	0,00592	-0,08468	0,01111	0,00165	0,00946	-0,000801	0,000089
18		June	0,02786	0,00592	0,02194	-0,00313	0,00165	-0,00478	-0,000105	0,000023
19		July	0,01308	0,00592	0,00716	0,04309	0,00165	0,04144	0,000297	0,001717
20		Aug	0,01107	0,00592	0,00515	0,00944	0,00165	0,00779	0,000040	0,000061
21		Sept	0,04954	0,00592	0,04362	0,00014	0,00165	-0,00151	-0,000066	0,000002
22		Oct	0,01897	0,00592	0,01305	-0,00935	0,00165	-0,01100	-0,000144	0,000121
23		Nov	0,05931	0,00592	0,05339	0,01186	0,00165	0,01021	0,000545	0,000104

**Continued Attachment 4**

No	Period		GGRM							
	Year	Month	a	b	C	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	-0,00776	0,00592	-0,01368	0,01496	0,00165	0,01331	-0,000182	0,000177
25	2015	Jan	-0,04778	0,00592	-0,05370	0,01195	0,00165	0,01030	-0,000553	0,000106
26		Feb	-0,07569	0,00592	-0,08161	0,03042	0,00165	0,02877	-0,002348	0,000828
27		March	-0,04539	0,00592	-0,05131	0,01255	0,00165	0,01090	-0,000559	0,000119
28		April	-0,01961	0,00592	-0,02553	-0,07832	0,00165	-0,07997	0,002042	0,006395
29		May	-0,05800	0,00592	-0,06392	0,02555	0,00165	0,02390	-0,001528	0,000571
30		June	-0,04246	0,00592	-0,04838	-0,05861	0,00165	-0,06026	0,002915	0,003631
31		July	0,11530	0,00592	0,10938	-0,02202	0,00165	-0,02367	-0,002589	0,000560
32		Aug	-0,10101	0,00592	-0,10693	-0,06099	0,00165	-0,06264	0,006698	0,003924
33		Sept	-0,05618	0,00592	-0,06210	-0,06335	0,00165	-0,06500	0,004037	0,004225
34		Oct	0,02262	0,00592	0,01670	0,05475	0,00165	0,05310	0,000887	0,002820
35		Nov	0,13853	0,00592	0,13261	-0,00196	0,00165	-0,00361	-0,000479	0,000013
36		Dec	0,12474	0,00592	0,11882	0,03296	0,00165	0,03131	0,003720	0,000980
Total									0,034296	0,056140
Beta									0,61090	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(-0,06847 - 0,00592) \times (0,07681 - 0,00165)] + \dots + [(0,12474 - 0,00592) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,034296}{0,056140} = 0,61090$$



**Beta Calculation**

No	Period		ICBP							
	Year	Month	a	b	C	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,06250	0,01850	0,04400	0,07681	0,00165	0,07516	0,003307	0,005649
3		March	0,12941	0,01850	0,11091	0,03028	0,00165	0,02863	0,003175	0,000820
4		April	0,19271	0,01850	0,17421	0,01884	0,00165	0,01719	0,002995	0,000295
5		May	0,14410	0,01850	0,12560	0,00687	0,00165	0,00522	0,000656	0,000027
6		June	-0,06870	0,01850	-0,08720	-0,04927	0,00165	-0,05092	0,004440	0,002593
7		July	-0,08197	0,01850	-0,10047	-0,04327	0,00165	-0,04492	0,004513	0,002018
8		Aug	-0,10714	0,01850	-0,12564	-0,09008	0,00165	-0,09173	0,011525	0,008414
9		Sept	0,02500	0,01850	0,00650	0,02886	0,00165	0,02721	0,000177	0,000740
10		Oct	0,09268	0,01850	0,07418	0,04505	0,00165	0,04340	0,003219	0,001884
11		Nov	-0,10714	0,01850	-0,12564	-0,05458	0,00165	-0,05623	0,007065	0,003162
12		Dec	0,02000	0,01850	0,00150	0,00228	0,00165	0,00063	0,000001	0,000000
13	2014	Jan	0,07843	0,01850	0,05993	0,03383	0,00165	0,03218	0,001929	0,001036
14		Feb	0,01591	0,01850	-0,00259	0,04559	0,00165	0,04394	-0,000114	0,001931
15		March	-0,09629	0,01850	-0,11479	0,03205	0,00165	0,03040	-0,003490	0,000924
16		April	-0,00990	0,01850	-0,02840	0,01507	0,00165	0,01342	-0,000381	0,000180
17		May	0,02000	0,01850	0,00150	0,01111	0,00165	0,00946	0,000014	0,000089
18		June	-0,01961	0,01850	-0,03811	-0,00313	0,00165	-0,00478	0,000182	0,000023
19		July	0,04500	0,01850	0,02650	0,04309	0,00165	0,04144	0,001098	0,001717
20		Aug	0,02297	0,01850	0,00447	0,00944	0,00165	0,00779	0,000035	0,000061
21		Sept	0,08095	0,01850	0,06245	0,00014	0,00165	-0,00151	-0,000094	0,000002
22		Oct	-0,02643	0,01850	-0,04493	-0,00935	0,00165	-0,01100	0,000494	0,000121
23		Nov	0,01810	0,01850	-0,00040	0,01186	0,00165	0,01021	-0,000004	0,000104

**Continued Attachment 4**

No	Period		ICBP							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	0,16444	0,01850	0,14594	0,01496	0,00165	0,01331	0,001942	0,000177
25	2015	Jan	0,10687	0,01850	0,08837	0,01195	0,00165	0,01030	0,000910	0,000106
26		Feb	-0,01379	0,01850	-0,03229	0,03042	0,00165	0,02877	-0,000929	0,000828
27		March	0,02622	0,01850	0,00772	0,01255	0,00165	0,01090	0,000084	0,000119
28		April	-0,10051	0,01850	-0,11901	-0,07832	0,00165	-0,07997	0,009517	0,006395
29		May	0,06818	0,01850	0,04968	0,02555	0,00165	0,02390	0,001187	0,000571
30		June	-0,09950	0,01850	-0,11800	-0,05861	0,00165	-0,06026	0,007111	0,003631
31		July	-0,01403	0,01850	-0,03253	-0,02202	0,00165	-0,02367	0,000770	0,000560
32		Aug	0,03659	0,01850	0,01809	-0,06099	0,00165	-0,06264	-0,001133	0,003924
33		Sept	-0,02745	0,01850	-0,04595	-0,06335	0,00165	-0,06500	0,002987	0,004225
34		Oct	0,06452	0,01850	0,04602	0,05475	0,00165	0,05310	0,002444	0,002820
35		Nov	-0,04356	0,01850	-0,06206	-0,00196	0,00165	-0,00361	0,000224	0,000013
36		Dec	0,06733	0,01850	0,04883	0,03296	0,00165	0,03131	0,001529	0,000980
Total									0,067385	0,056140
Beta									1,20030	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,06250 - 0,01850) \times (0,07681 - 0,00165)] + \dots + [(0,06733 - 0,01850) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,067385}{0,056140} = 1,20030$$

**Beta Calculation**

No	Period		INDF							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,20661	0,00005	0,20656	0,07681	0,00165	0,07516	0,015525	0,005649
3		March	0,02055	0,00005	0,02050	0,03028	0,00165	0,02863	0,000587	0,000820
4		April	-0,01342	0,00005	-0,01347	0,01884	0,00165	0,01719	-0,000232	0,000295
5		May	0,00000	0,00005	-0,00005	0,00687	0,00165	0,00522	0,000000	0,000027
6		June	0,00000	0,00005	-0,00005	-0,04927	0,00165	-0,05092	0,000003	0,002593
7		July	-0,11565	0,00005	-0,11570	-0,04327	0,00165	-0,04492	0,005197	0,002018
8		Aug	0,02846	0,00005	0,02841	-0,09008	0,00165	-0,09173	-0,002606	0,008414
9		Sept	0,08462	0,00005	0,08457	0,02886	0,00165	0,02721	0,002301	0,000740
10		Oct	-0,05674	0,00005	-0,05679	0,04505	0,00165	0,04340	-0,002465	0,001884
11		Nov	0,00000	0,00005	-0,00005	-0,05458	0,00165	-0,05623	0,000003	0,003162
12		Dec	-0,00752	0,00005	-0,00757	0,00228	0,00165	0,00063	-0,000005	0,000000
13	2014	Jan	0,05682	0,00005	0,05677	0,03383	0,00165	0,03218	0,001827	0,001036
14		Feb	0,02867	0,00005	0,02862	0,04559	0,00165	0,04394	0,001258	0,001931
15		March	0,01742	0,00005	0,01737	0,03205	0,00165	0,03040	0,000528	0,000924
16		April	-0,03425	0,00005	-0,03430	0,01507	0,00165	0,01342	-0,000460	0,000180
17		May	-0,03191	0,00005	-0,03196	0,01111	0,00165	0,00946	-0,000302	0,000089
18		June	-0,01832	0,00005	-0,01837	-0,00313	0,00165	-0,00478	0,000088	0,000023
19		July	0,05597	0,00005	0,05592	0,04309	0,00165	0,04144	0,002317	0,001717
20		Aug	-0,00820	0,00005	-0,00825	0,00944	0,00165	0,00779	-0,000064	0,000061
21		Sept	0,01818	0,00005	0,01813	0,00014	0,00165	-0,00151	-0,000027	0,000002
22		Oct	-0,02500	0,00005	-0,02505	-0,00935	0,00165	-0,01100	0,000276	0,000121
23		Nov	-0,01832	0,00005	-0,01837	0,01186	0,00165	0,01021	-0,000188	0,000104

**Continued Attachment 4**

No	Period		INDF							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	0,00746	0,00005	0,00741	0,01496	0,00165	0,01331	0,000099	0,000177
25	2015	Jan	0,11852	0,00005	0,11847	0,01195	0,00165	0,01030	0,001220	0,000106
26		Feb	-0,01987	0,00005	-0,01992	0,03042	0,00165	0,02877	-0,000573	0,000828
27		March	0,00676	0,00005	0,00671	0,01255	0,00165	0,01090	0,000073	0,000119
28		April	-0,09396	0,00005	-0,09401	-0,07832	0,00165	-0,07997	0,007518	0,006395
29		May	0,08148	0,00005	0,08143	0,02555	0,00165	0,02390	0,001946	0,000571
30		June	-0,06904	0,00005	-0,06909	-0,05861	0,00165	-0,06026	0,004163	0,003631
31		July	-0,07238	0,00005	-0,07243	-0,02202	0,00165	-0,02367	0,001714	0,000560
32		Aug	-0,13115	0,00005	-0,13120	-0,06099	0,00165	-0,06264	0,008218	0,003924
33		Sept	0,03774	0,00005	0,03769	-0,06335	0,00165	-0,06500	-0,002450	0,004225
34		Oct	0,00455	0,00005	0,00450	0,05475	0,00165	0,05310	0,000239	0,002820
35		Nov	-0,11765	0,00005	-0,11770	-0,00196	0,00165	-0,00361	0,000425	0,000013
36		Dec	0,06154	0,00005	0,06149	0,03296	0,00165	0,03131	0,001925	0,000980
Total									0,048078	0,056140
Beta									0,85639	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,20661 - 0,00005) \times (0,07681 - 0,00165)] + \dots + [(0,06154 - 0,00005) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,048078}{0,056140} = 0,85639$$

