



Lampiran 01 Fluktuasi *Return* Realisasi Saham IDX30 Tahun 2014-2018

Tahun	<i>Return</i> IDX30	<i>Return</i> IDX30 (dalam %)
2014	0,2505	25,05%
2015	-0,1131	-11,31%
2016	0,0615	6,15%
2017	0,2121	21,21%
2018	-0,0308	-3,08%

Sumber: www.finance.yahoo.com (data diolah)



Lampiran 02 Daftar Saham yang Tergolong IDX30

Daftar Saham yang Tergolong IDX30
 Periode 1 Agustus 2016 – 31 Januari 2017
 (Lampiran Pengumuman No. Peng-00672/BEI.OPP/07-2016)

No	Kode Saham	Nama Emiten	Keterangan
1.	ADHI	Adhi Karya (Persero) Tbk.	Tetap
2.	ADRO	Adaro Energy Tbk.	Tetap
3.	AKRA	AKR Corporindo Tbk.	Tetap
4.	ASII	Astra International Tbk.	Tetap
5.	ASRI	Alam Sutera Realty Tbk.	Tetap
6.	BBCA	Bank Central Asia Tbk.	Tetap
7.	BBNI	Bank Negara Indonesia (Persero) Tbk.	Tetap
8.	BBRI	Bank Rakyat Indonesia (Persero) Tbk.	Tetap
9.	BMRI	Bank Mandiri (Persero) Tbk.	Tetap
10.	BSDE	PT Bumi Serpong Damai Tbk.	Baru
11.	CPIN	Charoen Pokphand Indonesia Tbk.	Tetap
12.	GGRM	Gudang Garam Tbk.	Tetap
13.	HMSP	HM Sampoerna Tbk	Baru
14.	ICBP	Indofood CBP Sukses Makmur Tbk.	Tetap
15.	INDF	Indofood Sukses Makmur Tbk.	Tetap
16.	INTP	Indocement Tunggul Prakarsa Tbk.	Tetap
17.	KLBF	Kalbe Farma Tbk.	Tetap
18.	LPKR	Lippo Karawaci Tbk.	Tetap
19.	LPPF	PT Matahari Department Stor Tbk.	Tetap
20.	MNCN	Media Nusantara Citra Tbk.	Tetap
21.	PGAS	Perusahaan Gas Negara (Persero) Tbk.	Tetap
22.	PWON	Pakuwon Jati Tbk.	Tetap
23.	SCMA	PT Surya Citra Media Tbk.	Tetap
24.	SMGR	Semen Indonesia (Persero) Tbk.	Tetap
25.	SMRA	PT Summarecon Agung Tbk.	Tetap
26.	SSMS	PT Sawit Sumbermas Sarana Tbk.	Tetap
27.	TLKM	Telekomunikasi Indonesia (Persero) Tbk.	Tetap
28.	UNTR	United Tractors Tbk.	Tetap
29.	UNVR	Unilever Indonesia Tbk.	Tetap
30.	WSKT	Waskita Karya (Persero) Tbk.	Baru

Sumber: www.idx.co.id

Daftar Saham yang Tergolong IDX30
 Periode 1 Februari 2017 – 31 Juli 2017
 (Lampiran Pengumuman No. Peng-00023/BEI.OPP/01-2017)

No	Kode Saham	Nama Emiten	Keterangan
1.	ADHI	Adhi Karya (Persero) Tbk.	Tetap
2.	ADRO	Adaro Energy Tbk.	Tetap
3.	AKRA	AKR Corporindo Tbk.	Tetap
4.	ASII	Astra International Tbk.	Tetap
5.	BBCA	Bank Central Asia Tbk.	Tetap
6.	BBNI	Bank Negara Indonesia (Persero) Tbk.	Tetap
7.	BBRI	Bank Rakyat Indonesia (Persero) Tbk.	Tetap
8.	BMRI	Bank Mandiri (Persero) Tbk.	Tetap
9.	BSDE	PT Bumi Serpong Damai Tbk.	Tetap
10.	CPIN	Charoen Pokphand Indonesia Tbk.	Tetap
11.	GGRM	Gudang Garam Tbk.	Tetap
12.	HMSP	HM Sampoerna Tbk	Tetap
13.	ICBP	Indofood CBP Sukses Makmur Tbk.	Tetap
14.	INDF	Indofood Sukses Makmur Tbk.	Tetap
15.	INTP	Indocement Tunggul Prakarsa Tbk.	Tetap
16.	KLBF	Kalbe Farma Tbk.	Tetap
17.	LPKR	Lippo Karawaci Tbk.	Tetap
18.	LPPF	PT Matahari Department Stor Tbk.	Tetap
19.	MNCN	Media Nusantara Citra Tbk.	Tetap
20.	PGAS	Perusahaan Gas Negara (Persero) Tbk.	Tetap
21.	PPRO	PT PP Properti Tbk.	Baru
22.	PWON	Pakuwon Jati Tbk.	Tetap
23.	SMGR	Semen Indonesia (Persero) Tbk.	Tetap
24.	SMRA	PT Summarecon Agung Tbk.	Tetap
25.	SRIL	PT Sri Rejeki Isman Tbk.	Baru
26.	SSMS	PT Sawit Sumbermas Sarana Tbk.	Tetap
27.	TLKM	Telekomunikasi Indonesia (Persero) Tbk.	Tetap
28.	UNTR	United Tractors Tbk.	Tetap
29.	UNVR	Unilever Indonesia Tbk.	Tetap
30.	WSKT	Waskita Karya (Persero) Tbk.	Tetap

Sumber: www.idx.co.id

Daftar Saham yang Tergolong IDX30
 Periode 1 Agustus 2017 – 31 Januari 2018
 (Lampiran Pengumuman No. Peng-00727/BEI.OPP/07-2017)

No	Kode Saham	Nama Emiten	Keterangan
1.	ADHI	Adhi Karya (Persero) Tbk.	Tetap
2.	ADRO	Adaro Energy Tbk.	Tetap
3.	ANTM	Aneka Tambang Tbk.	Baru
4.	ASII	Astra International Tbk.	Tetap
5.	BBCA	Bank Central Asia Tbk.	Tetap
6.	BBNI	Bank Negara Indonesia (Persero) Tbk.	Tetap
7.	BBRI	Bank Rakyat Indonesia (Persero) Tbk.	Tetap
8.	BMRI	Bank Mandiri (Persero) Tbk.	Tetap
9.	BSDE	PT Bumi Serpong Damai Tbk.	Tetap
10.	GGRM	Gudang Garam Tbk.	Tetap
11.	HMSP	HM Sampoerna Tbk.	Tetap
12.	ICBP	Indofood CBP Sukses Makmur Tbk.	Tetap
13.	INDF	Indofood Sukses Makmur Tbk.	Tetap
14.	INTP	Indocement Tunggul Prakarsa Tbk.	Tetap
15.	JSMR	Jasa Marga (Persero) Tbk.	Baru
16.	KLBF	Kalbe Farma Tbk.	Tetap
17.	LPKR	Lippo Karawaci Tbk.	Tetap
18.	LPPF	PT Matahari Department Store Tbk.	Tetap
19.	MNCN	Media Nusantara Citra Tbk.	Tetap
20.	PGAS	Perusahaan Gas Negara (Persero) Tbk.	Tetap
21.	PPRO	PT PP Properti Tbk.	Tetap
22.	PTPP	PP (Persero) Tbk.	Baru
23.	PWON	Pakuwon Jati Tbk.	Tetap
24.	SMGR	Semen Indonesia (Persero) Tbk.	Tetap
25.	SRIL	PT Sri Rejeki Isman Tbk.	Tetap
26.	SSMS	PT Sawit Sumbermas Sarana Tbk.	Tetap
27.	TLKM	Telekomunikasi Indonesia (Persero) Tbk.	Tetap
28.	UNTR	United Tractors Tbk.	Tetap
29.	UNVR	Unilever Indonesia Tbk.	Tetap
30.	WSKT	Waskita Karya (Persero) Tbk.	Tetap

Sumber: www.idx.co.id

Daftar Saham yang Tergolong IDX30
 Periode 1 Februari 2018 – 31 Juli 2018
 (Lampiran Pengumuman No. Peng-00030/BEI.OPP/01-2018)

No	Kode Saham	Nama Emiten	Keterangan
1.	ADRO	Adaro Energy Tbk.	Tetap
2.	ANTM	Aneka Tambang Tbk.	Tetap
3.	ASII	Astra International Tbk.	Tetap
4.	BBCA	Bank Central Asia Tbk.	Tetap
5.	BBNI	Bank Negara Indonesia (Persero) Tbk.	Tetap
6.	BBRI	Bank Rakyat Indonesia (Persero) Tbk.	Tetap
7.	BBTN	Bank Tabungan Negara (Persero) Tbk.	Baru
8.	BMRI	Bank Mandiri (Persero) Tbk.	Tetap
9.	BMTR	Global Mediacom Tbk.	Baru
10.	BRPT	Barito Pacific Tbk.	Baru
11.	BSDE	PT Bumi Serpong Damai Tbk.	Tetap
12.	GGRM	Gudang Garam Tbk.	Tetap
13.	HMSP	HM Sampoerna Tbk.	Tetap
14.	ICBP	Indofood CBP Sukses Makmur Tbk.	Tetap
15.	INDF	Indofood Sukses Makmur Tbk.	Tetap
16.	INTP	Indocement Tunggul Prakarsa Tbk.	Tetap
17.	JSMR	Jasa Marga (Persero) Tbk.	Tetap
18.	KLBF	Kalbe Farma Tbk.	Tetap
19.	LPKR	Lippo Karawaci Tbk.	Tetap
20.	LPPF	PT Matahari Department Stor Tbk.	Tetap
21.	PGAS	Perusahaan Gas Negara (Persero) Tbk.	Tetap
22.	PTPP	PP (Persero) Tbk.	Tetap
23.	PWON	Pakuwon Jati Tbk.	Tetap
24.	SMGR	Semen Indonesia (Persero) Tbk.	Tetap
25.	SRIL	PT Sri Rejeki Isman Tbk.	Tetap
26.	SSMS	PT Sawit Sumbermas Sarana Tbk.	Tetap
27.	TLKM	Telekomunikasi Indonesia (Persero) Tbk.	Tetap
28.	UNTR	United Tractors Tbk.	Tetap
29.	UNVR	Unilever Indonesia Tbk.	Tetap
30.	WSKT	Waskita Karya (Persero) Tbk.	Tetap

Sumber: www.idx.co.id

Daftar Saham yang Tergolong IDX30
Periode 1 Agustus 2018 – 31 Januari 2019
(Lampiran Pengumuman No. Peng-00699/BEI.OPP/07-2018)

No	Kode Saham	Nama Emiten	Keterangan
1.	ADRO	Adaro Energy Tbk.	Tetap
2.	ANTM	Aneka Tambang Tbk.	Tetap
3.	ASII	Astra International Tbk.	Tetap
4.	BBCA	Bank Central Asia Tbk.	Tetap
5.	BBNI	Bank Negara Indonesia (Persero) Tbk.	Tetap
6.	BBRI	Bank Rakyat Indonesia (Persero) Tbk.	Tetap
7.	BBTN	Bank Tabungan Negara (Persero) Tbk.	Tetap
8.	BMRI	Bank Mandiri (Persero) Tbk.	Tetap
9.	BRPT	Barito Pacific Tbk.	Tetap
10.	BSDE	PT Bumi Serpong Damai Tbk.	Tetap
11.	GGRM	Gudang Garam Tbk.	Tetap
12.	HMSP	HM Sampoerna Tbk	Tetap
13.	ICBP	Indofood CBP Sukses Makmur Tbk.	Tetap
14.	INDF	Indofood Sukses Makmur Tbk.	Tetap
15.	INKP	Indah Kiat Pulp & Paper Tbk.	Baru
16.	INTP	Indocement Tunggul Prakarsa Tbk.	Tetap
17.	JSMR	Jasa Marga (Persero) Tbk.	Tetap
18.	KLBF	Kalbe Farma Tbk.	Tetap
19.	LPPF	PT Matahari Department Stor Tbk.	Tetap
20.	MEDC	PT Medco Energi Internasional Tbk.	Baru
21.	PGAS	Perusahaan Gas Negara (Persero) Tbk.	Tetap
22.	PTBA	Bukit Asam Tbk.	Baru
23.	PTPP	PP (Persero) Tbk.	Tetap
24.	SMGR	Semen Indonesia (Persero) Tbk.	Tetap
25.	SRIL	PT Sri Rejeki Isman Tbk.	Tetap
26.	TLKM	Telekomunikasi Indonesia (Persero) Tbk.	Tetap
27.	UNTR	United Tractors Tbk.	Tetap
28.	UNVR	Unilever Indonesia Tbk.	Tetap
29.	WSBP	PT Waskita Beton Precast Tbk.	Baru
30.	WSKT	Waskita Karya (Persero) Tbk.	Tetap

Sumber: www.idx.co.id

Daftar Saham yang Tergolong IDX30
 Periode 1 Februari 2019 – 31 Juli 2019
 (Lampiran Pengumuman No. Peng-00020/BEI.OPP/01-2019)