### Beta Calculation

No	Period		INTP							
	Year	Month	a	b	c	d	e	F	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,00920	0,00769	0,00151	0,07681	0,00165	0,07516	0,000113	0,005649
3		March	0,06150	0,00769	0,05381	0,03028	0,00165	0,02863	0,001541	0,000820
4		April	0,13305	0,00769	0,12536	0,01884	0,00165	0,01719	0,002155	0,000295
5		May	-0,10038	0,00769	-0,10807	0,00687	0,00165	0,00522	-0,000564	0,000027
6		June	0,02947	0,00769	0,02178	-0,04927	0,00165	-0,05092	-0,001109	0,002593
7		July	-0,12883	0,00769	-0,13652	-0,04327	0,00165	-0,04492	0,006132	0,002018
8		Aug	-0,05516	0,00769	-0,06285	-0,09008	0,00165	-0,09173	0,005765	0,008414
9		Sept	-0,08629	0,00769	-0,09398	0,02886	0,00165	0,02721	-0,002557	0,000740
10		Oct	0,16111	0,00769	0,15342	0,04505	0,00165	0,04340	0,006658	0,001884
11		Nov	-0,09809	0,00769	-0,10578	-0,05458	0,00165	-0,05623	0,005948	0,003162
12		Dec	0,06101	0,00769	0,05332	0,00228	0,00165	0,00063	0,000034	0,000000
13	2014	Jan	0,12000	0,00769	0,11231	0,03383	0,00165	0,03218	0,003614	0,001036
14		Feb	0,00223	0,00769	-0,00546	0,04559	0,00165	0,04394	-0,000240	0,001931
15		March	0,04120	0,00769	0,03351	0,03205	0,00165	0,03040	0,001019	0,000924
16		April	-0,06096	0,00769	-0,06865	0,01507	0,00165	0,01342	-0,000921	0,000180
17		May	0,03189	0,00769	0,02420	0,01111	0,00165	0,00946	0,000229	0,000089
18		June	-0,00442	0,00769	-0,01211	-0,00313	0,00165	-0,00478	0,000058	0,000023
19		July	0,14634	0,00769	0,13865	0,04309	0,00165	0,04144	0,005746	0,001717
20		Aug	-0,02806	0,00769	-0,03575	0,00944	0,00165	0,00779	-0,000278	0,000061
21		Sept	-0,11134	0,00769	-0,11903	0,00014	0,00165	-0,00151	0,000180	0,000002
22		Oct	0,11369	0,00769	0,10600	-0,00935	0,00165	-0,01100	-0,001166	0,000121
23		Nov	0,02813	0,00769	0,02044	0,01186	0,00165	0,01021	0,000209	0,000104

**Continued Attachment 4**

No	Period		INTP							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	0,01317	0,00769	0,00548	0,01496	0,00165	0,01331	0,000073	0,000177
25	2015	Jan	-0,08000	0,00769	-0,08769	0,01195	0,00165	0,01030	-0,000903	0,000106
26		Feb	0,04565	0,00769	0,03796	0,03042	0,00165	0,02877	0,001092	0,000828
27		March	-0,08826	0,00769	-0,09595	0,01255	0,00165	0,01090	-0,001046	0,000119
28		April	-0,04219	0,00769	-0,04988	-0,07832	0,00165	-0,07997	0,003989	0,006395
29		May	0,06667	0,00769	0,05898	0,02555	0,00165	0,02390	0,001410	0,000571
30		June	-0,00781	0,00769	-0,01550	-0,05861	0,00165	-0,06026	0,000934	0,003631
31		July	-0,04072	0,00769	-0,04841	-0,02202	0,00165	-0,02367	0,001146	0,000560
32		Aug	-0,01998	0,00769	-0,02767	-0,06099	0,00165	-0,06264	0,001733	0,003924
33		Sept	-0,16178	0,00769	-0,16947	-0,06335	0,00165	-0,06500	0,011016	0,004225
34		Oct	0,09422	0,00769	0,08653	0,05475	0,00165	0,05310	0,004595	0,002820
35		Nov	0,03889	0,00769	0,03120	-0,00196	0,00165	-0,00361	-0,000113	0,000013
36		Dec	0,19385	0,00769	0,18616	0,03296	0,00165	0,03131	0,005829	0,000980
Total									0,062318	0,056140
Beta									1,11005	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,00920 - 0,00769) \times (0,07681 - 0,00165)] + \dots + [(0,19385 - 0,00769) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,062318}{0,056140} = 1,11005$$

**Beta Calculation**

No	Period		KLBF							
	Year	Month	a	b	c	D	e	F	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,18249	0,00858	0,17391	0,07681	0,00165	0,07516	0,013071	0,005649
3		March	-0,03876	0,00858	-0,04734	0,03028	0,00165	0,02863	-0,001355	0,000820
4		April	0,12097	0,00858	0,11239	0,01884	0,00165	0,01719	0,001932	0,000295
5		May	0,04317	0,00858	0,03459	0,00687	0,00165	0,00522	0,000181	0,000027
6		June	-0,00069	0,00858	-0,00927	-0,04927	0,00165	-0,05092	0,000472	0,002593
7		July	0,00625	0,00858	-0,00233	-0,04327	0,00165	-0,04492	0,000105	0,002018
8		Aug	-0,05594	0,00858	-0,06452	-0,09008	0,00165	-0,09173	0,005918	0,008414
9		Sept	-0,12593	0,00858	-0,13451	0,02886	0,00165	0,02721	-0,003660	0,000740
10		Oct	0,10169	0,00858	0,09311	0,04505	0,00165	0,04340	0,004041	0,001884
11		Nov	-0,06154	0,00858	-0,07012	-0,05458	0,00165	-0,05623	0,003943	0,003162
12		Dec	0,02459	0,00858	0,01601	0,00228	0,00165	0,00063	0,000010	0,000000
13	2014	Jan	0,12400	0,00858	0,11542	0,03383	0,00165	0,03218	0,003714	0,001036
14		Feb	0,03203	0,00858	0,02345	0,04559	0,00165	0,04394	0,001030	0,001931
15		March	0,01034	0,00858	0,00176	0,03205	0,00165	0,03040	0,000054	0,000924
16		April	0,05461	0,00858	0,04603	0,01507	0,00165	0,01342	0,000618	0,000180
17		May	-0,00324	0,00858	-0,01182	0,01111	0,00165	0,00946	-0,000112	0,000089
18		June	0,07792	0,00858	0,06934	-0,00313	0,00165	-0,00478	-0,000331	0,000023
19		July	0,05241	0,00858	0,04383	0,04309	0,00165	0,04144	0,001816	0,001717
20		Aug	-0,04046	0,00858	-0,04904	0,00944	0,00165	0,00779	-0,000382	0,000061
21		Sept	0,02410	0,00858	0,01552	0,00014	0,00165	-0,00151	-0,000023	0,000002
22		Oct	0,00294	0,00858	-0,00564	-0,00935	0,00165	-0,01100	0,000062	0,000121
23		Nov	0,02639	0,00858	0,01781	0,01186	0,00165	0,01021	0,000182	0,000104

**Continued Attachment 4**

No	Period		KLBF							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	0,04571	0,00858	0,03713	0,01496	0,00165	0,01331	0,000494	0,000177
25	2015	Jan	0,01913	0,00858	0,01055	0,01195	0,00165	0,01030	0,000109	0,000106
26		Feb	-0,03217	0,00858	-0,04075	0,03042	0,00165	0,02877	-0,001172	0,000828
27		March	0,03324	0,00858	0,02466	0,01255	0,00165	0,01090	0,000269	0,000119
28		April	-0,03753	0,00858	-0,04611	-0,07832	0,00165	-0,07997	0,003687	0,006395
29		May	0,02507	0,00858	0,01649	0,02555	0,00165	0,02390	0,000394	0,000571
30		June	0,02935	0,00858	0,02077	-0,05861	0,00165	-0,06026	-0,001252	0,003631
31		July	-0,06933	0,00858	-0,07791	-0,02202	0,00165	-0,02367	0,001844	0,000560
32		Aug	-0,04011	0,00858	-0,04869	-0,06099	0,00165	-0,06264	0,003050	0,003924
33		Sept	-0,17910	0,00858	-0,18768	-0,06335	0,00165	-0,06500	0,012199	0,004225
34		Oct	0,04000	0,00858	0,03142	0,05475	0,00165	0,05310	0,001668	0,002820
35		Nov	-0,06643	0,00858	-0,07501	-0,00196	0,00165	-0,00361	0,000271	0,000013
36		Dec	-0,01124	0,00858	-0,01982	0,03296	0,00165	0,03131	-0,000621	0,000980
Total									0,052226	0,056140
Beta									0,93027	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,18249 - 0,00858) \times (0,07681 - 0,00165)] + \dots + [(-0,01124 - 0,00858) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,052226}{0,056140} = 0,93027$$



### Beta Calculation

No	Period		LSIP							
	Year	Month	a	b	c	D	e	F	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	-0,05682	0,00077	-0,05759	0,07681	0,00165	0,07516	-0,004328	0,005649
3		March	-0,06988	0,00077	-0,07065	0,03028	0,00165	0,02863	-0,002023	0,000820
4		April	0,21244	0,00077	0,21167	0,01884	0,00165	0,01719	0,003639	0,000295
5		May	0,26316	0,00077	0,26239	0,00687	0,00165	0,00522	0,001370	0,000027
6		June	-0,10417	0,00077	-0,10494	-0,04927	0,00165	-0,05092	0,005344	0,002593
7		July	-0,31047	0,00077	-0,31124	-0,04327	0,00165	-0,04492	0,013981	0,002018
8		Aug	0,33036	0,00077	0,32959	-0,09008	0,00165	-0,09173	-0,030233	0,008414
9		Sept	-0,14765	0,00077	-0,14842	0,02886	0,00165	0,02721	-0,004039	0,000740
10		Oct	0,25984	0,00077	0,25907	0,04505	0,00165	0,04340	0,011244	0,001884
11		Nov	0,15000	0,00077	0,14923	-0,05458	0,00165	-0,05623	-0,008391	0,003162
12		Dec	0,04891	0,00077	0,04814	0,00228	0,00165	0,00063	0,000030	0,000000
13	2014	Jan	-0,14249	0,00077	-0,14326	0,03383	0,00165	0,03218	-0,004610	0,001036
14		Feb	0,25076	0,00077	0,24999	0,04559	0,00165	0,04394	0,010985	0,001931
15		March	0,06763	0,00077	0,06686	0,03205	0,00165	0,03040	0,002033	0,000924
16		April	0,10860	0,00077	0,10783	0,01507	0,00165	0,01342	0,001447	0,000180
17		May	-0,05714	0,00077	-0,05791	0,01111	0,00165	0,00946	-0,000548	0,000089
18		June	0,00216	0,00077	0,00139	-0,00313	0,00165	-0,00478	-0,000007	0,000023
19		July	-0,07300	0,00077	-0,07377	0,04309	0,00165	0,04144	-0,003057	0,001717
20		Aug	-0,10952	0,00077	-0,11029	0,00944	0,00165	0,00779	-0,000859	0,000061
21		Sept	0,01604	0,00077	0,01527	0,00014	0,00165	-0,00151	-0,000023	0,000002
22		Oct	0,02368	0,00077	0,02291	-0,00935	0,00165	-0,01100	-0,000252	0,000121
23		Nov	0,02057	0,00077	0,01980	0,01186	0,00165	0,01021	0,000202	0,000104

**Continued Attachment 4**

No	Period		LSIP							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	-0,04786	0,00077	-0,04863	0,01496	0,00165	0,01331	-0,000647	0,000177
25	2015	Jan	-0,02646	0,00077	-0,02723	0,01195	0,00165	0,01030	-0,000280	0,000106
26		Feb	0,02174	0,00077	0,02097	0,03042	0,00165	0,02877	0,000603	0,000828
27		March	-0,07979	0,00077	-0,08056	0,01255	0,00165	0,01090	-0,000878	0,000119
28		April	-0,17630	0,00077	-0,17707	-0,07832	0,00165	-0,07997	0,014160	0,006395
29		May	0,16842	0,00077	0,16765	0,02555	0,00165	0,02390	0,004007	0,000571
30		June	-0,03423	0,00077	-0,03500	-0,05861	0,00165	-0,06026	0,002109	0,003631
31		July	-0,12862	0,00077	-0,12939	-0,02202	0,00165	-0,02367	0,003063	0,000560
32		Aug	-0,20295	0,00077	-0,20372	-0,06099	0,00165	-0,06264	0,012761	0,003924
33		Sept	0,28241	0,00077	0,28164	-0,06335	0,00165	-0,06500	-0,018307	0,004225
34		Oct	0,11913	0,00077	0,11836	0,05475	0,00165	0,05310	0,006285	0,002820
35		Nov	-0,22581	0,00077	-0,22658	-0,00196	0,00165	-0,00361	0,000818	0,000013
36		Dec	0,10000	0,00077	0,09923	0,03296	0,00165	0,03131	0,003107	0,000980
Total									0,018704	0,056140
Beta									0,33316	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(-0,05682 - 0,00077) \times (0,07681 - 0,00165)] + \dots + [(0,10000 - 0,00077) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,018704}{0,056140} = 0,33316$$

**Beta Calculation**

No	Period		PTBA							
	Year	Month	a	b	C	d	e	F	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	-0,02581	-0,02208	-0,00373	0,07681	0,00165	0,07516	-0,000280	0,005649
3		March	-0,04636	-0,02208	-0,02428	0,03028	0,00165	0,02863	-0,000695	0,000820
4		April	0,05903	-0,02208	0,08111	0,01884	0,00165	0,01719	0,001394	0,000295
5		May	-0,20000	-0,02208	-0,17792	0,00687	0,00165	0,00522	-0,000929	0,000027
6		June	0,14924	-0,02208	0,17132	-0,04927	0,00165	-0,05092	-0,008724	0,002593
7		July	-0,25188	-0,02208	-0,22980	-0,04327	0,00165	-0,04492	0,010323	0,002018
8		Aug	0,21608	-0,02208	0,23816	-0,09008	0,00165	-0,09173	-0,021846	0,008414
9		Sept	0,05372	-0,02208	0,07580	0,02886	0,00165	0,02721	0,002063	0,000740
10		Oct	-0,04706	-0,02208	-0,02498	0,04505	0,00165	0,04340	-0,001084	0,001884
11		Nov	-0,01235	-0,02208	0,00973	-0,05458	0,00165	-0,05623	-0,000547	0,003162
12		Dec	-0,15000	-0,02208	-0,12792	0,00228	0,00165	0,00063	-0,000081	0,000000
13	2014	Jan	-0,09314	-0,02208	-0,07106	0,03383	0,00165	0,03218	-0,002287	0,001036
14		Feb	0,03514	-0,02208	0,05722	0,04559	0,00165	0,04394	0,002514	0,001931
15		March	-0,02611	-0,02208	-0,00403	0,03205	0,00165	0,03040	-0,000123	0,000924
16		April	0,05898	-0,02208	0,08106	0,01507	0,00165	0,01342	0,001088	0,000180
17		May	0,13033	-0,02208	0,15241	0,01111	0,00165	0,00946	0,001442	0,000089
18		June	0,00234	-0,02208	0,02442	-0,00313	0,00165	-0,00478	-0,000117	0,000023
19		July	0,08625	-0,02208	0,10833	0,04309	0,00165	0,04144	0,004489	0,001717
20		Aug	0,14592	-0,02208	0,16800	0,00944	0,00165	0,00779	0,001309	0,000061
21		Sept	-0,01124	-0,02208	0,01084	0,00014	0,00165	-0,00151	-0,000016	0,000002
22		Oct	-0,01894	-0,02208	0,00314	-0,00935	0,00165	-0,01100	-0,000035	0,000121
23		Nov	0,01544	-0,02208	0,03752	0,01186	0,00165	0,01021	0,000383	0,000104

**Continued Attachment 4**

No	Period		PTBA							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	-0,04943	-0,02208	-0,02735	0,01496	0,00165	0,01331	-0,000364	0,000177
25	2015	Jan	-0,09000	-0,02208	-0,06792	0,01195	0,00165	0,01030	-0,000700	0,000106
26		Feb	-0,06154	-0,02208	-0,03946	0,03042	0,00165	0,02877	-0,001135	0,000828
27		March	0,00703	-0,02208	0,02911	0,01255	0,00165	0,01090	0,000317	0,000119
28		April	-0,10004	-0,02208	-0,07796	-0,07832	0,00165	-0,07997	0,006234	0,006395
29		May	0,05080	-0,02208	0,07288	0,02555	0,00165	0,02390	0,001742	0,000571
30		June	-0,14504	-0,02208	-0,12296	-0,05861	0,00165	-0,06026	0,007410	0,003631
31		July	-0,25871	-0,02208	-0,23663	-0,02202	0,00165	-0,02367	0,005601	0,000560
32		Aug	-0,02500	-0,02208	-0,00292	-0,06099	0,00165	-0,06264	0,000183	0,003924
33		Sept	-0,03846	-0,02208	-0,01638	-0,06335	0,00165	-0,06500	0,001065	0,004225
34		Oct	0,29778	-0,02208	0,31986	0,05475	0,00165	0,05310	0,016985	0,002820
35		Nov	-0,23288	-0,02208	-0,21080	-0,00196	0,00165	-0,00361	0,000761	0,000013
36		Dec	-0,19196	-0,02208	-0,16988	0,03296	0,00165	0,03131	-0,005319	0,000980
Total									0,021021	0,056140
Beta									0,37443	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(-0,02581 - (-0,02208)) \times (0,07681 - 0,00165)] + \dots + [(-0,19196 - (-0,02208)) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,021021}{0,056140} = 0,37443$$

**Beta Calculation**

No	Period		SMGR							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,10159	-0,00380	0,10539	0,07681	0,00165	0,07516	0,007921	0,005649
3		March	0,02017	-0,00380	0,02397	0,03028	0,00165	0,02863	0,000686	0,000820
4		April	0,03955	-0,00380	0,04335	0,01884	0,00165	0,01719	0,000745	0,000295
5		May	-0,02174	-0,00380	-0,01794	0,00687	0,00165	0,00522	-0,000094	0,000027
6		June	-0,02957	-0,00380	-0,02577	-0,04927	0,00165	-0,05092	0,001312	0,002593
7		July	-0,11111	-0,00380	-0,10731	-0,04327	0,00165	-0,04492	0,004820	0,002018
8		Aug	-0,17105	-0,00380	-0,16725	-0,09008	0,00165	-0,09173	0,015342	0,008414
9		Sept	0,03175	-0,00380	0,03555	0,02886	0,00165	0,02721	0,000967	0,000740
10		Oct	0,10385	-0,00380	0,10765	0,04505	0,00165	0,04340	0,004672	0,001884
11		Nov	-0,10801	-0,00380	-0,10421	-0,05458	0,00165	-0,05623	0,005860	0,003162
12		Dec	0,10547	-0,00380	0,10927	0,00228	0,00165	0,00063	0,000069	0,000000
13	2014	Jan	0,00353	-0,00380	0,00733	0,03383	0,00165	0,03218	0,000236	0,001036
14		Feb	0,05634	-0,00380	0,06014	0,04559	0,00165	0,04394	0,002643	0,001931
15		March	0,05333	-0,00380	0,05713	0,03205	0,00165	0,03040	0,001737	0,000924
16		April	-0,06013	-0,00380	-0,05633	0,01507	0,00165	0,01342	-0,000756	0,000180
17		May	0,01902	-0,00380	0,02282	0,01111	0,00165	0,00946	0,000216	0,000089
18		June	0,02377	-0,00380	0,02757	-0,00313	0,00165	-0,00478	-0,000132	0,000023
19		July	0,09950	-0,00380	0,10330	0,04309	0,00165	0,04144	0,004281	0,001717
20		Aug	-0,02112	-0,00380	-0,01732	0,00944	0,00165	0,00779	-0,000135	0,000061
21		Sept	-0,04931	-0,00380	-0,04551	0,00014	0,00165	-0,00151	0,000069	0,000002
22		Oct	0,02917	-0,00380	0,03297	-0,00935	0,00165	-0,01100	-0,000363	0,000121
23		Nov	0,00787	-0,00380	0,01167	0,01186	0,00165	0,01021	0,000119	0,000104

**Continued Attachment 4**

No	Period		PWON							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	0,01250	-0,00380	0,01630	0,01496	0,00165	0,01331	0,000217	0,000177
25	2015	Jan	-0,10031	-0,00380	-0,09651	0,01195	0,00165	0,01030	-0,000994	0,000106
26		Feb	0,02058	-0,00380	0,02438	0,03042	0,00165	0,02877	0,000701	0,000828
27		March	-0,08235	-0,00380	-0,07855	0,01255	0,00165	0,01090	-0,000856	0,000119
28		April	-0,08425	-0,00380	-0,08045	-0,07832	0,00165	-0,07997	0,006434	0,006395
29		May	0,10603	-0,00380	0,10983	0,02555	0,00165	0,02390	0,002625	0,000571
30		June	-0,10781	-0,00380	-0,10401	-0,05861	0,00165	-0,06026	0,006268	0,003631
31		July	-0,15833	-0,00380	-0,15453	-0,02202	0,00165	-0,02367	0,003658	0,000560
32		Aug	-0,08416	-0,00380	-0,08036	-0,06099	0,00165	-0,06264	0,005034	0,003924
33		Sept	-0,02162	-0,00380	-0,01782	-0,06335	0,00165	-0,06500	0,001158	0,004225
34		Oct	0,08287	-0,00380	0,08667	0,05475	0,00165	0,05310	0,004602	0,002820
35		Nov	0,08418	-0,00380	0,08798	-0,00196	0,00165	-0,00361	-0,000318	0,000013
36		Dec	0,07294	-0,00380	0,07674	0,03296	0,00165	0,03131	0,002403	0,000980
Total									0,081147	0,056140
Beta									1,44543	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,10159 - (-0,00380)) \times (0,07681 - 0,00165)] + \dots + [(0,07294 - (-0,00380)) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,081147}{0,056140} = 1,44543$$