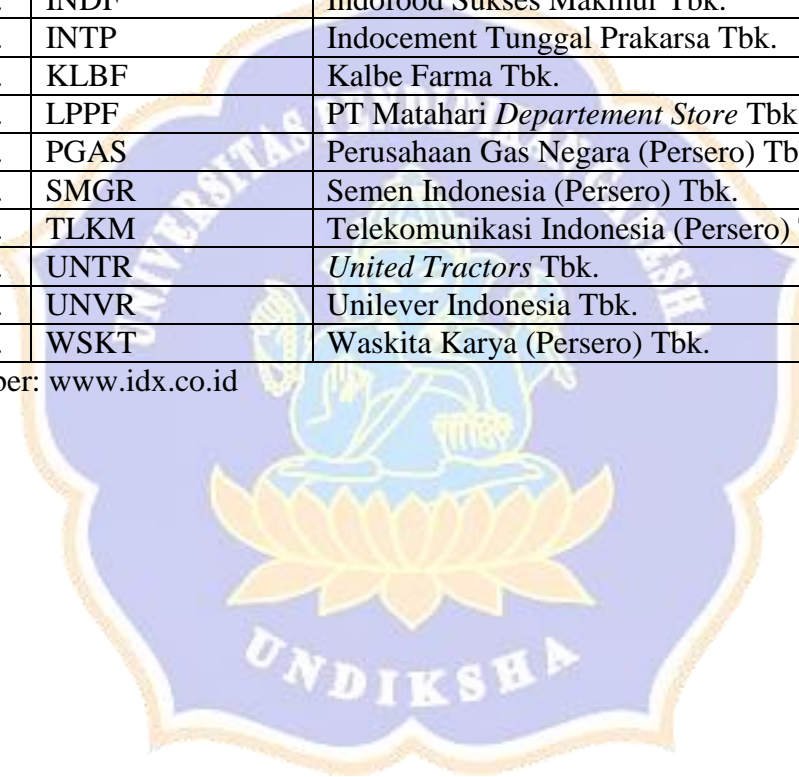
No	Kode Saham	Nama Emiten	Keterangan
1.	ADRO	Adaro Energy Tbk.	Tetap
2.	ANTM	Aneka Tambang Tbk.	Tetap
3.	ASII	Astra International Tbk.	Tetap
4.	BBCA	Bank Central Asia Tbk.	Tetap
5.	BBNI	Bank Negara Indonesia (Persero) Tbk.	Tetap
6.	BBRI	Bank Rakyat Indonesia (Persero) Tbk.	Tetap
7.	BBTN	Bank Tabungan Negara (Persero) Tbk.	Tetap
8.	BMRI	Bank Mandiri (Persero) Tbk.	Tetap
9.	BRPT	Barito Pacific Tbk.	Tetap
10.	CPIN	Charoen Pokphand Indonesia Tbk.	Baru
11.	GGRM	Gudang Garam Tbk.	Tetap
12.	HMSP	HM Sampoerna Tbk	Tetap
13.	ICBP	Indofood CBP Sukses Makmur Tbk.	Tetap
14.	INDF	Indofood Sukses Makmur Tbk.	Tetap
15.	INKP	Indah Kiat Pulp & Paper Tbk.	Baru
16.	INTP	Indocement Tunggul Prakarsa Tbk.	Tetap
17.	ITMG	Indo Tambangraya Megah Tbk.	Baru
18.	JSMR	Jasa Marga (Persero) Tbk.	Tetap
19.	KLBF	Kalbe Farma Tbk.	Tetap
20.	LPPF	PT Matahari Department Stor Tbk.	Tetap
21.	MEDC	PT Medco Energi Internasional Tbk.	Baru
22.	PGAS	Perusahaan Gas Negara (Persero) Tbk.	Tetap
23.	PTBA	Bukit Asam Tbk.	Baru
24.	PTPP	PP (Persero) Tbk.	Tetap
25.	SMGR	Semen Indonesia (Persero) Tbk.	Tetap
26.	SRIL	PT Sri Rejeki Isman Tbk.	Tetap
27.	TLKM	Telekomunikasi Indonesia (Persero) Tbk.	Tetap
28.	UNTR	United Tractors Tbk.	Tetap
29.	UNVR	Unilever Indonesia Tbk.	Tetap
30.	WSKT	Waskita Karya (Persero) Tbk.	Tetap

Sumber: www.idx.co.id

Lampiran 03 Populasi Penelitian

No.	Kode Perusahaan	Nama Emiten
1.	ADRO	Adaro <i>Energy</i> Tbk.
2.	ASII	Astra <i>International</i> Tbk.
3.	BBCA	Bank <i>Central</i> Asia Tbk.
4.	BBNI	Bank Negara Indonesia (Persero) Tbk.
5.	BBRI	Bank Rakyat Indonesia (Persero) Tbk.
6.	BMRI	Bank Mandiri (Persero) Tbk.
7.	GGRM	Gudang Garam Tbk.
8.	HMSP	HM Sampoerna Tbk.
9.	ICBP	Indofood CBP Sukses Makmur Tbk.
10.	INDF	Indofood Sukses Makmur Tbk.
11.	INTP	Indocement Tunggul Prakarsa Tbk.
12.	KLBF	Kalbe Farma Tbk.
13.	LPPF	PT Matahari <i>Departement Store</i> Tbk.
14.	PGAS	Perusahaan Gas Negara (Persero) Tbk.
15.	SMGR	Semen Indonesia (Persero) Tbk.
16.	TLKM	Telekomunikasi Indonesia (Persero) Tbk.
17.	UNTR	<i>United Tractors</i> Tbk.
18.	UNVR	Unilever Indonesia Tbk.
19.	WSKT	Waskita Karya (Persero) Tbk.

Sumber: www.idx.co.id



Lampiran 04 Data Tingkat Suku Bunga Sertifikat Bank Indonesia (SBI)

Data Tingkat Suku Bunga SBI Periode Agustus 2016 – Juli 2019

Periode	<i>BI Rate</i>	
Agustus 2016	5,25% per tahun	0,4375% per bulan
September 2016	5,00% per tahun	0,4583% per bulan
Oktober 2016	4,75% per tahun	0,3958% per bulan
November 2016	4,75% per tahun	0,3958% per bulan
Desember 2016	4,75% per tahun	0,3958% per bulan
Januari 2017	4,75% per tahun	0,3958% per bulan
Februari 2017	4,75% per tahun	0,3958% per bulan
Maret 2017	4,75% per tahun	0,3958% per bulan
April 2017	4,75% per tahun	0,3958% per bulan
Mei 2017	4,75% per tahun	0,3958% per bulan
Juni 2017	4,75% per tahun	0,3958% per bulan
Juli 2017	4,75% per tahun	0,3958% per bulan
Agustus 2017	4,50% per tahun	0,3750% per bulan
September 2017	4,25% per tahun	0,3542% per bulan
Oktober 2017	4,25% per tahun	0,3542% per bulan
November 2017	4,25% per tahun	0,3542% per bulan
Desember 2017	4,25% per tahun	0,3542% per bulan
Januari 2018	4,25% per tahun	0,3542% per bulan
Februari 2018	4,25% per tahun	0,3542% per bulan
Maret 2018	4,25% per tahun	0,3542% per bulan
April 2018	4,25% per tahun	0,3542% per bulan
Mei 2018	4,75% per tahun	0,3958% per bulan
Juni 2018	5,25% per tahun	0,4375% per bulan
Juli 2018	5,25% per tahun	0,4375% per bulan
Agustus 2018	5,50% per tahun	0,4583% per bulan
September 2018	5,75% per tahun	0,4792% per bulan
Oktober 2018	5,75% per tahun	0,4792% per bulan
November 2018	6,00% per tahun	0,5000% per bulan
Desember 2018	6,00% per tahun	0,5000% per bulan
Januari 2019	6,00% per tahun	0,5000% per bulan
Februari 2019	6,00% per tahun	0,5000% per bulan
Maret 2019	6,00% per tahun	0,5000% per bulan
April 2019	6,00% per tahun	0,5000% per bulan
Mei 2019	6,00% per tahun	0,5000% per bulan
Juni 2019	6,00% per tahun	0,5000% per bulan
Juli 2019	5,75% per tahun	0,4792% per bulan
Jumlah		15,1875%
Rata-rata <i>BI Rate</i>		0,4219%

Sumber: www.bi.go.id

Lampiran 05 Daftar Harga Penutupan Indeks Harga Saham Gabungan (IHSG), Return Realisasi Pasar, Return Ekspektasi Pasar, Varian dan Standar Deviasi Pasar Periode Agustus 2016 – Juli 2019

Periode	Harga Penutupan	$R_m = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_m - E(R_m))$	$(R_m - E(R_m))^2$
Juli 2016	Rp 5,215.99			
Agustus 2016	Rp 5,386.08	0.03261	0.02658	0.00071
September 2016	Rp 5,364.80	-0.00395	-0.00998	0.00010
Oktober 2016	Rp 5,422.54	0.01076	0.00474	0.00002
November 2016	Rp 5,148.91	-0.05046	-0.05649	0.00319
Desember 2016	Rp 5,296.71	0.02871	0.02268	0.00051
Januari 2017	Rp 5,294.10	-0.00049	-0.00652	0.00004
Februari 2017	Rp 5,386.69	0.01749	0.01146	0.00013
Maret 2017	Rp 5,568.11	0.03368	0.02765	0.00076
April 2017	Rp 5,685.30	0.02105	0.01502	0.00023
Mei 2017	Rp 5,738.15	0.00930	0.00327	0.00001
Juni 2017	Rp 5,829.71	0.01596	0.00993	0.00010
Juli 2017	Rp 5,840.94	0.00193	-0.00410	0.00002
Agustus 2017	Rp 5,864.06	0.00396	-0.00207	0.00000
September 2017	Rp 5,900.85	0.00627	0.00025	0.00000
Oktober 2017	Rp 6,005.78	0.01778	0.01176	0.00014
November 2017	Rp 5,952.14	-0.00893	-0.01496	0.00022
Desember 2017	Rp 6,355.65	0.06779	0.06177	0.00382
Januari 2018	Rp 6,605.63	0.03933	0.03331	0.00111
Februari 2018	Rp 6,597.22	-0.00127	-0.00730	0.00005
Maret 2018	Rp 6,188.99	-0.06188	-0.06790	0.00461
April 2018	Rp 5,994.60	-0.03141	-0.03743	0.00140

Mei 2018	Rp 5,983.59	-0.00184	-0.00786	0.00006
Juni 2018	Rp 5,799.24	-0.03081	-0.03683	0.00136
Juli 2018	Rp 5,936.44	0.02366	0.01763	0.00031
Agustus 2018	Rp 6,018.46	0.01382	0.00779	0.00006
September 2018	Rp 5,976.55	-0.00696	-0.01299	0.00017
Oktober 2018	Rp 5,831.65	-0.02425	-0.03027	0.00092
November 2018	Rp 6,056.12	0.03849	0.03247	0.00105
Desember 2018	Rp 6,194.50	0.02285	0.01682	0.00028
Januari 2019	Rp 6,532.97	0.05464	0.04862	0.00236
Februari 2019	Rp 6,443.35	-0.01372	-0.01974	0.00039
Maret 2019	Rp 6,468.75	0.00394	-0.00208	0.00000
April 2019	Rp 6,455.35	-0.00207	-0.00810	0.00007
Mei 2019	Rp 6,209.12	-0.03814	-0.04417	0.00195
Juni 2019	Rp 6,358.63	0.02408	0.01805	0.00033
Juli 2019	Rp 6,390.50	0.00501	-0.00101	0.00000
Jumlah		0.21691		0.02649
$E(R_m) = \sum R_m / n$		0.00603		
$\sigma_m^2 = \sqrt{\sum_{i=1}^n \frac{(R_m - E(R_m))^2}{n - 1}}$				0.00074
$\sigma_m = \sqrt{\sigma_m^2}$				0.02713

Lampiran 06 Daftar Harga Penutupan, Return Realisasi, Return Ekspektasi, Varian dan Standar Deviasi Masing-Masing Saham Periode Agustus 2016 – Juli 2019

1. ADRO (Adaro Energy Tbk.)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 1,040.00			
Agustus 2016	Rp 1,150.00	0.10577	0.09480	0.00899
September 2016	Rp 1,205.00	0.04783	0.03686	0.00136
Oktober 2016	Rp 1,585.00	0.31535	0.30439	0.09265
November 2016	Rp 1,530.00	-0.03470	-0.04567	0.00209
Desember 2016	Rp 1,695.00	0.10784	0.09688	0.00939
Januari 2017	Rp 1,695.00	0.00000	-0.01097	0.00012
Februari 2017	Rp 1,695.00	0.00000	-0.01097	0.00012
Maret 2017	Rp 1,750.00	0.03245	0.02148	0.00046
April 2017	Rp 1,775.00	0.01429	0.00332	0.00001
Mei 2017	Rp 1,520.00	-0.14366	-0.15463	0.02391
Juni 2017	Rp 1,580.00	0.03947	0.02851	0.00081
Juli 2017	Rp 1,800.00	0.13924	0.12827	0.01645
Agustus 2017	Rp 1,825.00	0.01389	0.00292	0.00001
September 2017	Rp 1,825.00	0.00000	-0.01097	0.00012
Oktober 2017	Rp 1,825.00	0.00000	-0.01097	0.00012
November 2017	Rp 1,700.00	-0.06849	-0.07946	0.00631
Desember 2017	Rp 1,860.00	0.09412	0.08315	0.00691
Januari 2018	Rp 2,450.00	0.31720	0.30624	0.09378
Februari 2018	Rp 2,350.00	-0.04082	-0.05178	0.00268
Maret 2018	Rp 2,130.00	-0.09362	-0.10458	0.01094