**Beta Calculation**

No	Period		UNTR							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	-0,02278	0,00117	-0,02395	0,07681	0,00165	0,07516	-0,001800	0,005649
3		March	-0,05699	0,00117	-0,05816	0,03028	0,00165	0,02863	-0,001665	0,000820
4		April	-0,02473	0,00117	-0,02590	0,01884	0,00165	0,01719	-0,000445	0,000295
5		May	-0,04676	0,00117	-0,04793	0,00687	0,00165	0,00522	-0,000250	0,000027
6		June	0,22656	0,00117	0,22539	-0,04927	0,00165	-0,05092	-0,011477	0,002593
7		July	-0,07692	0,00117	-0,07809	-0,04327	0,00165	-0,04492	0,003508	0,002018
8		Aug	-0,05952	0,00117	-0,06069	-0,09008	0,00165	-0,09173	0,005567	0,008414
9		Sept	0,03165	0,00117	0,03048	0,02886	0,00165	0,02721	0,000829	0,000740
10		Oct	0,08436	0,00117	0,08319	0,04505	0,00165	0,04340	0,003610	0,001884
11		Nov	0,04286	0,00117	0,04169	-0,05458	0,00165	-0,05623	-0,002344	0,003162
12		Dec	0,04110	0,00117	0,03993	0,00228	0,00165	0,00063	0,000025	0,000000
13	2014	Jan	0,01579	0,00117	0,01462	0,03383	0,00165	0,03218	0,000470	0,001036
14		Feb	-0,01684	0,00117	-0,01801	0,04559	0,00165	0,04394	-0,000791	0,001931
15		March	0,09354	0,00117	0,09237	0,03205	0,00165	0,03040	0,002808	0,000924
16		April	0,04578	0,00117	0,04461	0,01507	0,00165	0,01342	0,000599	0,000180
17		May	-0,00115	0,00117	-0,00232	0,01111	0,00165	0,00946	-0,000022	0,000089
18		June	0,08950	0,00117	0,08833	-0,00313	0,00165	-0,00478	-0,000422	0,000023
19		July	-0,00866	0,00117	-0,00983	0,04309	0,00165	0,04144	-0,000407	0,001717
20		Aug	-0,03275	0,00117	-0,03392	0,00944	0,00165	0,00779	-0,000264	0,000061
21		Sept	-0,10158	0,00117	-0,10275	0,00014	0,00165	-0,00151	0,000155	0,000002
22		Oct	-0,06683	0,00117	-0,06800	-0,00935	0,00165	-0,01100	0,000748	0,000121
23		Nov	-0,00272	0,00117	-0,00389	0,01186	0,00165	0,01021	-0,000040	0,000104

**Continued Attachment 4**

No	Period		UNTR							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	-0,05321	0,00117	-0,05438	0,01496	0,00165	0,01331	-0,000724	0,000177
25	2015	Jan	0,03170	0,00117	0,03053	0,01195	0,00165	0,01030	0,000314	0,000106
26		Feb	0,15922	0,00117	0,15805	0,03042	0,00165	0,02877	0,004547	0,000828
27		March	0,05060	0,00117	0,04943	0,01255	0,00165	0,01090	0,000539	0,000119
28		April	-0,01835	0,00117	-0,01952	-0,07832	0,00165	-0,07997	0,001561	0,006395
29		May	-0,01682	0,00117	-0,01799	0,02555	0,00165	0,02390	-0,000430	0,000571
30		June	0,00369	0,00117	0,00252	-0,05861	0,00165	-0,06026	-0,000152	0,003631
31		July	-0,00859	0,00117	-0,00976	-0,02202	0,00165	-0,02367	0,000231	0,000560
32		Aug	-0,05322	0,00117	-0,05439	-0,06099	0,00165	-0,06264	0,003407	0,003924
33		Sept	-0,08627	0,00117	-0,08744	-0,06335	0,00165	-0,06500	0,005684	0,004225
34		Oct	0,05013	0,00117	0,04896	0,05475	0,00165	0,05310	0,002600	0,002820
35		Nov	-0,09945	0,00117	-0,10062	-0,00196	0,00165	-0,00361	0,000363	0,000013
36		Dec	0,03988	0,00117	0,03871	0,03296	0,00165	0,03131	0,001212	0,000980
Total									0,017544	0,056140
Beta									0,31250	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(-0,02278 - 0,00117) \times (0,07681 - 0,00165)] + \dots + [(0,03988 - 0,00117) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,017544}{0,056140} = 0,31250$$



**Beta Calculation**

No	Period		UNVR							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
1	2013	Jan								
2		Feb	0,03628	0,01756	0,01872	0,07681	0,00165	0,07516	0,001407	0,005649
3		March	-0,00219	0,01756	-0,01975	0,03028	0,00165	0,02863	-0,000565	0,000820
4		April	0,15132	0,01756	0,13376	0,01884	0,00165	0,01719	0,002299	0,000295
5		May	0,16190	0,01756	0,14434	0,00687	0,00165	0,00522	0,000753	0,000027
6		June	0,00820	0,01756	-0,00936	-0,04927	0,00165	-0,05092	0,000477	0,002593
7		July	0,04501	0,01756	0,02745	-0,04327	0,00165	-0,04492	-0,001233	0,002018
8		Aug	-0,01887	0,01756	-0,03643	-0,09008	0,00165	-0,09173	0,003342	0,008414
9		Sept	-0,03365	0,01756	-0,05121	0,02886	0,00165	0,02721	-0,001393	0,000740
10		Oct	-0,00498	0,01756	-0,02254	0,04505	0,00165	0,04340	-0,000978	0,001884
11		Nov	-0,11333	0,01756	-0,13089	-0,05458	0,00165	-0,05623	0,007360	0,003162
12		Dec	-0,01015	0,01756	-0,02771	0,00228	0,00165	0,00063	-0,000017	0,000000
13	2014	Jan	0,09808	0,01756	0,08052	0,03383	0,00165	0,03218	0,002591	0,001036
14		Feb	0,00088	0,01756	-0,01668	0,04559	0,00165	0,04394	-0,000733	0,001931
15		March	0,02362	0,01756	0,00606	0,03205	0,00165	0,03040	0,000184	0,000924
16		April	0,00000	0,01756	-0,01756	0,01507	0,00165	0,01342	-0,000236	0,000180
17		May	-0,00427	0,01756	-0,02183	0,01111	0,00165	0,00946	-0,000207	0,000089
18		June	0,00515	0,01756	-0,01241	-0,00313	0,00165	-0,00478	0,000059	0,000023
19		July	0,06306	0,01756	0,04550	0,04309	0,00165	0,04144	0,001886	0,001717
20		Aug	0,00907	0,01756	-0,00849	0,00944	0,00165	0,00779	-0,000066	0,000061
21		Sept	0,02485	0,01756	0,00729	0,00014	0,00165	-0,00151	-0,000011	0,000002
22		Oct	-0,04403	0,01756	-0,06159	-0,00935	0,00165	-0,01100	0,000677	0,000121
23		Nov	0,04605	0,01756	0,02849	0,01186	0,00165	0,01021	0,000291	0,000104

**Continued Attachment 4**

No	Period		UNVR							
	Year	Month	a	b	c	d	e	f	covariance	Variance
			$R_{it}$	$\overline{R_{it}}$	$R_{it} - \overline{R_{it}}$	$R_{Mt}$	$\overline{R_{Mt}}$	$R_{Mt} - \overline{R_{Mt}}$	c*f	f <sup>2</sup>
24		Dec	0,02629	0,01756	0,00873	0,01496	0,00165	0,01331	0,000116	0,000177
25	2015	Jan	0,10913	0,01756	0,09157	0,01195	0,00165	0,01030	0,000943	0,000106
26		Feb	0,00488	0,01756	-0,01268	0,03042	0,00165	0,02877	-0,000365	0,000828
27		March	0,10139	0,01756	0,08383	0,01255	0,00165	0,01090	0,000914	0,000119
28		April	0,07566	0,01756	0,05810	-0,07832	0,00165	-0,07997	-0,004646	0,006395
29		May	0,01524	0,01756	-0,00232	0,02555	0,00165	0,02390	-0,000055	0,000571
30		June	-0,08776	0,01756	-0,10532	-0,05861	0,00165	-0,06026	0,006347	0,003631
31		July	0,01266	0,01756	-0,00490	-0,02202	0,00165	-0,02367	0,000116	0,000560
32		Aug	-0,00688	0,01756	-0,02444	-0,06099	0,00165	-0,06264	0,001531	0,003924
33		Sept	-0,04342	0,01756	-0,06098	-0,06335	0,00165	-0,06500	0,003964	0,004225
34		Oct	-0,02632	0,01756	-0,04388	0,05475	0,00165	0,05310	-0,002330	0,002820
35		Nov	-0,00676	0,01756	-0,02432	-0,00196	0,00165	-0,00361	0,000088	0,000013
36		Dec	0,01611	0,01756	-0,00145	0,03296	0,00165	0,03131	-0,000045	0,000980
Total									0,022463	0,056140
Beta									0,40012	

Note:

$$\beta_i = \frac{\sum_{t=1}^n [(R_{it} - \overline{R_{it}}) \times (R_{Mt} - \overline{R_{Mt}})]}{(R_{Mt} - \overline{R_{Mt}})^2} = \frac{\sigma_{i,M}}{\sigma^2_M}$$

$$\beta_i = \frac{[(0,03628 - 0,01756) \times (0,07681 - 0,00165)] + \dots + [(0,01611 - 0,01756) \times (0,03296 - 0,00165)]}{(0,07681 - 0,00165)^2 + \dots + (0,03296 - 0,00165)^2} = \frac{0,022463}{0,056140} = 0,40012$$