April 2018	Rp 1,835.00	-0.13850	-0.14946	0.02234
Mei 2018	Rp 1,885.00	0.02725	0.01628	0.00027
Juni 2018	Rp 1,790.00	-0.05040	-0.06136	0.00377
Juli 2018	Rp 1,905.00	0.06425	0.05328	0.00284
Agustus 2018	Rp 1,865.00	-0.02100	-0.03196	0.00102
September 2018	Rp 1,835.00	-0.01609	-0.02705	0.00073
Oktober 2018	Rp 1,650.00	-0.10082	-0.11178	0.01250
November 2018	Rp 1,285.00	-0.22121	-0.23218	0.05391
Desember 2018	Rp 1,215.00	-0.05447	-0.06544	0.00428
Januari 2019	Rp 1,390.00	0.14403	0.13307	0.01771
Februari 2019	Rp 1,310.00	-0.05755	-0.06852	0.00470
Maret 2019	Rp 1,340.00	0.02290	0.01193	0.00014
April 2019	Rp 1,305.00	-0.02612	-0.03709	0.00138
Mei 2019	Rp 1,295.00	-0.00766	-0.01863	0.00035
Juni 2019	Rp 1,360.00	0.05019	0.03923	0.00154
Juli 2019	Rp 1,270.00	-0.06618	-0.07714	0.00595
Jumlah		0.39479		0.41064
$E(R_i) = \sum R_i / n$		0.01097		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.01141
$\sigma_i = \sqrt{\sigma_i^2}$				0.10680

Sumber: www.idx.co.id (data diolah)

2. Astra International Tbk. (ASII)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 7,725.00			
Agustus 2016	Rp 8,150.00	0.05502	0.05621	0.00316
September 2016	Rp 8,250.00	0.01227	0.01346	0.00018
Oktober 2016	Rp 8,225.00	-0.00303	-0.00184	0.00000
November 2016	Rp 7,550.00	-0.08207	-0.08087	0.00654
Desember 2016	Rp 8,275.00	0.09603	0.09722	0.00945
Januari 2017	Rp 7,950.00	-0.03927	-0.03808	0.00145
Februari 2017	Rp 8,200.00	0.03145	0.03264	0.00107
Maret 2017	Rp 8,625.00	0.05183	0.05302	0.00281
April 2017	Rp 8,950.00	0.03768	0.03887	0.00151
Mei 2017	Rp 8,750.00	-0.02235	-0.02115	0.00045
Juni 2017	Rp 8,925.00	0.02000	0.02119	0.00045
Juli 2017	Rp 7,975.00	-0.10644	-0.10525	0.01108
Agustus 2017	Rp 7,875.00	-0.01254	-0.01135	0.00013
September 2017	Rp 7,900.00	0.00317	0.00437	0.00002
Oktober 2017	Rp 8,000.00	0.01266	0.01385	0.00019
November 2017	Rp 7,975.00	-0.00313	-0.00193	0.00000
Desember 2017	Rp 8,300.00	0.04075	0.04195	0.00176
Januari 2018	Rp 8,500.00	0.02410	0.02529	0.00064
Februari 2018	Rp 8,075.00	-0.05000	-0.04881	0.00238
Maret 2018	Rp 7,300.00	-0.09598	-0.09478	0.00898
April 2018	Rp 7,150.00	-0.02055	-0.01935	0.00037
Mei 2018	Rp 6,900.00	-0.03497	-0.03377	0.00114

Juni 2018	Rp 6,600.00	-0.04348	-0.04228	0.00179
Juli 2018	Rp 7,150.00	0.08333	0.08453	0.00714
Agustus 2018	Rp 7,250.00	0.01399	0.01518	0.00023
September 2018	Rp 7,350.00	0.01379	0.01499	0.00022
Oktober 2018	Rp 7,900.00	0.07483	0.07602	0.00578
November 2018	Rp 8,550.00	0.08228	0.08347	0.00697
Desember 2018	Rp 8,225.00	-0.03801	-0.03682	0.00136
Januari 2019	Rp 8,450.00	0.02736	0.02855	0.00082
Februari 2019	Rp 7,150.00	-0.15385	-0.15265	0.02330
Maret 2019	Rp 7,300.00	0.02098	0.02217	0.00049
April 2019	Rp 7,625.00	0.04452	0.04571	0.00209
Mei 2019	Rp 7,450.00	-0.02295	-0.02176	0.00047
Juni 2019	Rp 7,450.00	0.00000	0.00119	0.00000
Juli 2019	Rp 7,000.00	-0.06040	-0.05921	0.00351
Jumlah		-0.04298		0.10794
$E(R_i) = \sum R_i / n$		-0.00119		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00300
$\sigma_i = \sqrt{\sigma_i^2}$				0.05476

Sumber: www.idx.co.id (data diolah)

3. Bank Central Asia Tbk. (BBCA)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 14,450.00			
Agustus 2016	Rp 15,050.00	0.04152	0.01918	0.00037
September 2016	Rp 15,700.00	0.04319	0.02085	0.00043
Oktober 2016	Rp 15,525.00	-0.01115	-0.03349	0.00112
November 2016	Rp 14,300.00	-0.07890	-0.10125	0.01025
Desember 2016	Rp 15,500.00	0.08392	0.06157	0.00379
Januari 2017	Rp 15,300.00	-0.01290	-0.03525	0.00124
Februari 2017	Rp 15,450.00	0.00980	-0.01254	0.00016
Maret 2017	Rp 16,550.00	0.07120	0.04886	0.00239
April 2017	Rp 17,750.00	0.07251	0.05017	0.00252
Mei 2017	Rp 17,150.00	-0.03380	-0.05615	0.00315
Juni 2017	Rp 18,150.00	0.05831	0.03597	0.00129
Juli 2017	Rp 18,700.00	0.03030	0.00796	0.00006
Agustus 2017	Rp 18,950.00	0.01337	-0.00897	0.00008
September 2017	Rp 20,300.00	0.07124	0.04890	0.00239
Oktober 2017	Rp 20,900.00	0.02956	0.00721	0.00005
November 2017	Rp 20,350.00	-0.02632	-0.04866	0.00237
Desember 2017	Rp 21,900.00	0.07617	0.05382	0.00290
Januari 2018	Rp 22,725.00	0.03767	0.01533	0.00023
Februari 2018	Rp 23,175.00	0.01980	-0.00254	0.00001
Maret 2018	Rp 23,300.00	0.00539	-0.01695	0.00029
April 2018	Rp 22,100.00	-0.05150	-0.07384	0.00545
Mei 2018	Rp 22,700.00	0.02715	0.00481	0.00002

Juni 2018	Rp 21,475.00	-0.05396	-0.07631	0.00582
Juli 2018	Rp 23,275.00	0.08382	0.06148	0.00378
Agustus 2018	Rp 24,800.00	0.06552	0.04318	0.00186
September 2018	Rp 24,150.00	-0.02621	-0.04855	0.00236
Oktober 2018	Rp 23,650.00	-0.02070	-0.04305	0.00185
November 2018	Rp 26,050.00	0.10148	0.07914	0.00626
Desember 2018	Rp 26,000.00	-0.00192	-0.02426	0.00059
Januari 2019	Rp 28,175.00	0.08365	0.06131	0.00376
Februari 2019	Rp 27,575.00	-0.02130	-0.04364	0.00190
Maret 2019	Rp 27,550.00	-0.00091	-0.02325	0.00054
April 2019	Rp 28,750.00	0.04356	0.02121	0.00045
Mei 2019	Rp 29,100.00	0.01217	-0.01017	0.00010
Juni 2019	Rp 29,975.00	0.03007	0.00773	0.00006
Juli 2019	Rp 30,950.00	0.03253	0.01018	0.00010
Jumlah		0.80432		0.07002
$E(R_i) = \sum R_i / n$		0.02234		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00195
$\sigma_i = \sqrt{\sigma_i^2}$				0.04410

Sumber: www.idx.co.id (data diolah)

4. Bank Negara Indonesia (Persero) Tbk. (BBNI)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 5,350.00			
Agustus 2016	Rp 5,875.00	0.09813	0.08222	0.00676
September 2016	Rp 5,550.00	-0.05532	-0.07123	0.00507
Oktober 2016	Rp 5,575.00	0.00450	-0.01141	0.00013
November 2016	Rp 5,175.00	-0.07175	-0.08766	0.00768
Desember 2016	Rp 5,525.00	0.06763	0.05172	0.00268
Januari 2017	Rp 5,700.00	0.03167	0.01576	0.00025
Februari 2017	Rp 6,250.00	0.09649	0.08058	0.00649
Maret 2017	Rp 6,475.00	0.03600	0.02009	0.00040
April 2017	Rp 6,375.00	-0.01544	-0.03135	0.00098
Mei 2017	Rp 6,550.00	0.02745	0.01154	0.00013
Juni 2017	Rp 6,600.00	0.00763	-0.00828	0.00007
Juli 2017	Rp 7,450.00	0.12879	0.11288	0.01274
Agustus 2017	Rp 7,350.00	-0.01342	-0.02933	0.00086
September 2017	Rp 7,400.00	0.00680	-0.00911	0.00008
Oktober 2017	Rp 7,600.00	0.02703	0.01112	0.00012
November 2017	Rp 8,100.00	0.06579	0.04988	0.00249
Desember 2017	Rp 9,900.00	0.22222	0.20631	0.04256
Januari 2018	Rp 9,400.00	-0.05051	-0.06641	0.00441
Februari 2018	Rp 9,725.00	0.03457	0.01866	0.00035
Maret 2018	Rp 8,675.00	-0.10797	-0.12388	0.01535
April 2018	Rp 8,050.00	-0.07205	-0.08796	0.00774
Mei 2018	Rp 8,475.00	0.05280	0.03689	0.00136

Juni 2018	Rp 7,050.00	-0.16814	-0.18405	0.03387
Juli 2018	Rp 7,400.00	0.04965	0.03374	0.00114
Agustus 2018	Rp 7,800.00	0.05405	0.03814	0.00145
September 2018	Rp 7,400.00	-0.05128	-0.06719	0.00451
Oktober 2018	Rp 7,325.00	-0.01014	-0.02604	0.00068
November 2018	Rp 8,500.00	0.16041	0.14450	0.02088
Desember 2018	Rp 8,800.00	0.03529	0.01938	0.00038
Januari 2019	Rp 9,075.00	0.03125	0.01534	0.00024
Februari 2019	Rp 8,800.00	-0.03030	-0.04621	0.00214
Maret 2019	Rp 9,400.00	0.06818	0.05227	0.00273
April 2019	Rp 9,600.00	0.02128	0.00537	0.00003
Mei 2019	Rp 8,400.00	-0.12500	-0.14091	0.01986
Juni 2019	Rp 9,200.00	0.09524	0.07933	0.00629
Juli 2019	Rp 8,475.00	-0.07880	-0.09471	0.00897
Jumlah		0.57275		0.22189
$E(R_i) = \sum R_i / n$		0.01591		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00616
$\sigma_i = \sqrt{\sigma_i^2}$				0.07851

Sumber: www.idx.co.id (data diolah)

5. Bank Rakyat Indonesia (Persero) Tbk. (BBRI)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 2,305.00			
Agustus 2016	Rp 2,330.00	0.01085	-0.00947	0.00009
September 2016	Rp 2,440.00	0.04721	0.02690	0.00072
Oktober 2016	Rp 2,440.00	0.00000	-0.02031	0.00041
November 2016	Rp 2,180.00	-0.10656	-0.12687	0.01610
Desember 2016	Rp 2,335.00	0.07110	0.05079	0.00258
Januari 2017	Rp 2,345.00	0.00428	-0.01603	0.00026
Februari 2017	Rp 2,390.00	0.01919	-0.00112	0.00000
Maret 2017	Rp 2,595.00	0.08577	0.06546	0.00429
April 2017	Rp 2,580.00	-0.00578	-0.02609	0.00068
Mei 2017	Rp 2,895.00	0.12209	0.10178	0.01036
Juni 2017	Rp 3,050.00	0.05354	0.03323	0.00110
Juli 2017	Rp 2,955.00	-0.03115	-0.05146	0.00265
Agustus 2017	Rp 3,025.00	0.02369	0.00338	0.00001
September 2017	Rp 3,055.00	0.00992	-0.01040	0.00011
Oktober 2017	Rp 3,120.00	0.02128	0.00096	0.00000
November 2017	Rp 3,210.00	0.02885	0.00853	0.00007
Desember 2017	Rp 3,640.00	0.13396	0.11364	0.01291
Januari 2018	Rp 3,700.00	0.01648	-0.00383	0.00001
Februari 2018	Rp 3,780.00	0.02162	0.00131	0.00000
Maret 2018	Rp 3,600.00	-0.04762	-0.06793	0.00461
April 2018	Rp 3,220.00	-0.10556	-0.12587	0.01584
Mei 2018	Rp 3,080.00	-0.04348	-0.06379	0.00407

Juni 2018	Rp 2,840.00	-0.07792	-0.09823	0.00965
Juli 2018	Rp 3,070.00	0.08099	0.06067	0.00368
Agustus 2018	Rp 3,180.00	0.03583	0.01552	0.00024
September 2018	Rp 3,150.00	-0.00943	-0.02975	0.00088
Oktober 2018	Rp 3,150.00	0.00000	-0.02031	0.00041
November 2018	Rp 3,620.00	0.14921	0.12889	0.01661
Desember 2018	Rp 3,660.00	0.01105	-0.00926	0.00009
Januari 2019	Rp 3,850.00	0.05191	0.03160	0.00100
Februari 2019	Rp 3,850.00	0.00000	-0.02031	0.00041
Maret 2019	Rp 4,110.00	0.06753	0.04722	0.00223
April 2019	Rp 4,370.00	0.06326	0.04295	0.00184
Mei 2019	Rp 4,100.00	-0.06178	-0.08210	0.00674
Juni 2019	Rp 4,360.00	0.06341	0.04310	0.00186
Juli 2019	Rp 4,480.00	0.02752	0.00721	0.00005
Jumlah		0.73126		0.12259
$E(R_i) = \sum R_i / n$		0.02031		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00341
$\sigma_i = \sqrt{\sigma_i^2}$				0.05836

Sumber: www.idx.co.id (data diolah)

6. Bank Mandiri (Persero) Tbk. (BMRI)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 5,050.00			
Agustus 2016	Rp 5,612.50	0.11139	0.09745	0.00950
September 2016	Rp 5,600.00	-0.00223	-0.01616	0.00026
Oktober 2016	Rp 5,737.50	0.02455	0.01062	0.00011
November 2016	Rp 5,250.00	-0.08497	-0.09890	0.00978
Desember 2016	Rp 5,787.50	0.10238	0.08845	0.00782
Januari 2017	Rp 5,450.00	-0.05832	-0.07225	0.00522
Februari 2017	Rp 5,650.00	0.03670	0.02276	0.00052
Maret 2017	Rp 5,850.00	0.03540	0.02146	0.00046
April 2017	Rp 5,850.00	0.00000	-0.01393	0.00019
Mei 2017	Rp 6,300.00	0.07692	0.06299	0.00397
Juni 2017	Rp 6,375.00	0.01190	-0.00203	0.00000
Juli 2017	Rp 6,825.00	0.07059	0.05665	0.00321
Agustus 2017	Rp 6,550.00	-0.04029	-0.05423	0.00294
September 2017	Rp 6,725.00	0.02672	0.01278	0.00016
Oktober 2017	Rp 7,050.00	0.04833	0.03439	0.00118
November 2017	Rp 7,400.00	0.04965	0.03571	0.00128
Desember 2017	Rp 8,000.00	0.08108	0.06715	0.00451
Januari 2018	Rp 8,150.00	0.01875	0.00482	0.00002
Februari 2018	Rp 8,300.00	0.01840	0.00447	0.00002
Maret 2018	Rp 7,675.00	-0.07530	-0.08924	0.00796
April 2018	Rp 7,125.00	-0.07166	-0.08560	0.00733
Mei 2018	Rp 7,050.00	-0.01053	-0.02446	0.00060

Juni 2018	Rp 6,850.00	-0.02837	-0.04230	0.00179
Juli 2018	Rp 6,650.00	-0.02920	-0.04313	0.00186
Agustus 2018	Rp 6,900.00	0.03759	0.02366	0.00056
September 2018	Rp 6,725.00	-0.02536	-0.03930	0.00154
Oktober 2018	Rp 6,850.00	0.01859	0.00465	0.00002
November 2018	Rp 7,400.00	0.08029	0.06636	0.00440
Desember 2018	Rp 7,375.00	-0.00338	-0.01731	0.00030
Januari 2019	Rp 7,450.00	0.01017	-0.00377	0.00001
Februari 2019	Rp 7,125.00	-0.04362	-0.05756	0.00331
Maret 2019	Rp 7,475.00	0.04912	0.03519	0.00124
April 2019	Rp 7,725.00	0.03344	0.01951	0.00038
Mei 2019	Rp 7,675.00	-0.00647	-0.02041	0.00042
Juni 2019	Rp 8,025.00	0.04560	0.03167	0.00100
Juli 2019	Rp 7,975.00	-0.00623	-0.02017	0.00041
Jumlah		0.50165		0.08430
$E(R_i) = \sum R_i / n$		0.01393		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00234
$\sigma_i = \sqrt{\sigma_i^2}$				0.04839

Sumber: www.idx.co.id (data diolah)

7. Gudang Garam Tbk. (GGRM)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 67,525.00			
Agustus 2016	Rp 64,400.00	-0.04628	-0.05102	0.00260
September 2016	Rp 62,000.00	-0.03727	-0.04201	0.00176
Oktober 2016	Rp 67,900.00	0.09516	0.09042	0.00818
November 2016	Rp 65,000.00	-0.04271	-0.04745	0.00225
Desember 2016	Rp 63,900.00	-0.01692	-0.02166	0.00047
Januari 2017	Rp 61,750.00	-0.03365	-0.03839	0.00147
Februari 2017	Rp 65,850.00	0.06640	0.06166	0.00380
Maret 2017	Rp 65,525.00	-0.00494	-0.00967	0.00009
April 2017	Rp 66,400.00	0.01335	0.00861	0.00007
Mei 2017	Rp 73,950.00	0.11370	0.10897	0.01187
Juni 2017	Rp 78,300.00	0.05882	0.05408	0.00293
Juli 2017	Rp 76,100.00	-0.02810	-0.03284	0.00108
Agustus 2017	Rp 69,200.00	-0.09067	-0.09541	0.00910
September 2017	Rp 65,800.00	-0.04913	-0.05387	0.00290
Oktober 2017	Rp 70,000.00	0.06383	0.05909	0.00349
November 2017	Rp 76,525.00	0.09321	0.08848	0.00783
Desember 2017	Rp 83,800.00	0.09507	0.09033	0.00816
Januari 2018	Rp 81,050.00	-0.03282	-0.03756	0.00141
Februari 2018	Rp 79,750.00	-0.01604	-0.02078	0.00043
Maret 2018	Rp 72,475.00	-0.09122	-0.09596	0.00921
April 2018	Rp 69,325.00	-0.04346	-0.04820	0.00232
Mei 2018	Rp 68,500.00	-0.01190	-0.01664	0.00028

Juni 2018	Rp 67,250.00	-0.01825	-0.02299	0.00053
Juli 2018	Rp 75,150.00	0.11747	0.11273	0.01271
Agustus 2018	Rp 73,000.00	-0.02861	-0.03335	0.00111
September 2018	Rp 74,050.00	0.01438	0.00964	0.00009
Oktober 2018	Rp 72,300.00	-0.02363	-0.02837	0.00080
November 2018	Rp 82,000.00	0.13416	0.12942	0.01675
Desember 2018	Rp 83,625.00	0.01982	0.01508	0.00023
Januari 2019	Rp 83,650.00	0.00030	-0.00444	0.00002
Februari 2019	Rp 85,400.00	0.02092	0.01618	0.00026
Maret 2019	Rp 83,200.00	-0.02576	-0.03050	0.00093
April 2019	Rp 84,475.00	0.01532	0.01059	0.00011
Mei 2019	Rp 80,475.00	-0.04735	-0.05209	0.00271
Juni 2019	Rp 76,875.00	-0.04473	-0.04947	0.00245
Juli 2019	Rp 75,500.00	-0.01789	-0.02263	0.00051
Jumlah		0.17060		0.12094
$E(R_i) = \sum R_i / n$		0.00474		
$\sigma_i^2 = \sqrt{\frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}}$				0.00336
$\sigma_i = \sqrt{\sigma_i^2}$				0.05796

Sumber: www.idx.co.id (data diolah)

8. HM Sampoerna Tbk. (HMSP)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 3,630.00			
Agustus 2016	Rp 3,980.00	0.09642	0.09971	0.00994
September 2016	Rp 3,950.00	-0.00754	-0.00424	0.00002
Oktober 2016	Rp 3,950.00	0.00000	0.00329	0.00001
November 2016	Rp 3,800.00	-0.03797	-0.03468	0.00120
Desember 2016	Rp 3,830.00	0.00789	0.01119	0.00013
Januari 2017	Rp 3,850.00	0.00522	0.00852	0.00007
Februari 2017	Rp 3,870.00	0.00519	0.00849	0.00007
Maret 2017	Rp 3,900.00	0.00775	0.01105	0.00012
April 2017	Rp 3,820.00	-0.02051	-0.01722	0.00030
Mei 2017	Rp 3,930.00	0.02880	0.03209	0.00103
Juni 2017	Rp 3,840.00	-0.02290	-0.01961	0.00038
Juli 2017	Rp 3,550.00	-0.07552	-0.07223	0.00522
Agustus 2017	Rp 3,640.00	0.02535	0.02865	0.00082
September 2017	Rp 3,860.00	0.06044	0.06373	0.00406
Oktober 2017	Rp 3,980.00	0.03109	0.03438	0.00118
November 2017	Rp 4,100.00	0.03015	0.03345	0.00112
Desember 2017	Rp 4,730.00	0.15366	0.15695	0.02463
Januari 2018	Rp 4,900.00	0.03594	0.03924	0.00154
Februari 2018	Rp 4,820.00	-0.01633	-0.01303	0.00017
Maret 2018	Rp 3,980.00	-0.17427	-0.17098	0.02923
April 2018	Rp 3,540.00	-0.11055	-0.10726	0.01150
Mei 2018	Rp 3,790.00	0.07062	0.07392	0.00546

Juni 2018	Rp 3,580.00	-0.05541	-0.05211	0.00272
Juli 2018	Rp 3,840.00	0.07263	0.07592	0.00576
Agustus 2018	Rp 3,830.00	-0.00260	0.00069	0.00000
September 2018	Rp 3,850.00	0.00522	0.00852	0.00007
Oktober 2018	Rp 3,730.00	-0.03117	-0.02787	0.00078
November 2018	Rp 3,680.00	-0.01340	-0.01011	0.00010
Desember 2018	Rp 3,710.00	0.00815	0.01145	0.00013
Januari 2019	Rp 3,830.00	0.03235	0.03564	0.00127
Februari 2019	Rp 3,800.00	-0.00783	-0.00454	0.00002
Maret 2019	Rp 3,790.00	-0.00263	0.00066	0.00000
April 2019	Rp 3,500.00	-0.07652	-0.07322	0.00536
Mei 2019	Rp 3,380.00	-0.03429	-0.03099	0.00096
Juni 2019	Rp 3,140.00	-0.07101	-0.06771	0.00458
Juli 2019	Rp 3,030.00	-0.03503	-0.03174	0.00101
Jumlah		-0.11862		0.12099
$E(R_i) = \sum R_i / n$		-0.00329		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00336
$\sigma_i = \sqrt{\sigma_i^2}$				0.05797

Sumber: www.idx.co.id (data diolah)

9. Indofood CBP Sukses Makmur Tbk. (ICBP)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 8,600.00			
Agustus 2016	Rp 9,975.00	0.15988	0.15255	0.02327
September 2016	Rp 9,475.00	-0.05013	-0.05745	0.00330
Oktober 2016	Rp 9,400.00	-0.00792	-0.01524	0.00023
November 2016	Rp 8,650.00	-0.07979	-0.08712	0.00759
Desember 2016	Rp 8,575.00	-0.00867	-0.01600	0.00026
Januari 2017	Rp 8,400.00	-0.02041	-0.02774	0.00077
Februari 2017	Rp 8,325.00	-0.00893	-0.01626	0.00026
Maret 2017	Rp 8,150.00	-0.02102	-0.02835	0.00080
April 2017	Rp 8,775.00	0.07669	0.06936	0.00481
Mei 2017	Rp 8,700.00	-0.00855	-0.01588	0.00025
Juni 2017	Rp 8,800.00	0.01149	0.00417	0.00002
Juli 2017	Rp 8,350.00	-0.05114	-0.05847	0.00342
Agustus 2017	Rp 8,725.00	0.04491	0.03758	0.00141
September 2017	Rp 8,725.00	0.00000	-0.00733	0.00005
Oktober 2017	Rp 8,800.00	0.00860	0.00127	0.00000
November 2017	Rp 8,450.00	-0.03977	-0.04710	0.00222
Desember 2017	Rp 8,900.00	0.05325	0.04593	0.00211
Januari 2018	Rp 8,725.00	-0.01966	-0.02699	0.00073
Februari 2018	Rp 8,975.00	0.02865	0.02132	0.00045
Maret 2018	Rp 8,275.00	-0.07799	-0.08532	0.00728
April 2018	Rp 8,675.00	0.04834	0.04101	0.00168
Mei 2018	Rp 8,700.00	0.00288	-0.00445	0.00002

Juni 2018	Rp 8,850.00	0.01724	0.00991	0.00010
Juli 2018	Rp 8,725.00	-0.01412	-0.02145	0.00046
Agustus 2018	Rp 8,675.00	-0.00573	-0.01306	0.00017
September 2018	Rp 8,825.00	0.01729	0.00996	0.00010
Oktober 2018	Rp 8,925.00	0.01133	0.00400	0.00002
November 2018	Rp 9,850.00	0.10364	0.09631	0.00928
Desember 2018	Rp 10,450.00	0.06091	0.05358	0.00287
Januari 2019	Rp 10,775.00	0.03110	0.02377	0.00057
Februari 2019	Rp 10,225.00	-0.05104	-0.05837	0.00341
Maret 2019	Rp 9,325.00	-0.08802	-0.09535	0.00909
April 2019	Rp 9,725.00	0.04290	0.03557	0.00126
Mei 2019	Rp 9,800.00	0.00771	0.00038	0.00000
Juni 2019	Rp 10,150.00	0.03571	0.02839	0.00081
Juli 2019	Rp 10,700.00	0.05419	0.04686	0.00220
Jumlah		0.26384		0.09127
$E(R_i) = \sum R_i / n$		0.00733		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00254
$\sigma_i = \sqrt{\sigma_i^2}$				0.05035

Sumber: www.idx.co.id (data diolah)