**Attachment 5**

**Cost of equity (Ke) Calculation**

No	Emiten Code	$R_f$	$\beta_i$	$E(R_M)$	$E(R_M) - R_f$	$\beta_i[E(R_M) - R_f]$	$K_e$
							$R_f + \beta_i[E(R_M) - R_f]$
1	ADRO	0,00598	-0,00720	0,00165	-0,004334	0,000083	0,006067
2	AKRA	0,00598	0,95979	0,00165	-0,004334	-0,003781	0,002203
3	ASII	0,00598	1,28852	0,00165	-0,004334	-0,005510	0,000474
4	BBCA	0,00598	0,87435	0,00165	-0,004334	-0,003762	0,002222
5	BBNI	0,00598	1,83547	0,00165	-0,004334	-0,006981	-0,002058
6	BBRI	0,00598	1,60307	0,00165	-0,004334	-0,005681	0,000997
7	BMRI	0,00598	0,68700	0,00165	-0,004334	-0,008996	0,002999
8	BSDE	0,00598	2,08327	0,00165	-0,004334	-0,002648	-0,003016
9	GGRM	0,00598	0,64178	0,00165	-0,004334	-0,002648	0,003336
10	ICBP	0,00598	1,20030	0,00165	-0,004334	-0,005202	0,000782
11	INDF	0,00598	0,90292	0,00165	-0,004334	-0,003712	0,002272
12	INTP	0,00598	1,12479	0,00165	-0,004334	-0,004811	0,001173
13	KLBF	0,00598	0,94083	0,00165	-0,004334	-0,004032	0,001952
14	LSIP	0,00598	0,36389	0,00165	-0,004334	-0,001447	0,004537
15	PTBA	0,00598	0,42807	0,00165	-0,004334	-0,001623	0,004361
16	SMGR	0,00598	1,46397	0,00165	-0,004334	-0,006264	-0,000280
17	UNTR	0,00598	0,30928	0,00165	-0,004334	-0,001354	0,004630
18	UNVR	0,00598	0,40882	0,00165	-0,004334	-0,001734	0,004250

Calculation example of Cost of Equity (Ke):

$$K_e = R_f + \beta_i[E(R_M) - R_f]$$

Cost of Equity ADRO = 0,00598 + 0,000083= 0,006067

## Attachment 6

### Growth Rate Calculation

No	Emiten Code	Year	ROE	Payout Ratio	1-Payout ratio	Growth	Average growth	
							Decimal	Percentage
1	ADRO	2013	0,0718	0,3243	0,6757	0,04852		
		2014	0,0562	0,4372	0,5628	0,03165		
		2015	0,0450	0,4989	0,5011	0,02225	0,03414	3,414%
2	AKRA	2013	0,1148	0,6884	0,3116	0,03577		
		2014	0,1326	0,6280	0,3720	0,04933		
		2015	0,1453	0,4574	0,5426	0,07884	0,05465	5,465%
3	ASII	2013	0,2100	0,4504	0,5496	0,11542		
		2014	0,1839	0,4549	0,5451	0,10024		
		2015	0,1234	0,4954	0,5046	0,06227	0,09264	9,264%
4	BBCA	2013	0,2229	0,2854	0,7146	0,15928		
		2014	0,2119	0,2961	0,7039	0,14916		
		2015	0,2012	0,0753	0,9247	0,18605	0,16483	16,483%
5	BBNI	2013	0,1900	0,3001	0,6999	0,13298		
		2014	0,1775	0,2500	0,7500	0,13313		
		2015	0,1165	0,2520	0,7480	0,08714	0,11775	11,775%
6	BBRI	2013	0,2692	0,2974	0,7026	0,18914		
		2014	0,2482	0,3000	0,7000	0,17374		
		2015	0,2246	0,3027	0,6973	0,15661	0,17316	17,316%
7	BMRI	2013	0,2121	0,3000	0,7000	0,14847		
		2014	0,1970	0,2500	0,7500	0,14775		
		2015	0,1770	0,3000	0,7000	0,12390	0,14004	14,004%

**Continued Attachment 6**

No	Emiten Code	Year	ROE	Payout Ratio	1-Payout ratio	Growth	Average growth	
							Decimal	Percentage
8	BSDE	2013	0,2166	0,0903	0,9097	0,19704		
		2014	0,2163	0,0690	0,9310	0,20138		
		2015	0,1064	0,0409	0,9591	0,10205	0,16682	16,682%
9	GGRM	2013	0,1490	0,3556	0,6444	0,09602		
		2014	0,1624	0,2867	0,7133	0,11584		
		2015	0,1698	0,7773	0,2227	0,00038	0,07075	7,075%
10	ICBP	2013	0,1685	0,4979	0,5021	0,08460		
		2014	0,1683	0,4971	0,5029	0,08640		
		2015	0,1784	0,4975	0,5025	0,08965	0,08688	8,688%
11	INDF	2013	0,0890	0,4980	0,5020	0,04468		
		2014	0,1248	0,4972	0,5028	0,06275		
		2015	0,0860	0,4970	0,5030	0,04326	0,05023	5,023%
12	INTP	2013	0,2181	0,6613	0,3387	0,07387		
		2014	0,2128	0,9429	0,0571	0,01215		
		2015	0,1825	0,3507	0,6493	0,11850	0,06817	6,817%
13	KLBF	2013	0,2318	0,4491	0,5509	0,12770		
		2014	0,2161	0,4314	0,5686	0,12278		
		2015	0,1881	0,4444	0,5556	0,10451	0,11833	11,833%
14	LSIP	2013	0,4079	0,5921	0,1162	0,06880		
		2014	0,3945	0,6055	0,1270	0,00077		
		2015	0,4050	0,5950	0,0849	0,00051	0,02336	2,336%
15	PTBA	2013	0,5829	0,4171	0,2455	0,10240		
		2014	0,3709	0,6291	0,2329	0,14652		
		2015	0,3279	0,6721	0,2193	0,14739	0,13210	13,210%

**Continued Attachment 6**

No	Emiten Code	Year	Payout Ratio	1-Payout ratio	ROE	Growth	Average growth	
							Decimal	Percentage
16	SMGR	2013	0,4500	0,5500	0,2456	0,13508		
		2014	0,4000	0,6000	0,2229	0,13374		
		2015	0,4000	0,6000	0,1649	0,09894	0,12259	12,259%
17	UNTR	2013	0,5325	0,4675	0,1346	0,06293		
		2014	0,6495	0,3505	0,1255	0,04399		
		2015	0,6689	0,3311	0,0711	0,02354	0,04349	4,349%
18	UNVR	2013	0,9993	0,0007	1.2581	0,00088		
		2014	0,4467	0,5533	1.2478	0,69041		
		2015	0,9988	0,0012	1.2122	0,01450	0,23526	23,526%

Calculation Example:

$$g = ROE \times (1 - \text{payout ratio})$$

Growth of ADHI: a.) 2013 = 0,2638 x 0,7018 = 0,18513

b.) 2014 = 0,1894 x 0,8046 = 0,15239

c.) 2015 = 0,0901 x 0,7992 = 0,07201

$$\text{Average growth} = \frac{0,18513 + 0,15239 + 0,07201}{3} = 0,13651 \text{ or } 13,651\%$$

## Attachment 7

## Free Cash Flow to Equity (FCFE) Calculation

ADRO (in Thousand Rupiah)			
1		2014	2015
2	net fixes asset	1.616.603	1.467.111
3	(+) depreciation	1.015.573	1.218.563
4	fixed asset (USD)	2.632.176	2.685.674
5	Conversion to Rupiah (4) (exchange 2014: 12440 ; 2015: 13795)	32.744.269.44 0	37.048.872.830
6	<b>Capital expenditure</b>		<b>4.304.603.390</b>
7	acc. amortization mining properties		567.952
8	acc. depreciation fixed asset		1.218.563
9	<b>Total depreciation (USD)</b>		1.786.515
10	Conversion to Rupiah (10) (exchange 2014: 12440 ; 2015: 13795)		<b>24.644.974.425</b>
11	current asset	1.271.632	1.092.519
12	(-)cash and cash equivalent	745.248	702.452
13	non-cash current asset (USD)	526.384	390.067
14	Conversion to Rupiah (13) (exchange 2014: 12440; 2015: 13795)	6.548.216.960	5.380.974.265
15	current liabilities	774.595	454.473
16	(-) current maturity of long-term debt		
17	finance lease payable	32.249	29.307
19	bank loans	160.522	93.574
20	(-)loans from a third party	15.541	-
21	non-debt current liabilities (USD)	566.283	331.592
22	Conversion to Rupiah (21) (exchange 2014: 12440; 2015: 13795)	7.044.560.520	4.574.311.640
23			
24	non-cash Working Capital (14-22)	-496.343.560	806.662.625
25	<b>change in non-cash Working Capital</b>		<b>1.303.006.185</b>
26	loans from third party	-	15.541
27	finance lease payables	74.322	45.443
28	bank loans	1.613.437	1.383.481
29	long-term debt	1.687.759	1.444.465
30	Conversion to Rupiah (30) (exchange 2014: 12440 ; 2015: 13795)	20.995.721.96 0	19.926.394.675
31	<b>Net debt</b>		<b>-1.069.327.285</b>



**Continued Attachment 9**

Net Income (USD)	151.003	
Conversion to Rupiah (exchange 2015: 13795)		2.083.086.385
(-)(Capital Expenditure – Dep.)		
Capital Expenditure	4.304.603.390	
Depreciation	24.644.974.425	-20.340.371.035
(-) non-cash working capital		1.303.006.185
(+) net debt		-1.069.327.285
<b>FCFE</b>		20.051.123.950
	In full of Rupiah	<b>20.051.123.950.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

AKRA (in Thousand Rupiah)			
1		2014	2015
2	net fixes asset	4.390.206.830	4.469.497.604
3	(+) depreciation	2.202.322.242	2.613.668.569
4	fixed asset	6.592.529.072	7.083.166.173
5	<b>Capital expenditure</b>		<b>490.637.101</b>
6			
7	acc. depreciation fixed asset		2.613.668.569
8	<b>Total depreciation</b>		2.613.668.569
9			
10	current asset	6.700.435.033	7.285.598.874
11	(-)cash and cash equivalent	896.590.624	1.289.809.132
12	non-cash current asset	5.803.844.409	5.995.789.742
13			
14	current liabilities	6.183.756.223	4.871.402.133
15	(-) short-term bank loans and other	1.238.797.408	635.216.700
16	(-) current maturity of long-term bank loan and other	372.862.901	310.287.230
17	non-debt current liabilities	4.572.095.914	3.925.898.203
18			
19	non-cash Working Capital (12-19)	1.231.748.495	2.069.891.539
20	<b>change in non-cash Working Capital</b>		<b>838.143.044</b>
21			
22	bank loans and others	1.024.137.289	1.417.984.673
23	bonds payables	1.490.626.675	1.492.592.745
24	Long-term debt	2.514.763.964	2.910.577.418
25	<b>Net debt</b>		<b>395.813.454</b>

Net Income		1.058.741.020
(-)(Capital Expenditure-Depreciation)		
Capital Expenditure	490.637.101	
Depreciation	2.613.668.569	-2.123.031.468
(-) non-cash working capital		838.143.044
(+) net debt		395.813.454
<b>FCFE</b>		<b>2.739.442.898</b>
	In full of Rupiah	<b>2.739.442.898.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