10. Indofood Sukses Makmur Tbk. (INDF)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 8,325.00			
Agustus 2016	Rp 7,925.00	-0.04805	-0.04521	0.00204
September 2016	Rp 8,700.00	0.09779	0.10063	0.01013
Oktober 2016	Rp 8,500.00	-0.02299	-0.02015	0.00041
November 2016	Rp 7,575.00	-0.10882	-0.10598	0.01123
Desember 2016	Rp 7,925.00	0.04620	0.04904	0.00241
Januari 2017	Rp 7,925.00	0.00000	0.00284	0.00001
Februari 2017	Rp 8,125.00	0.02524	0.02808	0.00079
Maret 2017	Rp 8,000.00	-0.01538	-0.01254	0.00016
April 2017	Rp 8,375.00	0.04688	0.04972	0.00247
Mei 2017	Rp 8,750.00	0.04478	0.04762	0.00227
Juni 2017	Rp 8,600.00	-0.01714	-0.01430	0.00020
Juli 2017	Rp 8,375.00	-0.02616	-0.02332	0.00054
Agustus 2017	Rp 8,375.00	0.00000	0.00284	0.00001
September 2017	Rp 8,425.00	0.00597	0.00881	0.00008
Oktober 2017	Rp 8,200.00	-0.02671	-0.02387	0.00057
November 2017	Rp 7,325.00	-0.10671	-0.10387	0.01079
Desember 2017	Rp 7,625.00	0.04096	0.04380	0.00192
Januari 2018	Rp 7,750.00	0.01639	0.01923	0.00037
Februari 2018	Rp 7,575.00	-0.02258	-0.01974	0.00039
Maret 2018	Rp 7,200.00	-0.04950	-0.04666	0.00218
April 2018	Rp 6,975.00	-0.03125	-0.02841	0.00081
Mei 2018	Rp 7,075.00	0.01434	0.01718	0.00030

Juni 2018	Rp 6,650.00	-0.06007	-0.05723	0.00328
Juli 2018	Rp 6,350.00	-0.04511	-0.04227	0.00179
Agustus 2018	Rp 6,375.00	0.00394	0.00678	0.00005
September 2018	Rp 5,900.00	-0.07451	-0.07167	0.00514
Oktober 2018	Rp 5,975.00	0.01271	0.01555	0.00024
November 2018	Rp 6,600.00	0.10460	0.10744	0.01154
Desember 2018	Rp 7,450.00	0.12879	0.13163	0.01733
Januari 2019	Rp 7,750.00	0.04027	0.04311	0.00186
Februari 2019	Rp 7,075.00	-0.08710	-0.08426	0.00710
Maret 2019	Rp 6,425.00	-0.09187	-0.08903	0.00793
April 2019	Rp 6,950.00	0.08171	0.08455	0.00715
Mei 2019	Rp 6,600.00	-0.05036	-0.04752	0.00226
Juni 2019	Rp 7,025.00	0.06439	0.06723	0.00452
Juli 2019	Rp 7,075.00	0.00712	0.00996	0.00010
Jumlah		-0.10225		0.12032
$E(R_i) = \sum R_i / n$		-0.00284		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00334
$\sigma_i = \sqrt{\sigma_i^2}$				0.05781

Sumber: www.idx.co.id (data diolah)

11. Indocement Tunggal Prakarsa Tbk. (INTP)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 17,075.00			
Agustus 2016	Rp 17,700.00	0.03660	0.02321	0.00054
September 2016	Rp 17,350.00	-0.01977	-0.03317	0.00110
Oktober 2016	Rp 16,450.00	-0.05187	-0.06527	0.00426
November 2016	Rp 15,975.00	-0.02888	-0.04227	0.00179
Desember 2016	Rp 15,400.00	-0.03599	-0.04939	0.00244
Januari 2017	Rp 15,025.00	-0.02435	-0.03774	0.00142
Februari 2017	Rp 15,150.00	0.00832	-0.00507	0.00003
Maret 2017	Rp 16,600.00	0.09571	0.08232	0.00678
April 2017	Rp 16,950.00	0.02108	0.00769	0.00006
Mei 2017	Rp 18,500.00	0.09145	0.07805	0.00609
Juni 2017	Rp 18,450.00	-0.00270	-0.01610	0.00026
Juli 2017	Rp 17,500.00	-0.05149	-0.06488	0.00421
Agustus 2017	Rp 19,800.00	0.13143	0.11803	0.01393
September 2017	Rp 18,900.00	-0.04545	-0.05885	0.00346
Oktober 2017	Rp 22,450.00	0.18783	0.17444	0.03043
November 2017	Rp 18,425.00	-0.17929	-0.19268	0.03713
Desember 2017	Rp 21,950.00	0.19132	0.17792	0.03166
Januari 2018	Rp 21,800.00	-0.00683	-0.02023	0.00041
Februari 2018	Rp 21,975.00	0.00803	-0.00537	0.00003
Maret 2018	Rp 16,000.00	-0.27190	-0.28529	0.08139
April 2018	Rp 17,725.00	0.10781	0.09442	0.00891
Mei 2018	Rp 17,625.00	-0.00564	-0.01904	0.00036

Juni 2018	Rp 13,650.00	-0.22553	-0.23893	0.05709
Juli 2018	Rp 14,125.00	0.03480	0.02140	0.00046
Agustus 2018	Rp 17,725.00	0.25487	0.24147	0.05831
September 2018	Rp 18,500.00	0.04372	0.03033	0.00092
Oktober 2018	Rp 17,300.00	-0.06486	-0.07826	0.00612
November 2018	Rp 19,100.00	0.10405	0.09065	0.00822
Desember 2018	Rp 18,450.00	-0.03403	-0.04743	0.00225
Januari 2019	Rp 19,225.00	0.04201	0.02861	0.00082
Februari 2019	Rp 19,225.00	0.00000	-0.01339	0.00018
Maret 2019	Rp 21,350.00	0.11053	0.09714	0.00944
April 2019	Rp 22,000.00	0.03044	0.01705	0.00029
Mei 2019	Rp 21,200.00	-0.03636	-0.04976	0.00248
Juni 2019	Rp 20,000.00	-0.05660	-0.07000	0.00490
Juli 2019	Rp 22,475.00	0.12375	0.11036	0.01218
Jumlah		0.48217		0.40033
$E(R_i) = \sum R_i / n$		0.01339		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.01112
$\sigma_i = \sqrt{\sigma_i^2}$				0.10545

Sumber: www.idx.co.id (data diolah)

12. Kalbe Farma Tbk. (KLBF)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 1,675.00			
Agustus 2016	Rp 1,795.00	0.07164	0.07373	0.00544
September 2016	Rp 1,715.00	-0.04457	-0.04248	0.00180
Oktober 2016	Rp 1,740.00	0.01458	0.01667	0.00028
November 2016	Rp 1,500.00	-0.13793	-0.13584	0.01845
Desember 2016	Rp 1,515.00	0.01000	0.01209	0.00015
Januari 2017	Rp 1,450.00	-0.04290	-0.04082	0.00167
Februari 2017	Rp 1,530.00	0.05517	0.05726	0.00328
Maret 2017	Rp 1,540.00	0.00654	0.00862	0.00007
April 2017	Rp 1,585.00	0.02922	0.03131	0.00098
Mei 2017	Rp 1,540.00	-0.02839	-0.02630	0.00069
Juni 2017	Rp 1,625.00	0.05519	0.05728	0.00328
Juli 2017	Rp 1,735.00	0.06769	0.06978	0.00487
Agustus 2017	Rp 1,710.00	-0.01441	-0.01232	0.00015
September 2017	Rp 1,665.00	-0.02632	-0.02423	0.00059
Oktober 2017	Rp 1,600.00	-0.03904	-0.03695	0.00137
November 2017	Rp 1,600.00	0.00000	0.00209	0.00000
Desember 2017	Rp 1,690.00	0.05625	0.05834	0.00340
Januari 2018	Rp 1,665.00	-0.01479	-0.01270	0.00016
Februari 2018	Rp 1,600.00	-0.03904	-0.03695	0.00137
Maret 2018	Rp 1,500.00	-0.06250	-0.06041	0.00365
April 2018	Rp 1,505.00	0.00333	0.00542	0.00003
Mei 2018	Rp 1,370.00	-0.08970	-0.08761	0.00768

Juni 2018	Rp 1,220.00	-0.10949	-0.10740	0.01153
Juli 2018	Rp 1,295.00	0.06148	0.06356	0.00404
Agustus 2018	Rp 1,345.00	0.03861	0.04070	0.00166
September 2018	Rp 1,380.00	0.02602	0.02811	0.00079
Oktober 2018	Rp 1,370.00	-0.00725	-0.00516	0.00003
November 2018	Rp 1,525.00	0.11314	0.11523	0.01328
Desember 2018	Rp 1,520.00	-0.00328	-0.00119	0.00000
Januari 2019	Rp 1,600.00	0.05263	0.05472	0.00299
Februari 2019	Rp 1,495.00	-0.06563	-0.06354	0.00404
Maret 2019	Rp 1,520.00	0.01672	0.01881	0.00035
April 2019	Rp 1,545.00	0.01645	0.01854	0.00034
Mei 2019	Rp 1,405.00	-0.09061	-0.08853	0.00784
Juni 2019	Rp 1,460.00	0.03915	0.04123	0.00170
Juli 2019	Rp 1,470.00	0.00685	0.00894	0.00008
Jumlah		-0.07518		0.10803
$E(R_i) = \sum R_i / n$		-0.00209		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00300
$\sigma_i = \sqrt{\sigma_i^2}$				0.05478

Sumber: www.idx.co.id (data diolah)

13. PT Matahari Departement Store Tbk. (LPPF)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 19,925.00			
Agustus 2016	Rp 20,000.00	0.00376	0.04171	0.00174
September 2016	Rp 18,475.00	-0.07625	-0.03831	0.00147
Oktober 2016	Rp 18,025.00	-0.02436	0.01359	0.00018
November 2016	Rp 14,400.00	-0.20111	-0.16317	0.02662
Desember 2016	Rp 15,125.00	0.05035	0.08829	0.00780
Januari 2017	Rp 14,775.00	-0.02314	0.01480	0.00022
Februari 2017	Rp 13,650.00	-0.07614	-0.03820	0.00146
Maret 2017	Rp 13,175.00	-0.03480	0.00314	0.00001
April 2017	Rp 14,600.00	0.10816	0.14610	0.02135
Mei 2017	Rp 15,100.00	0.03425	0.07219	0.00521
Juni 2017	Rp 14,175.00	-0.06126	-0.02332	0.00054
Juli 2017	Rp 12,675.00	-0.10582	-0.06788	0.00461
Agustus 2017	Rp 10,000.00	-0.21105	-0.17310	0.02996
September 2017	Rp 9,275.00	-0.07250	-0.03456	0.00119
Oktober 2017	Rp 8,600.00	-0.07278	-0.03483	0.00121
November 2017	Rp 10,600.00	0.23256	0.27050	0.07317
Desember 2017	Rp 10,000.00	-0.05660	-0.01866	0.00035
Januari 2018	Rp 11,125.00	0.11250	0.15044	0.02263
Februari 2018	Rp 10,650.00	-0.04270	-0.00475	0.00002
Maret 2018	Rp 10,950.00	0.02817	0.06611	0.00437
April 2018	Rp 10,350.00	-0.05479	-0.01685	0.00028
Mei 2018	Rp 9,150.00	-0.11594	-0.07800	0.00608

Juni 2018	Rp 8,800.00	-0.03825	-0.00031	0.00000
Juli 2018	Rp 8,025.00	-0.08807	-0.05012	0.00251
Agustus 2018	Rp 7,500.00	-0.06542	-0.02748	0.00076
September 2018	Rp 6,925.00	-0.07667	-0.03872	0.00150
Oktober 2018	Rp 4,850.00	-0.29964	-0.26170	0.06848
November 2018	Rp 4,750.00	-0.02062	0.01732	0.00030
Desember 2018	Rp 5,600.00	0.17895	0.21689	0.04704
Januari 2019	Rp 7,000.00	0.25000	0.28794	0.08291
Februari 2019	Rp 5,750.00	-0.17857	-0.14063	0.01978
Maret 2019	Rp 4,050.00	-0.29565	-0.25771	0.06641
April 2019	Rp 4,070.00	0.00494	0.04288	0.00184
Mei 2019	Rp 3,750.00	-0.07862	-0.04068	0.00165
Juni 2019	Rp 3,450.00	-0.08000	-0.04206	0.00177
Juli 2019	Rp 3,730.00	0.08116	0.11910	0.01419
Jumlah		-1.36596		0.51963
$E(R_i) = \sum R_i / n$		-0.03794		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.01443
$\sigma_i = \sqrt{\sigma_i^2}$				0.12014

Sumber: www.idx.co.id (data diolah)

14. Perusahaan Gas Negara (Persero) Tbk. (PGAS)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 3,290.00			
Agustus 2016	Rp 3,020.00	-0.08207	-0.07668	0.00588
September 2016	Rp 2,870.00	-0.04967	-0.04429	0.00196
Oktober 2016	Rp 2,560.00	-0.10801	-0.10263	0.01053
November 2016	Rp 2,650.00	0.03516	0.04054	0.00164
Desember 2016	Rp 2,840.00	0.07170	0.07708	0.00594
Januari 2017	Rp 2,880.00	0.01408	0.01947	0.00038
Februari 2017	Rp 2,830.00	-0.01736	-0.01198	0.00014
Maret 2017	Rp 2,530.00	-0.10601	-0.10062	0.01013
April 2017	Rp 2,430.00	-0.03953	-0.03414	0.00117
Mei 2017	Rp 2,400.00	-0.01235	-0.00696	0.00005
Juni 2017	Rp 2,250.00	-0.06250	-0.05712	0.00326
Juli 2017	Rp 2,250.00	0.00000	0.00538	0.00003
Agustus 2017	Rp 2,120.00	-0.05778	-0.05240	0.00275
September 2017	Rp 1,575.00	-0.25708	-0.25169	0.06335
Oktober 2017	Rp 1,840.00	0.16825	0.17364	0.03015
November 2017	Rp 1,700.00	-0.07609	-0.07070	0.00500
Desember 2017	Rp 1,750.00	0.02941	0.03479	0.00121
Januari 2018	Rp 2,610.00	0.49143	0.49681	0.24682
Februari 2018	Rp 2,670.00	0.02299	0.02837	0.00080
Maret 2018	Rp 2,300.00	-0.13858	-0.13319	0.01774
April 2018	Rp 1,985.00	-0.13696	-0.13157	0.01731
Mei 2018	Rp 2,070.00	0.04282	0.04820	0.00232

Juni 2018	Rp 1,995.00	-0.03623	-0.03085	0.00095
Juli 2018	Rp 1,700.00	-0.14787	-0.14249	0.02030
Agustus 2018	Rp 2,140.00	0.25882	0.26421	0.06980
September 2018	Rp 2,250.00	0.05140	0.05678	0.00322
Oktober 2018	Rp 2,220.00	-0.01333	-0.00795	0.00006
November 2018	Rp 1,955.00	-0.11937	-0.11399	0.01299
Desember 2018	Rp 2,120.00	0.08440	0.08978	0.00806
Januari 2019	Rp 2,570.00	0.21226	0.21765	0.04737
Februari 2019	Rp 2,540.00	-0.01167	-0.00629	0.00004
Maret 2019	Rp 2,360.00	-0.07087	-0.06548	0.00429
April 2019	Rp 2,320.00	-0.01695	-0.01157	0.00013
Mei 2019	Rp 2,060.00	-0.11207	-0.10669	0.01138
Juni 2019	Rp 2,110.00	0.02427	0.02965	0.00088
Juli 2019	Rp 2,050.00	-0.02844	-0.02305	0.00053
Jumlah		-0.19376		0.60859
$E(R_i) = \sum R_i / n$		-0.00538		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.01691
$\sigma_i = \sqrt{\sigma_i^2}$				0.13002

Sumber: www.idx.co.id (data diolah)

15. Semen Indonesia (Persero) Tbk. (SMGR)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 9,375.00			
Agustus 2016	Rp 9,900.00	0.05600	0.04232	0.00179
September 2016	Rp 10,100.00	0.02020	0.00652	0.00004
Oktober 2016	Rp 9,850.00	-0.02475	-0.03843	0.00148
November 2016	Rp 8,875.00	-0.09898	-0.11267	0.01269
Desember 2016	Rp 9,175.00	0.03380	0.02012	0.00040
Januari 2017	Rp 9,025.00	-0.01635	-0.03003	0.00090
Februari 2017	Rp 9,625.00	0.06648	0.05280	0.00279
Maret 2017	Rp 9,000.00	-0.06494	-0.07862	0.00618
April 2017	Rp 8,825.00	-0.01944	-0.03313	0.00110
Mei 2017	Rp 9,450.00	0.07082	0.05714	0.00326
Juni 2017	Rp 10,000.00	0.05820	0.04452	0.00198
Juli 2017	Rp 9,950.00	-0.00500	-0.01868	0.00035
Agustus 2017	Rp 10,475.00	0.05276	0.03908	0.00153
September 2017	Rp 10,125.00	-0.03341	-0.04710	0.00222
Oktober 2017	Rp 10,900.00	0.07654	0.06286	0.00395
November 2017	Rp 9,400.00	-0.13761	-0.15130	0.02289
Desember 2017	Rp 9,900.00	0.05319	0.03951	0.00156
Januari 2018	Rp 11,150.00	0.12626	0.11258	0.01267
Februari 2018	Rp 11,125.00	-0.00224	-0.01592	0.00025
Maret 2018	Rp 10,350.00	-0.06966	-0.08335	0.00695
April 2018	Rp 9,650.00	-0.06763	-0.08132	0.00661
Mei 2018	Rp 8,400.00	-0.12953	-0.14322	0.02051

Juni 2018	Rp 7,125.00	-0.15179	-0.16547	0.02738
Juli 2018	Rp 7,600.00	0.06667	0.05298	0.00281
Agustus 2018	Rp 9,450.00	0.24342	0.22974	0.05278
September 2018	Rp 9,925.00	0.05026	0.03658	0.00134
Oktober 2018	Rp 9,000.00	-0.09320	-0.10688	0.01142
November 2018	Rp 12,025.00	0.33611	0.32243	0.10396
Desember 2018	Rp 11,500.00	-0.04366	-0.05734	0.00329
Januari 2019	Rp 12,675.00	0.10217	0.08849	0.00783
Februari 2019	Rp 12,650.00	-0.00197	-0.01565	0.00025
Maret 2019	Rp 13,875.00	0.09684	0.08316	0.00691
April 2019	Rp 13,500.00	-0.02703	-0.04071	0.00166
Mei 2019	Rp 11,550.00	-0.14444	-0.15813	0.02500
Juni 2019	Rp 11,575.00	0.00216	-0.01152	0.00013
Juli 2019	Rp 12,875.00	0.11231	0.09863	0.00973
Jumlah		0.49257		0.36661
$E(R_i) = \sum R_i / n$		0.01368		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.01018
$\sigma_i = \sqrt{\sigma_i^2}$				0.10091

Sumber: www.idx.co.id (data diolah)

16. Telekomunikasi Indonesia (Persero) Tbk. (TLKM)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 4,230.00			
Agustus 2016	Rp 4,210.00	-0.00473	-0.00673	0.00005
September 2016	Rp 4,310.00	0.02375	0.02176	0.00047
Oktober 2016	Rp 4,220.00	-0.02088	-0.02288	0.00052
November 2016	Rp 3,780.00	-0.10427	-0.10626	0.01129
Desember 2016	Rp 3,980.00	0.05291	0.05091	0.00259
Januari 2017	Rp 3,870.00	-0.02764	-0.02964	0.00088
Februari 2017	Rp 3,850.00	-0.00517	-0.00717	0.00005
Maret 2017	Rp 4,130.00	0.07273	0.07073	0.00500
April 2017	Rp 4,370.00	0.05811	0.05611	0.00315
Mei 2017	Rp 4,350.00	-0.00458	-0.00657	0.00004
Juni 2017	Rp 4,520.00	0.03908	0.03708	0.00138
Juli 2017	Rp 4,690.00	0.03761	0.03561	0.00127
Agustus 2017	Rp 4,690.00	0.00000	-0.00200	0.00000
September 2017	Rp 4,680.00	-0.00213	-0.00413	0.00002
Oktober 2017	Rp 4,030.00	-0.13889	-0.14089	0.01985
November 2017	Rp 4,150.00	0.02978	0.02778	0.00077
Desember 2017	Rp 4,440.00	0.06988	0.06788	0.00461
Januari 2018	Rp 3,990.00	-0.10135	-0.10335	0.01068
Februari 2018	Rp 4,000.00	0.00251	0.00051	0.00000
Maret 2018	Rp 3,600.00	-0.10000	-0.10200	0.01040
April 2018	Rp 3,830.00	0.06389	0.06189	0.00383
Mei 2018	Rp 3,520.00	-0.08094	-0.08294	0.00688

Juni 2018	Rp 3,750.00	0.06534	0.06334	0.00401
Juli 2018	Rp 3,570.00	-0.04800	-0.05000	0.00250
Agustus 2018	Rp 3,490.00	-0.02241	-0.02441	0.00060
September 2018	Rp 3,640.00	0.04298	0.04098	0.00168
Oktober 2018	Rp 3,850.00	0.05769	0.05569	0.00310
November 2018	Rp 3,680.00	-0.04416	-0.04615	0.00213
Desember 2018	Rp 3,750.00	0.01902	0.01702	0.00029
Januari 2019	Rp 3,900.00	0.04000	0.03800	0.00144
Februari 2019	Rp 3,860.00	-0.01026	-0.01225	0.00015
Maret 2019	Rp 3,950.00	0.02332	0.02132	0.00045
April 2019	Rp 3,790.00	-0.04051	-0.04250	0.00181
Mei 2019	Rp 3,900.00	0.02902	0.02703	0.00073
Juni 2019	Rp 4,140.00	0.06154	0.05954	0.00355
Juli 2019	Rp 4,300.00	0.03865	0.03665	0.00134
Jumlah		0.07191		0.10752
$E(R_i) = \sum R_i / n$		0.00200		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00299
$\sigma_i = \sqrt{\sigma_i^2}$				0.05465

Sumber: www.idx.co.id (data diolah)

17. United Tractors Tbk. (UNTR)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 15,750.00			
Agustus 2016	Rp 18,750.00	0.19048	0.17418	0.03034
September 2016	Rp 17,700.00	-0.05600	-0.07230	0.00523
Oktober 2016	Rp 21,625.00	0.22175	0.20545	0.04221
November 2016	Rp 21,000.00	-0.02890	-0.04520	0.00204
Desember 2016	Rp 21,250.00	0.01190	-0.00439	0.00002
Januari 2017	Rp 21,850.00	0.02824	0.01194	0.00014
Februari 2017	Rp 24,650.00	0.12815	0.11185	0.01251
Maret 2017	Rp 26,500.00	0.07505	0.05875	0.00345
April 2017	Rp 26,900.00	0.01509	-0.00120	0.00000
Mei 2017	Rp 27,775.00	0.03253	0.01623	0.00026
Juni 2017	Rp 27,450.00	-0.01170	-0.02800	0.00078
Juli 2017	Rp 30,100.00	0.09654	0.08024	0.00644
Agustus 2017	Rp 30,300.00	0.00664	-0.00965	0.00009
September 2017	Rp 32,000.00	0.05611	0.03981	0.00158
Oktober 2017	Rp 34,675.00	0.08359	0.06730	0.00453
November 2017	Rp 33,500.00	-0.03389	-0.05018	0.00252
Desember 2017	Rp 35,400.00	0.05672	0.04042	0.00163
Januari 2018	Rp 38,900.00	0.09887	0.08257	0.00682
Februari 2018	Rp 35,600.00	-0.08483	-0.10113	0.01023
Maret 2018	Rp 32,000.00	-0.10112	-0.11742	0.01379
April 2018	Rp 34,100.00	0.06563	0.04933	0.00243
Mei 2018	Rp 35,050.00	0.02786	0.01156	0.00013

Juni 2018	Rp 31,600.00	-0.09843	-0.11473	0.01316
Juli 2018	Rp 35,250.00	0.11551	0.09921	0.00984
Agustus 2018	Rp 34,400.00	-0.02411	-0.04041	0.00163
September 2018	Rp 33,000.00	-0.04070	-0.05700	0.00325
Oktober 2018	Rp 33,500.00	0.01515	-0.00115	0.00000
November 2018	Rp 27,500.00	-0.17910	-0.19540	0.03818
Desember 2018	Rp 27,350.00	-0.00545	-0.02175	0.00047
Januari 2019	Rp 25,725.00	-0.05941	-0.07571	0.00573
Februari 2019	Rp 26,500.00	0.03013	0.01383	0.00019
Maret 2019	Rp 27,000.00	0.01887	0.00257	0.00001
April 2019	Rp 27,175.00	0.00648	-0.00982	0.00010
Mei 2019	Rp 25,350.00	-0.06716	-0.08346	0.00696
Juni 2019	Rp 28,200.00	0.11243	0.09613	0.00924
Juli 2019	Rp 24,925.00	-0.11613	-0.13243	0.01754
Jumlah		0.58675		0.25350
$E(R_i) = \sum R_i / n$		0.01630		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00704
$\sigma_i = \sqrt{\sigma_i^2}$				0.08392

Sumber: www.idx.co.id (data diolah)

18. Unilever Indonesia Tbk. (UNVR)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 45,050.00			
Agustus 2016	Rp 45,650.00	0.01332	0.01295	0.00017
September 2016	Rp 44,550.00	-0.02410	-0.02447	0.00060
Oktober 2016	Rp 44,475.00	-0.00168	-0.00206	0.00000
November 2016	Rp 40,525.00	-0.08881	-0.08919	0.00795
Desember 2016	Rp 38,800.00	-0.04257	-0.04294	0.00184
Januari 2017	Rp 41,200.00	0.06186	0.06148	0.00378
Februari 2017	Rp 42,175.00	0.02367	0.02329	0.00054
Maret 2017	Rp 43,325.00	0.02727	0.02689	0.00072
April 2017	Rp 44,500.00	0.02712	0.02675	0.00072
Mei 2017	Rp 46,175.00	0.03764	0.03727	0.00139
Juni 2017	Rp 48,800.00	0.05685	0.05648	0.00319
Juli 2017	Rp 48,950.00	0.00307	0.00270	0.00001
Agustus 2017	Rp 50,550.00	0.03269	0.03231	0.00104
September 2017	Rp 48,975.00	-0.03116	-0.03153	0.00099
Oktober 2017	Rp 49,600.00	0.01276	0.01239	0.00015
November 2017	Rp 49,300.00	-0.00605	-0.00642	0.00004
Desember 2017	Rp 55,900.00	0.13387	0.13350	0.01782
Januari 2018	Rp 54,400.00	-0.02683	-0.02721	0.00074
Februari 2018	Rp 53,900.00	-0.00919	-0.00956	0.00009
Maret 2018	Rp 49,525.00	-0.08117	-0.08154	0.00665
April 2018	Rp 46,350.00	-0.06411	-0.06448	0.00416
Mei 2018	Rp 45,600.00	-0.01618	-0.01655	0.00027