ASII (in Billions Rupiah)			
1		2014	2015
2	net fixes asset	41.250	41.702
3	(+) depreciation	33.645	39.012
4	fixed asset	74.895	80.714
5	<b>Capital expenditure</b>		<b>5.819</b>
6			
7	acc. depreciation plantation		1.534
8	acc. depreciation fixed asset		39.012
9	acc. depreciation mining properties		9.488
10	acc. Amortization concession right		304
11	<b>Total depreciation</b>		<b>50.338</b>
12			
13	current asset	97.241	105.161
14	(-)cash and cash equivalent	20.902	27.102
15	non-cash current asset	76.339	78.059
16	current liabilities	74.241	76.242
17	(-) short-term borrowing	10.586	11.975
18	(-) current portion of long-term debt		
19	bank loans and others loan	17.898	16.437
20	bonds	8.487	7.357
21	obligation under finances leases	450	433
22	non-debt current liabilities	36.820	40.040
23			
24	non-cash Working Capital (15-22)	39.519	38.019
25	<b>change in non-cash Working Capital</b>		<b>-1.500</b>
26			
27	bank loans and other loans	19.587	18.315
28	bonds	12.465	15.239
29	Obligation under finance leases	599	893
30	Long-term debt	32.651	34.447
31	<b>Net debt</b>		<b>1.796</b>

Net Income		15.613
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	5.819	
Depreciation	50.338	-4.4519
(-) non-cash working capital		-1.500
(+) net debt		1.796
<b>FCFE</b>		<b>63.428</b>
	In full of Rupiah	<b>63.428.000.000.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

BBCA			
1		2014	2015
2	net fixes asset	8.844.930	9.712.021
3	(+) depreciation	5.880.302	7.045.485
4	fixed asset	14725232.00	16.757.506
5	<b>Capital expenditure</b>		<b>2.032.274</b>
6			
7	acc. depreciation fixed asset		7.045.485
8	<b>Total depreciation</b>		<b>7.045.485</b>
9			
10	financial asset held for trading	1.672.222	1.783.792
11	bills receivables	7.569.364	7.367.389
12	securities purchase under agreement to resell	26.289.663	515.099
13	loans receivable related parties	552.914	946.945
14	loans receivable third parties	339.306.154	377.669.347
15	consumers financing receivable	6.973.228	7.407.519
16	asset related to sharia transaction	2.111.896	2.935.731
17	non-cash current asset	384.475.441	398.625.822
18	deposits from customer (related parties)	1.119.576	1.227.133
19	deposits from customer (third parties)	446.786.180	472.439.081
20	sharia deposits	296.832	351.667
21	deposits from others banks	3.754.260	4.156.051
22	financial liabilities held for trading	14.702	74.234
23	securities sold under agreements repurchase	-	38.602
24	income tax liabilities	251.818	251.091
25	accrual and other liabilities	6.260.219	7.613.476
26	non-debt current liabilities	458.483.587	486.151.335
27			
28	non-cash Working Capital (17-26)	-74.008.146	-87.525.513
29	<b>change in non-cash Working Capital</b>		<b>-13.517.367</b>
30			
31	debt securities issued	2.503.900	2.820.965
32	borrowings	3.080.942	1.743.337
33	Long-term debt	5.584.842	4.564.302
34	<b>Net debt</b>		<b>-1.020.540</b>

**Continued Attachment 9**

Net Income		18.035.768
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	2.032.274	
Depreciation	7.045.485	-5.013.211
(-) non-cash working capital		-13,517.367
(+) net debt		-1.020,540
<b>FCFE</b>		35.545.806
	In full of Rupiah	<b>35.545.806.000.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

BBNI (in Million Rupiah)			
1		2014	2015
2	fixed asset	12.509.791	26.348.670
3	<b>Capital expenditure</b>		<b>13.838.879</b>
4			
5			
6	acc. depreciation fixed asset		5.592.076
7	<b>Total depreciation</b>		<b>5.592.076</b>
8			
9			
10	marketable securities	12.738.296	9.927.494
11	export purchased	6.237.356	376.215
12	bill and other receivables	2.301.311	8.831.444
13	acceptances receivable	12.466.819	10.820.613
14	derivative receivable	165.093	440.701
15	Loans	270.651.986	314.066.531
16	prepaid taxes	1.436.609	2.299.174
17	prepaid expenses	1.392.342	1.632.641
18	non-cash current asset	307.389.812	348.394.813
19	liabilities due immediately	1.813.065	1.805.494
20	total deposit from customer	300.264.809	353.936.880
21	total deposits from other banks	2.401.871	4.248.058
22	derivative payable	661.609	1.161.557
23	securities sold under agreements repurchase	2.491.931	3.163.142
24	accrued expenses	659.592	917.129
25	tax payables	317.563	749.396
26	provisions	87.230	99.227
27	other liabilities	5.218.778	7.583.784
28	non-debt current liabilities	313.916.448	373.664.667
29			
30	non-cash Working Capital (18-28)	-6.526.636	-25.269.854
31	<b>change in non-cash Working Capital</b>		<b>-18.743.218</b>
32			
33	securities issued	6.158.031	6.870.667
34	borrowings	11.212.265	22.523.581
35	Long-term debt	17.370.296	29.394.248
36	<b>Net debt</b>		<b>12.023.952</b>

**Continued Attachment 9**

Net Income		9.140.532
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	13.838.879	
Depreciation	5.592.076	8.246.803
(-) non-cash working capital		-18.743.218
(+) net debt		12.023.952
<b>FCFE</b>		31.660.899
	In full of Rupiah	<b>31.660.899.000.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

BBRI (in Million Rupiah)			
1		2014	2015
2	fixed asset	11.583.301	14.687.468
3	<b>Capital expenditure</b>		<b>3.104.167</b>
4			
5	acc. depreciation fixed asset		6.648.188
6	<b>Total depreciation</b>		<b>6.648.188</b>
7			
8	securities	84.168.460	124.873.547
9	export bills	10.527.985	7.280.883
10	securities purchased under agreement to resell	39.003.595	845.125
11	derivative receivable	536	-
12	loans	479.211.143	547.318.355
13	sharia receivables and financing	15.322.903	16.261.754
14	acceptances receivable	6.525.688	5.163.471
15	non-cash current asset	634.760.310	701.743.135
16	liabilities due immediately	7.043.772	5.138.562
17	total deposit from customer	622.321.846	668.995.379
18	total deposit from other banks	8.655.392	11.165.073
19	securities sold under agreements repurchase	15.456.701	11.377.958
20	derivative payables	717.523	445.753
21	tax payables	59.805	1.497.262
22	estimated losses on commitments and contingencies	398	1.242
23	other liabilities	3.487.265	7.392.766
24	non-debt current liabilities	657.742.702	706.013.995
25			
26	non-cash Working Capital (15-24)	-22.982.392	-4.270.860
27	<b>change in non-cash Working Capital</b>		<b>18.711.532</b>
28			
29	debt securities issued	8.257.990	10.521.103
30	fund borrowings	24.986.862	35.480.358
31	subordinated loans	77.582	56.468
32	Long-term debt	33.322.434	46.057.929
33	<b>Net debt</b>		<b>12.735.495</b>



**Continued Attachment 9**

Net Income		25.410.788
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	3.104.167	
Depreciation	6.648.188	-3.544.021
(-) non-cash working capital		18.711.532
(+) net debt		12.735.495
<b>FCFE</b>		22.978.772
	In full of Rupiah	<b>22.978.772.000.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

BMRI (in Million Rupiah)			
1		2014	2015
2	net fixes asset	8.928.856	9.761.688
3	(+) depreciation	6558196	7.708.438
4	fixed asset	15.487.052	17.470.126
5	<b>Capital expenditure</b>		<b>1.983.074</b>
6	acc. depreciation fixed asset		7.708.438
7	acc. Amortization intangible assets		1.877.989
8	<b>Total depreciation</b>		<b>9.586.427</b>
9			
10	marketable securities	40.851.158	44.303.535
11	other receivables	11.615.696	13.184.766
12	securities purchased under agreement to resell	19.744.804	676.900
13	derivative receivable	71.044	700.884
14	loans and sharia financing/receivables	505.394.870	564.393.595
15	customer financing receivables	5.893.135	7.907.449
16	acceptances receivable	13.007.132	11.224.243
17	prepaid expense	1.837.500	2.299.852
18	prepaid taxes	2.591.982	4.817.396
19	non-cash current asset	601.007.321	649.508.620
20	liabilities due immediately	1.156.366	1.156.327
21	total deposit from customer	583.448.911	622.332.331
22	total deposit from other banks	17.531.845	12.636.237
23	securities sold under agreement repurchase	6.112.589	4.863.171
24	derivative payables	157.055	299.079
25	estimated losses on commitments and contingencies	196.793	395.610
26	accrued expenses	3.880.273	3.490.801
27	tax payables	1.875.141	2.131.616
28	provision	6.677.644	676.170
29	other liabilities	16.370.686	14.189.412
30	non-debt current liabilities	637.407.303	662.170.754
31			
32	non-cash Working Capital (19-30)	-36.399.982	-12.662.134
33	<b>change in non-cash Working Capital</b>		<b>23.737.848</b>
34			
35	securities issued	2.009.625	2.398.178
36	fund borrowings	24.227.104	33.764.671
37	subordinated loans	3.746.574	3.737.703
38	Long-term debt	29.983.303	39.900.552
39	<b>Net debt</b>		<b>9.917.249</b>

**Continued Attachment 9**

Net Income		21.152.398
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	1.983.074	
Depreciation	9.586.427	-7.603.353
(-) non-cash working capital		23.737.848
(+) net debt		9.917.249
<b>FCFE</b>		14.935.152
	In full of Rupiah	<b>14.935.152.000.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

BSDE (in full of Rupiah)			
1		2014	2015
2	net fixes asset	607.141.046.472	803.252.704.495
3	(+) depreciation	572.183.723.621	683.208.132.614
4	fixed asset	1.179.324.770.093	1.486.460.837.109
5	<b>Capital expenditure</b>		<b>307.136.067.016</b>
6			
7	acc. depreciation fixed asset		683.208.132.614
8	acc. depreciation investment properties		650.439.503.190
9	acc. Amortization other assets		4.120.703.537
10	<b>Total depreciation</b>		<b>1.337.768.339.341</b>
11			
12			
13	current asset	11.168.087.883.368	16.789.559.633.165
14	(-)cash and cash equivalent	2.820.497.518.399	6.109.239.577.200
15	non-cash current asset	8.347.590.364.969	10.680.320.055.965
16	current liabilities	5.433.085.955.646	6.146.403.064.486
17	(-) short-term bank loans	1.420.000.000.000	1.897.000.000.000
18	(-) current portion of long-term debt		
19	Long-term bank loans	1.024.000.000	91.627.581.035
20	lease liabilities	17.118.872.342	66.830.408.332
21	bonds payable	84.832.538.790	
22	non-debt current liabilities	3.910.110.544.514	4.090.945.075.119
23			
24	non-cash Working Capital (15-22)	4.437.479.820.455	6.589.374.980.846
25	<b>change in non-cash Working Capital</b>		<b>2.151.895.160.391</b>
26			
27	bank loans	101.986.888.224	68.172.000.000
28	leases payable	32.678.165.271	107.897.923.855
29	bonds payables	2.649.518.385.982	5.693.363.130.028
30	Long-term debt	2.784.183.439.477	5.869.433.053.883
31	<b>Net debt</b>		<b>3.085.249.614.406</b>