Juni 2018	Rp 46,100.00	0.01096	0.01059	0.00011
Juli 2018	Rp 43,250.00	-0.06182	-0.06220	0.00387
Agustus 2018	Rp 43,850.00	0.01387	0.01350	0.00018
September 2018	Rp 47,025.00	0.07241	0.07203	0.00519
Oktober 2018	Rp 43,225.00	-0.08081	-0.08118	0.00659
November 2018	Rp 42,250.00	-0.02256	-0.02293	0.00053
Desember 2018	Rp 45,400.00	0.07456	0.07418	0.00550
Januari 2019	Rp 50,000.00	0.10132	0.10095	0.01019
Februari 2019	Rp 48,675.00	-0.02650	-0.02687	0.00072
Maret 2019	Rp 49,200.00	0.01079	0.01041	0.00011
April 2019	Rp 45,500.00	-0.07520	-0.07558	0.00571
Mei 2019	Rp 44,500.00	-0.02198	-0.02235	0.00050
Juni 2019	Rp 45,000.00	0.01124	0.01086	0.00012
Juli 2019	Rp 43,600.00	-0.03111	-0.03148	0.00099
Jumlah		0.01343		0.09320
$E(R_i) = \sum R_i / n$		0.00037		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.00259
$\sigma_i = \sqrt{\sigma_i^2}$				0.05088

Sumber: www.idx.co.id (data diolah)

19. Waskita Karya Tbk. (WSKT)

Periode	Harga Penutupan	$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$	$(R_i - E(R_i))$	$(R_i - E(R_i))^2$
Juli 2016	Rp 2,770.00			
Agustus 2016	Rp 2,790.00	0.00722	0.01029	0.00011
September 2016	Rp 2,620.00	-0.06093	-0.05786	0.00335
Oktober 2016	Rp 2,620.00	0.00000	0.00307	0.00001
November 2016	Rp 2,550.00	-0.02672	-0.02364	0.00056
Desember 2016	Rp 2,570.00	0.00784	0.01092	0.00012
Januari 2017	Rp 2,560.00	-0.00389	-0.00082	0.00000
Februari 2017	Rp 2,480.00	-0.03125	-0.02818	0.00079
Maret 2017	Rp 2,370.00	-0.04435	-0.04128	0.00170
April 2017	Rp 2,390.00	0.00844	0.01151	0.00013
Mei 2017	Rp 2,380.00	-0.00418	-0.00111	0.00000
Juni 2017	Rp 2,320.00	-0.02521	-0.02214	0.00049
Juli 2017	Rp 2,390.00	0.03017	0.03325	0.00111
Agustus 2017	Rp 2,220.00	-0.07113	-0.06806	0.00463
September 2017	Rp 1,775.00	-0.20045	-0.19738	0.03896
Oktober 2017	Rp 2,120.00	0.19437	0.19744	0.03898
November 2017	Rp 2,140.00	0.00943	0.01251	0.00016
Desember 2017	Rp 2,210.00	0.03271	0.03578	0.00128
Januari 2018	Rp 2,830.00	0.28054	0.28362	0.08044
Februari 2018	Rp 2,910.00	0.02827	0.03134	0.00098
Maret 2018	Rp 2,470.00	-0.15120	-0.14813	0.02194
April 2018	Rp 2,210.00	-0.10526	-0.10219	0.01044
Mei 2018	Rp 2,320.00	0.04977	0.05285	0.00279

Juni 2018	Rp 1,925.00	-0.17026	-0.16718	0.02795
Juli 2018	Rp 2,120.00	0.10130	0.10437	0.01089
Agustus 2018	Rp 1,895.00	-0.10613	-0.10306	0.01062
September 2018	Rp 1,700.00	-0.10290	-0.09983	0.00997
Oktober 2018	Rp 1,440.00	-0.15294	-0.14987	0.02246
November 2018	Rp 1,560.00	0.08333	0.08641	0.00747
Desember 2018	Rp 1,680.00	0.07692	0.08000	0.00640
Januari 2019	Rp 1,975.00	0.17560	0.17867	0.03192
Februari 2019	Rp 1,875.00	-0.05063	-0.04756	0.00226
Maret 2019	Rp 1,985.00	0.05867	0.06174	0.00381
April 2019	Rp 2,120.00	0.06801	0.07108	0.00505
Mei 2019	Rp 1,810.00	-0.14623	-0.14315	0.02049
Juni 2019	Rp 2,010.00	0.11050	0.11357	0.01290
Juli 2019	Rp 2,050.00	0.01990	0.02298	0.00053
Jumlah		-0.11068		0.38170
$E(R_i) = \sum R_i / n$		-0.00307		
$\sigma_i^2 = \frac{\sum_{i=1}^n (R_i - E(R_i))^2}{n - 1}$				0.01060
$\sigma_i = \sqrt{\sigma_i^2}$				0.10297

Sumber: www.idx.co.id (data diolah)

Lampiran 07 Kandidat Portofolio Efisien

Kandidat Portofolio Efisien

No	Kode Saham	Nama Emiten	E(Ri)
1.	ADRO	Adaro <i>Energy</i> Tbk.	0.01097
2.	BBCA	Bank <i>Central</i> Asia Tbk.	0.02234
3.	BBNI	Bank Negara Indonesia (Persero) Tbk.	0.01591
4.	BBRI	Bank Rakyat Indonesia (Persero) Tbk.	0.02031
5.	BMRI	Bank Mandiri (Persero) Tbk.	0.01393
6.	GGRM	Gudang Garam Tbk.	0.00474
7.	ICBP	Indofood CBP Sukses Makmur Tbk.	0.00733
8.	INTP	Indocement Tunggul Prakarsa Tbk.	0.01339
9.	SMGR	Semen Indonesia (Persero) Tbk.	0.01368
10.	TLKM	Telekomunikasi Indonesia (Persero) Tbk.	0.00200
11.	UNTR	<i>United Tractors</i> Tbk.	0.01630
12.	UNVR	Unilever Indonesia Tbk.	0.00037



Lampiran 08 Hasil Perhitungan Kovarian Antara *Return* Saham Individual dan *Return* Pasar

1. Adaro Energy Tbk. (ADRO)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	0.10577	0.09480	0.03261	0.02658	0.00252
September 2016	0.04783	0.03686	-0.00395	-0.00998	-0.00037
Oktober 2016	0.31535	0.30439	0.01076	0.00474	0.00144
November 2016	-0.03470	-0.04567	-0.05046	-0.05649	0.00258
Desember 2016	0.10784	0.09688	0.02871	0.02268	0.00220
Januari 2017	0.00000	-0.01097	-0.00049	-0.00652	0.00007
Februari 2017	0.00000	-0.01097	0.01749	0.01146	-0.00013
Maret 2017	0.03245	0.02148	0.03368	0.02765	0.00059
April 2017	0.01429	0.00332	0.02105	0.01502	0.00005
Mei 2017	-0.14366	-0.15463	0.00930	0.00327	-0.00051
Juni 2017	0.03947	0.02851	0.01596	0.00993	0.00028
Juli 2017	0.13924	0.12827	0.00193	-0.00410	-0.00053
Agustus 2017	0.01389	0.00292	0.00396	-0.00207	-0.00001
September 2017	0.00000	-0.01097	0.00627	0.00025	0.00000
Oktober 2017	0.00000	-0.01097	0.01778	0.01176	-0.00013
November 2017	-0.06849	-0.07946	-0.00893	-0.01496	0.00119
Desember 2017	0.09412	0.08315	0.06779	0.06177	0.00514
Januari 2018	0.31720	0.30624	0.03933	0.03331	0.01020
Februari 2018	-0.04082	-0.05178	-0.00127	-0.00730	0.00038
Maret 2018	-0.09362	-0.10458	-0.06188	-0.06790	0.00710
April 2018	-0.13850	-0.14946	-0.03141	-0.03743	0.00559
Mei 2018	0.02725	0.01628	-0.00184	-0.00786	-0.00013
Juni 2018	-0.05040	-0.06136	-0.03081	-0.03683	0.00226

Juli 2018	0.06425	0.05328	0.02366	0.01763	0.00094
Agustus 2018	-0.02100	-0.03196	0.01382	0.00779	-0.00025
September 2018	-0.01609	-0.02705	-0.00696	-0.01299	0.00035
Oktober 2018	-0.10082	-0.11178	-0.02425	-0.03027	0.00338
November 2018	-0.22121	-0.23218	0.03849	0.03247	-0.00754
Desember 2018	-0.05447	-0.06544	0.02285	0.01682	-0.00110
Januari 2019	0.14403	0.13307	0.05464	0.04862	0.00647
Februari 2019	-0.05755	-0.06852	-0.01372	-0.01974	0.00135
Maret 2019	0.02290	0.01193	0.00394	-0.00208	-0.00002
April 2019	-0.02612	-0.03709	-0.00207	-0.00810	0.00030
Mei 2019	-0.00766	-0.01863	-0.03814	-0.04417	0.00082
Juni 2019	0.05019	0.03923	0.02408	0.01805	0.00071
Juli 2019	-0.06618	-0.07714	0.00501	-0.00101	0.00008
E(R_i)	0.01097			$\sum \sigma_{im}$	0.04530
E(R_m)	0.00603			σ_{im}	0.00126

2. Bank Central Asia Tbk. (BBCA)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	0.04152	0.01918	0.03261	0.02658	0.00051
September 2016	0.04319	0.02085	-0.00395	-0.00998	-0.00021
Oktober 2016	-0.01115	-0.03349	0.01076	0.00474	-0.00016
November 2016	-0.07890	-0.10125	-0.05046	-0.05649	0.00572
Desember 2016	0.08392	0.06157	0.02871	0.02268	0.00140
Januari 2017	-0.01290	-0.03525	-0.00049	-0.00652	0.00023
Februari 2017	0.00980	-0.01254	0.01749	0.01146	-0.00014
Maret 2017	0.07120	0.04886	0.03368	0.02765	0.00135
April 2017	0.07251	0.05017	0.02105	0.01502	0.00075
Mei 2017	-0.03380	-0.05615	0.00930	0.00327	-0.00018
Juni 2017	0.05831	0.03597	0.01596	0.00993	0.00036
Juli 2017	0.03030	0.00796	0.00193	-0.00410	-0.00003
Agustus 2017	0.01337	-0.00897	0.00396	-0.00207	0.00002
September 2017	0.07124	0.04890	0.00627	0.00025	0.00001
Oktober 2017	0.02956	0.00721	0.01778	0.01176	0.00008
November 2017	-0.02632	-0.04866	-0.00893	-0.01496	0.00073
Desember 2017	0.07617	0.05382	0.06779	0.06177	0.00332
Januari 2018	0.03767	0.01533	0.03933	0.03331	0.00051
Februari 2018	0.01980	-0.00254	-0.00127	-0.00730	0.00002
Maret 2018	0.00539	-0.01695	-0.06188	-0.06790	0.00115
April 2018	-0.05150	-0.07384	-0.03141	-0.03743	0.00276
Mei 2018	0.02715	0.00481	-0.00184	-0.00786	-0.00004
Juni 2018	-0.05396	-0.07631	-0.03081	-0.03683	0.00281
Juli 2018	0.08382	0.06148	0.02366	0.01763	0.00108
Agustus 2018	0.06552	0.04318	0.01382	0.00779	0.00034

September 2018	-0.02621	-0.04855	-0.00696	-0.01299	0.00063
Oktober 2018	-0.02070	-0.04305	-0.02425	-0.03027	0.00130
November 2018	0.10148	0.07914	0.03849	0.03247	0.00257
Desember 2018	-0.00192	-0.02426	0.02285	0.01682	-0.00041
Januari 2019	0.08365	0.06131	0.05464	0.04862	0.00298
Februari 2019	-0.02130	-0.04364	-0.01372	-0.01974	0.00086
Maret 2019	-0.00091	-0.02325	0.00394	-0.00208	0.00005
April 2019	0.04356	0.02121	-0.00207	-0.00810	-0.00017
Mei 2019	0.01217	-0.01017	-0.03814	-0.04417	0.00045
Juni 2019	0.03007	0.00773	0.02408	0.01805	0.00014
Juli 2019	0.03253	0.01018	0.00501	-0.00101	-0.00001
E(R_i)	0.02234			$\sum \sigma_{im}$	0.03079
E(R_m)	0.00603			σ_{im}	0.00086



3. Bank Negara Indonesia (Persero) Tbk. (BBNI)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	0.09813	0.08222	0.03261	0.02658	0.00219
September 2016	-0.05532	-0.07123	-0.00395	-0.00998	0.00071
Oktober 2016	0.00450	-0.01141	0.01076	0.00474	-0.00005
November 2016	-0.07175	-0.08766	-0.05046	-0.05649	0.00495
Desember 2016	0.06763	0.05172	0.02871	0.02268	0.00117
Januari 2017	0.03167	0.01576	-0.00049	-0.00652	-0.00010
Februari 2017	0.09649	0.08058	0.01749	0.01146	0.00092
Maret 2017	0.03600	0.02009	0.03368	0.02765	0.00056
April 2017	-0.01544	-0.03135	0.02105	0.01502	-0.00047
Mei 2017	0.02745	0.01154	0.00930	0.00327	0.00004
Juni 2017	0.00763	-0.00828	0.01596	0.00993	-0.00008
Juli 2017	0.12879	0.11288	0.00193	-0.00410	-0.00046
Agustus 2017	-0.01342	-0.02933	0.00396	-0.00207	0.00006
September 2017	0.00680	-0.00911	0.00627	0.00025	0.00000
Oktober 2017	0.02703	0.01112	0.01778	0.01176	0.00013
November 2017	0.06579	0.04988	-0.00893	-0.01496	-0.00075
Desember 2017	0.22222	0.20631	0.06779	0.06177	0.01274
Januari 2018	-0.05051	-0.06641	0.03933	0.03331	-0.00221
Februari 2018	0.03457	0.01866	-0.00127	-0.00730	-0.00014
Maret 2018	-0.10797	-0.12388	-0.06188	-0.06790	0.00841
April 2018	-0.07205	-0.08796	-0.03141	-0.03743	0.00329
Mei 2018	0.05280	0.03689	-0.00184	-0.00786	-0.00029
Juni 2018	-0.16814	-0.18405	-0.03081	-0.03683	0.00678
Juli 2018	0.04965	0.03374	0.02366	0.01763	0.00059