**Continued Attachment 9**

Net Income		2.351.380.057.145
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	307.136.067.016	
Depreciation	1.337.768.339.341	-1.030.632.272.325
(-) non-cash working capital		2.151.895.160.391
(+) net debt		3.085.249.614.406
<b>FCFE</b>		<b>4.315.366.783.485</b>

### Free Cash Flow to Equity (FCFE) Calculation

GGRM (in Million Rupiah)			
1		2014	2015
2	net fixes asset	18.973.272	20.106.488
3	(+) depreciation	9.952.410	11.667.524
4	fixed asset	28.925.682	31.774.012
5	<b>Capital expenditure</b>		<b>2.848.330</b>
6			
7	acc. depreciation fixed asset		11.667.524
8	<b>Total depreciation</b>		<b>11.667.524</b>
9			
10	current asset	38.532.600	42.568.431
11	(-)cash and cash equivalent	1.588.110	2.725.891
12	non-cash current asset	36.944.490	39.842.540
13	current liabilities	23.783.134	24.045.086
14	(-) short-term loans	18.147.298	20.561.189
15	non-debt current liabilities	5.635.836	3.483.897
16			
17	non-cash Working Capital (12-15)	31.308.654	36.358.643
18	<b>change in non-cash Working Capital</b>		<b>5.049.989</b>
19			
20	Long-term debt	-	-
21	<b>Net debt</b>		-

Net Income		6.452.834
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	2.848.330	
Depreciation	11.667.524	-8.819.194
(-) non-cash working capital		5.049.989
(+) net debt		-
<b>FCFE</b>		10.222.039
	In full of Rupiah	<b>10.222.039.000.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

ICBP (in Million Rupiah)			
1		2014	2015
2	net fixes asset	5.09.450	6.555.660
3	(+) depreciation	3.373.255	3.846.022
4	fixed asset	9.182.705	10.401.682
5	<b>Capital expenditure</b>		<b>1.218.977</b>
6			
7	acc. depreciation fixed asset		3.846.022
8	<b>Total depreciation</b>		<b>3.846.022</b>
9			
10	current asset	13.621.918	13.961.500
11	(-)cash and cash equivalent	7.342.986	7.657.510
12	non-cash current asset	6.278.932	6.303.990
13			
14	current liabilities	6.208.146	6.002.344
15	(-)short-term bank loans	804.684	719.035
16	(-) current portion of long-term debt		
17	bank loans	256.678	521.805
18	Liabilities of purchase	11.349	42.942
19	non-debt current liabilities	5.135.435	4.718.562
20			
21	non-cash Working Capital (12-19)	1.143.497	1.585.428
22	<b>change in non-cash Working Capital</b>		<b>441.931</b>
23			
24	bank loans	1.563.768	1.416.104
25	liability for purchase	25.914	15.466
26	Long-term debt	1.589.682	1.431.570
27	<b>Net debt</b>		<b>-158.112</b>

Net Income		2.923.148
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	1.218.977	
Depreciation	3.846.022	-262.7045
(-) non-cash working capital		441.931
(+) net debt		-158.112
<b>FCFE</b>		<b>4.950.150</b>
	In full of Rupiah	<b>4.950.150.000.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

INDF (in Million Rupiah)			
1		2014	2015
2	net fixes asset	21.982.095	25.096.342
3	(+) depreciation	11.902.383	13.692.166
4	fixed asset	33.884.478	38.788.508
5	<b>Capital expenditure</b>		<b>4.904.030</b>
6			
7	acc. Amortization plantations		2.776.003
8	acc. depreciation fixed asset		13.692.166
9	<b>Total depreciation</b>		<b>16.468.169</b>
10			
11	current asset	41.014.127	42.816.745
12	(-)cash and cash equivalent	14.157.619	13.076.076
13	non-cash current asset	26.856.508	29.740.669
14	current liabilities	22.658.835	25.107.538
15	(-)short-term bank loans	5.059.833	5.971.569
16	(-) current maturity of long-term debt		
17	bank loans	1.091.748	2.949.803
18	liability for purchase of fixed assets	11.349	4.2942
19	non-debt current liabilities	16.495.905	16.143.224
20			
21	non-cash Working Capital (13-19)	10.360.603	13.597.445
22	<b>change in non-cash Working Capital</b>		<b>3.236.842</b>
23			
24	Long-term debt	16.837.876	16.893.952
25	<b>Net debt</b>		<b>56.076</b>

Net Income		3.709.501
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	4.904.030	
Depreciation	16.468.169	-11.564.139
(-) non-cash working capital		3.236.842
(+) net debt		56.076
<b>FCFE</b>		12.092.874
	In full of Rupiah	<b>12.092.874.000.000</b>



### Free Cash Flow to Equity (FCFE) Calculation

INTP (in Million Rupiah)			
1		2014	2015
2	net fixes asset	12.143.632	13.813.892
3	(+) depreciation	9.287.198	10.144.956
4	fixed asset	21.430.830	23.958.848
5	<b>Capital expenditure</b>		<b>2.528.018</b>
6			
7	acc. depreciation fixed asset		10.144.956
8	<b>Total depreciation</b>		<b>10.144.956</b>
9			
10	current asset	16.087.370	13.133.854
11	(-)cash and cash equivalent	11.256.129	8.655.562
12	non-cash current asset	4.831.241	4.478.292
13	current liabilities	3.260.559	2.687.743
14	(-) current maturities of obligations under finance lease	49.126	60.122
15	non-debt current liabilities	3.211.433	2.627.621
16			
17	non-cash Working Capital (12-15)	1.619.808	1.850.671
18	<b>change in non-cash Working Capital</b>		<b>230.863</b>
19			
20	obligation under finance lease	76.053	61.113
21	Long-term debt	76.053	61.113
22	<b>Net debt</b>		<b>-14.940</b>

Net Income		4.356.661
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	2.528.018	
Depreciation	10.144.956	-7.616.938
(-) non-cash working capital		230.863
(+) net debt		-14.940
<b>FCFE</b>		<b>11.727.796</b>
	In full of Rupiah	<b>11.727.796.000.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

KLBF (in full of Rupiah)			
1		2014	2015
2	net fixes asset	3.404.457.131.056	3.938.494.051.483
3	(+) depreciation	1.874.810.267.561	2.160.877.301.037
4	fixed asset	5.279.267.398.617	6.099.371.352.520
5	<b>Capital expenditure</b>		<b>820.103.953.903</b>
6			
7	acc. depreciation fixed asset		2.160.877.301.037
8	acc. Amortization intangible assets		203.034.624.510
9	<b>Total depreciation</b>		<b>2.363.911.925.547</b>
10			
11	current asset	8.120.805.370.192	8.748.491.608.702
12	(-)cash and cash equivalent	1.894.609.528.205	2.718.619.232.764
13	non-cash current asset	6.226.195.841.987	6.029.872.375.938
14	current liabilities	2.385.920.172.489	2.365.880.490.863
15	(-)short-term Bank loans	251.909.102.153	266.148.059.414
16	(-) current maturity of long-term debt		
17	finance lease payables		1.829.302.253
18	non-debt current liabilities	21.34.011.070.336	2.097.903.129.196
19			
20	non-cash Working Capital (13-18)	4.092.184.771.651	3.931.969.246.742
21	<b>change in non-cash Working Capital</b>		<b>-160.215.524.909</b>
22			
23	bank loans	44.219.703.924	127.727.051.924
24	finance leases		3.205.872.747
25	Long-term debt	44.219.703.924	130.932.924.671
26	<b>Net debt</b>		<b>86.713.220.747</b>

Net Income		2.057.694.281.873
(-)(Capital Expenditure-Depreciation)		
Capital Expenditure	820.103.953.903	
Depreciation	2.363.911.925.547	-1.543.807.971.644
(-) non-cash working capital		-160.215.524.909
(+) net debt		86.713.220.747
<b>FCFE</b>		<b>3.848.430.999.173</b>

### Free Cash Flow to Equity (FCFE) Calculation

LSIP (in Million Rupiah)			
1		2014	2015
2	net fixes asset	3.238.752	3.427.971
3	(+) depreciation	1.217.662	1.440.100
4	fixed asset	4.456.414	4.868.071
5	<b>Capital expenditure</b>		<b>411.657</b>
6			
7	acc. depreciation fixed asset		1.440.100
8	acc. Amortization plantation		967.282
9	<b>Total depreciation</b>		<b>2.407.382</b>
10			
11	current asset	1.863.506	1.268.557
12	(-)cash and cash equivalent	1.356.532	737.114
13	non-cash current asset	506.974	531.443
14	current liabilities	746.520	571.162
15	non-debt current liabilities	746.520	571.162
16			
17	non-cash Working Capital (13-15)	-239.546	-39.719
18	<b>change in non-cash Working Capital</b>		<b>199.827</b>
19			
20	Long-term debt	-	-
21	<b>Net debt</b>		<b>-</b>

Net Income		623.309
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	411.657	
Depreciation	2.407.382	-1.995.725
(-) non-cash working capital		199.827
(+) net debt		-
<b>FCFE</b>		<b>2.818.861</b>
	In full of Rupiah	<b>28.18.861.000.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

PTBA(in Million Rupiah)			
1		2014	2015
2	net fixes asset	3.987.565	5.579.117
3	(+) depreciation	1.405.440	1.803.910
4	fixed asset	5.393.005	7.383.027
5	<b>Capital expenditure</b>		1.990.022
6			
7	acc. Amortization deferred development		239.847
8	acc. depreciation fixed asset		1.789.167
9	acc. Amortization mining properties		101.330
10	acc. depreciation plantations		53.967
11	<b>Total depreciation</b>		<b>2.184.311</b>
12			
13	current asset	7.416.805	7.598.476
14	(-)cash and cash equivalent	4.039.267	3.115.337
15	non-cash current asset	3.377.538	4.483.139
16	current liabilities	3.581.006	4.922.733
17	(-)short-term bank borrowings	826.428	739.000
18	(-)short-term portion of long-term debt		
19	finance lease liabilities	-	15.851
20	long-term bank borrowings	467.235	597.034
21	non-debt current liabilities	2.287.343	3.586.699
22			
23	non-cash Working Capital (15-21)	1.090.195	896.440
24	<b>change in non-cash Working Capital</b>		<b>-193.755</b>
25			
26	financial lease liabilities	-	46.980
27	banks borrowings	961.753	623.192
28	Long-term debt	961.753	670.172
29	<b>Net debt</b>		<b>-291.581</b>

Net Income		2.037.111
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	1.975.279	
Depreciation	2.184.311	-209.032
(-) non-cash working capital		-193.755
(+) net debt		-291.581
<b>FCFE</b>		<b>2.148.317</b>
	In full of Rupiah	<b>2.148.317.000.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

SMGR (in Thousand Rupiah)			
1		2014	2015
2	net fixes asset	20.221.066.650	25.167.682.710
3	(+) depreciation	10.117.480.338	11.48.328.9749
4	fixed asset	30.338.546.988	36.650.972.459
5	<b>Capital expenditure</b>		<b>6.312.425.471</b>
6	acc. depreciation investment properties		59.091.259
7	acc. depreciation fixed asset		11.483.289.749
8	acc. Amortization deferred charges		40.244.036
9	acc. Amortization intangible assets		231.970.949
10	<b>Total depreciation</b>		<b>11.814.595.993</b>
11	current asset	11.648.544.675	10.538.703.910
12	(-)cash and cash equivalent	4.925.949.551	3.964.018.180
13	(-)restricted cash and cash equivalents	13.696.811	25.469.712
14	non-cash current asset	6.708.898.313	6.549.216.018
15	current liabilities	5.271.929.548	6.599.189.622
16	(-) short-term borrowing	81.808.678	138.603.568
17	(-) current maturities of long-term debt		
18	bank loans	463.572.257	630.043.935
19	finance leases liabilities	52.497.495	77.037.601
20	non-debt current liabilities	4.674.051.118	5.753.504.518
21			
22	non-cash Working Capital (14-20)	2.034.847.195	795.711.500
23	<b>change in non-cash Working Capital</b>		<b>-1.239.135.695</b>
24			
25	bank loans	3.183.156.388	2.996.680.899
26	finance leases liabilities	131.988.819	158.934.642
27	Long-term debt	3.315.145.207	3.155.615.541
29	<b>Net debt</b>		<b>-159.529.666</b>

Net Income		4.525.441.038
(-)(Capital Expenditure-Depreciation)		
Capital Expenditure	6.312.425.471	
Depreciation	11.814.595.993	-5.502.170.522
(-) non-cash working capital		-1.239.135.695
(+) net debt		-159.529.666
<b>FCFE</b>		<b>11.107.217.589</b>
	In full of Rupiah	<b>11.107.217.589.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

UNTR (in Million Rupiah)			
1		2014	2015
2	net fixes asset	13.625.012	12.659.736
3	(+) depreciation	21.491.425	24.687.857
4	fixed asset	35.116.437	37.590.366
5	<b>Capital expenditure</b>		<b>2.473.929</b>
6			
7	acc. depreciation fixed asset		24.687.857
8	acc. Amortization mining properties		1.868.801
9	<b>Total depreciation</b>		<b>26.556.658</b>
10			
11	current asset	33.579.799	39.259.708
12	(-)cash and cash equivalent	10.059.803	15.413.210
13	non-cash current asset	23.519.996	23.846.498
14	current liabilities	16.297.816	18.280.285
15	(-) short-term borrowing	23.209	23.750
16	(-) current maturities of long-term debt		
17	bank loans	744.729	586.288
18	finance leases liabilities	430.523	401.903
19	other borrowings	80.232	123.954
20	non-debt current liabilities	15.019.123	17.144.390
21			
22	non-cash Working Capital (13-20)	8.500.873	6.702.108
23	<b>change in non-cash Working Capital</b>		<b>-1.798.765</b>
24			
25	bank loans	734.738	228.480
26	finance leases liabilities	583.874	862.836
27	other liabilities	-	56.147
28	Long-term debt	1.318.612	1.147.463
29	<b>Net debt</b>		<b>-171.149</b>

Net Income		2.792.439
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	2.473.929	
Depreciation	26.556.658	-24.082.729
(-) non-cash working capital		-1.798.765
(+) net debt		-171.149
<b>FCFE</b>		<b>28.502.784</b>
	In full of Rupiah	<b>28.502.784.000.000</b>

### Free Cash Flow to Equity (FCFE) Calculation

UNVR (in Millions)			
1		2014	2015
2	net fixes asset	7.348.025	8.320.917
3	(+) depreciation	2.000.687	2.373.102
4	fixed asset	9.348.712	10.694.019
5	<b>Capital expenditure</b>		<b>1.345.307</b>
6			
7	acc. depreciation fixed asset		2.373.102
8	acc. amortization intangible assets		395.437
9	<b>Total depreciation</b>		<b>2.768.539</b>
10			
11	current asset	6.337.170	6.623.114
12	(-)cash and cash equivalent	859.127	628.159
13	non-cash current asset	5.478.043	5.994.955
14	current liabilities	8.864.242	10.127.542
15	(-) bank borrowing	1.250.000	1.700.000
16	non-debt current liabilities	7.614.242	8.427.542
17			
18	non-cash Working Capital (13-16)	-2.136.199	-2.432.587
19	<b>change in non-cash Working Capital</b>		<b>-296.388</b>
20			
21	Long-term debt	-	-
22	<b>-Net debt</b>		<b>-</b>

Net Income		5.851.805
(-)(Capital Expenditure- Depreciation)		
Capital Expenditure	1.345.307	
Depreciation	2.768.539	-1.423.232
(-) non-cash working capital		-296.388
(+) net debt		-
<b>FCFE</b>		<b>7.571.425</b>
	In full of Rupiah	<b>7.571.425.000.000</b>

**Attachment 8**

**Expected FCFE and Intrinsic Value Calculation**

No	Emiten Code	FCFE <sub>2015</sub> (Rupiah)	g	FCFE <sub>2016</sub> (Rupiah)	Ke	Expected Intrinsic Value in 2016 (Rupiah)
						$\frac{FCFE_{2016}}{K_e + g_n}$
1	ADRO	20.051.123.950.000,00	0,03414	20.735.669.321.653,00	0,006067	515.722.867.203.547,00
2	AKRA	2.739.442.898.000,00	0,05465	2.889.153.452.375,70	0,002203	5.0817.959.516.220,80
3	ASII	63.428.000.000.000,00	0,09264	69.303.969.920.000,00	0,000474	744.291.620.164.529,00
4	BBCA	35.545.806.000.000,00	0,16483	41.404.821.202.980,00	0,002222	247.855.884.413.117,00
5	BBNI	31.660.899.000.000,00	0,11775	35.388.969.857.250,00	-0,002058	305.889.515.759.517,00
6	BBRI	22.978.772.000.000,00	0,17316	26.957.776.159.520,00	0,000997	154.790.081.130.934,00
7	BMRI	14.935.152.000.000,00	0,14004	17.026.670.686.080,00	0,002999	119.035.163.040.010,00
8	BSDE	4.315.366.783.485,00	0,16682	5.035.256.270.305,97	-0,003016	30.739.519.610.668,70
9	GGRM	10.222.039.000.000,00	0,07075	10.945.248.259.250,00	0,003336	147.737.065.832.276,00
10	ICBP	4.950.150.000.000,00	0,08688	5.380.219.032.000,00	0,000782	61.374.586.844.927,10
11	INDF	12.092.874.000.000,00	0,05023	12.700.299.061.020,00	0,002272	241.901.243.019.694,00
12	INTP	11.727.796.000.000,00	0,06817	12.527.279.853.320,00	0,001173	18.065.673.324.373,00
13	KLBF	3.848.430.999.173,00	0,11833	4.303.815.839.305,14	0,001952	35.781.046.534.852,60
14	LSIP	2.818.861.000.000,00	0,02336	2.884.709.592.960,00	0,004537	103.405.727.962.146,00
15	PTBA	2.148.317.000.000,00	0,1321	2.432.109.675.700,00	0,004361	17.822.745.514.835,70
16	SMGR	11.107.217.589.000,00	0,12259	12.468.851.393.235,50	-0,000280	101.944.660.234.122,00



**Continued Attachment 7**

No	Emiten Code	$FCFE_{2015}$ (Rupiah)	g	$FCFE_{2016}$ (Rupiah)	Ke	Intrinsic Value (Rupiah)
						$\frac{FCFE_{2016}}{K_e + g_n}$
17	UNTR	28.502.784.000.000,00	0,04349	2.974.237.007.616.00	0,004630	61.808.749.119.202,00
18	UNVR	7.571.425.000.000,00	0,23526	9.352.784.455.000,00	0,004250	39.049.219.011.732,30

Calculation example:

Expected Free Cash Flow to Equity ( $FCFE_1$ ) of ADRO in period 2016

$$\begin{aligned}
 FCFE_{2016} &= FCFE_{2015} \times (1 + g) \\
 &= \text{Rp. } 20.051.123.950.000,00 \times (1+0,03414) \\
 &= \text{Rp. } 20.735.669.321.653,00
 \end{aligned}$$

Expected intrinsic value of ADRO in period 2016

$$\begin{aligned}
 Value &= \frac{FCFE_{2016}}{K_e + g_n} \\
 &= \frac{20.735.669.321.653,00}{0,006067 + 0,03414} = \text{Rp. } 515.722.867.203.547,00
 \end{aligned}$$

### Attachment 9

#### Intrinsic value per share Calculation

No	Emiten Code	Expected Intrinsic value in 2016 (Rupiah)	Outstanding stock in 2016	Expected Intrinsic value per share in 2016 (Rupiah)
1	ADRO	515.722.867.203.547,00	31.985.963.000	1.617,05
2	AKRA	5.0817.959.516.220,80	3.949.030.235	1.286,85
3	ASII	744.291.620.164.529,00	40.483.553.140	18.385,04
4	BBCA	247.855.884.413.117,00	24.408.459.120	10.154,51
5	BBNI	305.889.515.759.517,00	18.462.169.893	16.568,45
6	BBRI	154.790.081.130.934,00	24.422.470.380	6.338,02
7	BMRI	119.035.163.040.010,00	23.099.999.999	5.153,04
8	BSDE	30.739.519.610.668,70	19.246.696.192	1.597,13
9	GGRM	147.737.065.832.276,00	1.924.088.000	76.782,90
10	ICBP	61.374.586.844.927,10	5.830.954.000	10.525,65
11	INDF	241.901.243.019.694,00	8.780.426.500	27.550,06
12	INTP	18.065.673.324.373,00	3.681.231.669	4.907,51
13	KLBF	35.781.046.534.852,60	46.875.122.110	763,33
14	LSIP	103.405.727.962.146,00	6.822.863.965	15.155,77
15	PTBA	17.822.745.514.835,70	2.304.131.850	7.735,12
16	SMGR	101.944.660.234.122,00	5.931.520.000	17.186,94
17	UNTR	61.808.749.119.202,00	3.730.135.136	16.570,11
18	UNVR	39.049.219.011.732,30	7.630.000.000	5.117,85

Calculation example:

$$\text{Expected intrinsic value per share of ADRO in 2016} = \frac{515.722.867.203.547,00}{31.985.963.000}$$

$$= \text{Rp } 1.617,05$$