Agustus 2018	0.05405	0.03814	0.01382	0.00779	0.00030
September 2018	-0.05128	-0.06719	-0.00696	-0.01299	0.00087
Oktober 2018	-0.01014	-0.02604	-0.02425	-0.03027	0.00079
November 2018	0.16041	0.14450	0.03849	0.03247	0.00469
Desember 2018	0.03529	0.01938	0.02285	0.01682	0.00033
Januari 2019	0.03125	0.01534	0.05464	0.04862	0.00075
Februari 2019	-0.03030	-0.04621	-0.01372	-0.01974	0.00091
Maret 2019	0.06818	0.05227	0.00394	-0.00208	-0.00011
April 2019	0.02128	0.00537	-0.00207	-0.00810	-0.00004
Mei 2019	-0.12500	-0.14091	-0.03814	-0.04417	0.00622
Juni 2019	0.09524	0.07933	0.02408	0.01805	0.00143
Juli 2019	-0.07880	-0.09471	0.00501	-0.00101	0.00010
E(R_i)	0.01591			$\sum \sigma_{im}$	0.05422
E(R_m)	0.00603			σ_{im}	0.00151

4. Bank Rakyat Indonesia (Persero) Tbk. (BBRI)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	0.01085	-0.00947	0.03261	0.02658	-0.00025
September 2016	0.04721	0.02690	-0.00395	-0.00998	-0.00027
Oktober 2016	0.00000	-0.02031	0.01076	0.00474	-0.00010
November 2016	-0.10656	-0.12687	-0.05046	-0.05649	0.00717
Desember 2016	0.07110	0.05079	0.02871	0.02268	0.00115
Januari 2017	0.00428	-0.01603	-0.00049	-0.00652	0.00010
Februari 2017	0.01919	-0.00112	0.01749	0.01146	-0.00001
Maret 2017	0.08577	0.06546	0.03368	0.02765	0.00181
April 2017	-0.00578	-0.02609	0.02105	0.01502	-0.00039
Mei 2017	0.12209	0.10178	0.00930	0.00327	0.00033
Juni 2017	0.05354	0.03323	0.01596	0.00993	0.00033
Juli 2017	-0.03115	-0.05146	0.00193	-0.00410	0.00021
Agustus 2017	0.02369	0.00338	0.00396	-0.00207	-0.00001
September 2017	0.00992	-0.01040	0.00627	0.00025	0.00000
Oktober 2017	0.02128	0.00096	0.01778	0.01176	0.00001
November 2017	0.02885	0.00853	-0.00893	-0.01496	-0.00013
Desember 2017	0.13396	0.11364	0.06779	0.06177	0.00702
Januari 2018	0.01648	-0.00383	0.03933	0.03331	-0.00013
Februari 2018	0.02162	0.00131	-0.00127	-0.00730	-0.00001
Maret 2018	-0.04762	-0.06793	-0.06188	-0.06790	0.00461
April 2018	-0.10556	-0.12587	-0.03141	-0.03743	0.00471
Mei 2018	-0.04348	-0.06379	-0.00184	-0.00786	0.00050
Juni 2018	-0.07792	-0.09823	-0.03081	-0.03683	0.00362

Juli 2018	0.08099	0.06067	0.02366	0.01763	0.00107
Agustus 2018	0.03583	0.01552	0.01382	0.00779	0.00012
September 2018	-0.00943	-0.02975	-0.00696	-0.01299	0.00039
Oktober 2018	0.00000	-0.02031	-0.02425	-0.03027	0.00061
November 2018	0.14921	0.12889	0.03849	0.03247	0.00419
Desember 2018	0.01105	-0.00926	0.02285	0.01682	-0.00016
Januari 2019	0.05191	0.03160	0.05464	0.04862	0.00154
Februari 2019	0.00000	-0.02031	-0.01372	-0.01974	0.00040
Maret 2019	0.06753	0.04722	0.00394	-0.00208	-0.00010
April 2019	0.06326	0.04295	-0.00207	-0.00810	-0.00035
Mei 2019	-0.06178	-0.08210	-0.03814	-0.04417	0.00363
Juni 2019	0.06341	0.04310	0.02408	0.01805	0.00078
Juli 2019	0.02752	0.00721	0.00501	-0.00101	-0.00001
E(R_i)	0.02031			$\sum \sigma_{im}$	0.04239
E(R_m)	0.00603			σ_{im}	0.00118

5. Bank Mandiri (Persero) Tbk. (BMRI)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	0.11139	0.09745	0.03261	0.02658	0.00259
September 2016	-0.00223	-0.01616	-0.00395	-0.00998	0.00016
Oktober 2016	0.02455	0.01062	0.01076	0.00474	0.00005
November 2016	-0.08497	-0.09890	-0.05046	-0.05649	0.00559
Desember 2016	0.10238	0.08845	0.02871	0.02268	0.00201
Januari 2017	-0.05832	-0.07225	-0.00049	-0.00652	0.00047
Februari 2017	0.03670	0.02276	0.01749	0.01146	0.00026
Maret 2017	0.03540	0.02146	0.03368	0.02765	0.00059
April 2017	0.00000	-0.01393	0.02105	0.01502	-0.00021
Mei 2017	0.07692	0.06299	0.00930	0.00327	0.00021
Juni 2017	0.01190	-0.00203	0.01596	0.00993	-0.00002
Juli 2017	0.07059	0.05665	0.00193	-0.00410	-0.00023
Agustus 2017	-0.04029	-0.05423	0.00396	-0.00207	0.00011
September 2017	0.02672	0.01278	0.00627	0.00025	0.00000
Oktober 2017	0.04833	0.03439	0.01778	0.01176	0.00040
November 2017	0.04965	0.03571	-0.00893	-0.01496	-0.00053
Desember 2017	0.08108	0.06715	0.06779	0.06177	0.00415
Januari 2018	0.01875	0.00482	0.03933	0.03331	0.00016
Februari 2018	0.01840	0.00447	-0.00127	-0.00730	-0.00003
Maret 2018	-0.07530	-0.08924	-0.06188	-0.06790	0.00606
April 2018	-0.07166	-0.08560	-0.03141	-0.03743	0.00320
Mei 2018	-0.01053	-0.02446	-0.00184	-0.00786	0.00019
Juni 2018	-0.02837	-0.04230	-0.03081	-0.03683	0.00156

Juli 2018	-0.02920	-0.04313	0.02366	0.01763	-0.00076
Agustus 2018	0.03759	0.02366	0.01382	0.00779	0.00018
September 2018	-0.02536	-0.03930	-0.00696	-0.01299	0.00051
Oktober 2018	0.01859	0.00465	-0.02425	-0.03027	-0.00014
November 2018	0.08029	0.06636	0.03849	0.03247	0.00215
Desember 2018	-0.00338	-0.01731	0.02285	0.01682	-0.00029
Januari 2019	0.01017	-0.00377	0.05464	0.04862	-0.00018
Februari 2019	-0.04362	-0.05756	-0.01372	-0.01974	0.00114
Maret 2019	0.04912	0.03519	0.00394	-0.00208	-0.00007
April 2019	0.03344	0.01951	-0.00207	-0.00810	-0.00016
Mei 2019	-0.00647	-0.02041	-0.03814	-0.04417	0.00090
Juni 2019	0.04560	0.03167	0.02408	0.01805	0.00057
Juli 2019	-0.00623	-0.02017	0.00501	-0.00101	0.00002
E(R_i)	0.01393			$\sum \sigma_{im}$	0.03061
E(R_m)	0.00603			σ_{im}	0.00085

6. Gudang Garam Tbk. (GGRM)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	-0.04628	-0.05102	0.03261	0.02658	-0.00136
September 2016	-0.03727	-0.04201	-0.00395	-0.00998	0.00042
Oktober 2016	0.09516	0.09042	0.01076	0.00474	0.00043
November 2016	-0.04271	-0.04745	-0.05046	-0.05649	0.00268
Desember 2016	-0.01692	-0.02166	0.02871	0.02268	-0.00049
Januari 2017	-0.03365	-0.03839	-0.00049	-0.00652	0.00025
Februari 2017	0.06640	0.06166	0.01749	0.01146	0.00071
Maret 2017	-0.00494	-0.00967	0.03368	0.02765	-0.00027
April 2017	0.01335	0.00861	0.02105	0.01502	0.00013
Mei 2017	0.11370	0.10897	0.00930	0.00327	0.00036
Juni 2017	0.05882	0.05408	0.01596	0.00993	0.00054
Juli 2017	-0.02810	-0.03284	0.00193	-0.00410	0.00013
Agustus 2017	-0.09067	-0.09541	0.00396	-0.00207	0.00020
September 2017	-0.04913	-0.05387	0.00627	0.00025	-0.00001
Oktober 2017	0.06383	0.05909	0.01778	0.01176	0.00069
November 2017	0.09321	0.08848	-0.00893	-0.01496	-0.00132
Desember 2017	0.09507	0.09033	0.06779	0.06177	0.00558
Januari 2018	-0.03282	-0.03756	0.03933	0.03331	-0.00125
Februari 2018	-0.01604	-0.02078	-0.00127	-0.00730	0.00015
Maret 2018	-0.09122	-0.09596	-0.06188	-0.06790	0.00652
April 2018	-0.04346	-0.04820	-0.03141	-0.03743	0.00180
Mei 2018	-0.01190	-0.01664	-0.00184	-0.00786	0.00013
Juni 2018	-0.01825	-0.02299	-0.03081	-0.03683	0.00085

Juli 2018	0.11747	0.11273	0.02366	0.01763	0.00199
Agustus 2018	-0.02861	-0.03335	0.01382	0.00779	-0.00026
September 2018	0.01438	0.00964	-0.00696	-0.01299	-0.00013
Oktober 2018	-0.02363	-0.02837	-0.02425	-0.03027	0.00086
November 2018	0.13416	0.12942	0.03849	0.03247	0.00420
Desember 2018	0.01982	0.01508	0.02285	0.01682	0.00025
Januari 2019	0.00030	-0.00444	0.05464	0.04862	-0.00022
Februari 2019	0.02092	0.01618	-0.01372	-0.01974	-0.00032
Maret 2019	-0.02576	-0.03050	0.00394	-0.00208	0.00006
April 2019	0.01532	0.01059	-0.00207	-0.00810	-0.00009
Mei 2019	-0.04735	-0.05209	-0.03814	-0.04417	0.00230
Juni 2019	-0.04473	-0.04947	0.02408	0.01805	-0.00089
Juli 2019	-0.01789	-0.02263	0.00501	-0.00101	0.00002
E(R_i)	0.00474			$\sum \sigma_{im}$	0.02465
E(R_m)	0.00603			σ_{im}	0.00068

7. Indofood CBP Sukses Makmur Tbk. (ICBP)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	0.15988	0.15255	0.03261	0.02658	0.00405
September 2016	-0.05013	-0.05745	-0.00395	-0.00998	0.00057
Oktober 2016	-0.00792	-0.01524	0.01076	0.00474	-0.00007
November 2016	-0.07979	-0.08712	-0.05046	-0.05649	0.00492
Desember 2016	-0.00867	-0.01600	0.02871	0.02268	-0.00036
Januari 2017	-0.02041	-0.02774	-0.00049	-0.00652	0.00018
Februari 2017	-0.00893	-0.01626	0.01749	0.01146	-0.00019
Maret 2017	-0.02102	-0.02835	0.03368	0.02765	-0.00078
April 2017	0.07669	0.06936	0.02105	0.01502	0.00104
Mei 2017	-0.00855	-0.01588	0.00930	0.00327	-0.00005
Juni 2017	0.01149	0.00417	0.01596	0.00993	0.00004
Juli 2017	-0.05114	-0.05847	0.00193	-0.00410	0.00024
Agustus 2017	0.04491	0.03758	0.00396	-0.00207	-0.00008
September 2017	0.00000	-0.00733	0.00627	0.00025	0.00000
Oktober 2017	0.00860	0.00127	0.01778	0.01176	0.00001
November 2017	-0.03977	-0.04710	-0.00893	-0.01496	0.00070
Desember 2017	0.05325	0.04593	0.06779	0.06177	0.00284
Januari 2018	-0.01966	-0.02699	0.03933	0.03331	-0.00090
Februari 2018	0.02865	0.02132	-0.00127	-0.00730	-0.00016
Maret 2018	-0.07799	-0.08532	-0.06188	-0.06790	0.00579
April 2018	0.04834	0.04101	-0.03141	-0.03743	-0.00154
Mei 2018	0.00288	-0.00445	-0.00184	-0.00786	0.00003
Juni 2018	0.01724	0.00991	-0.03081	-0.03683	-0.00036

Juli 2018	-0.01412	-0.02145	0.02366	0.01763	-0.00038
Agustus 2018	-0.00573	-0.01306	0.01382	0.00779	-0.00010
September 2018	0.01729	0.00996	-0.00696	-0.01299	-0.00013
Oktober 2018	0.01133	0.00400	-0.02425	-0.03027	-0.00012
November 2018	0.10364	0.09631	0.03849	0.03247	0.00313
Desember 2018	0.06091	0.05358	0.02285	0.01682	0.00090
Januari 2019	0.03110	0.02377	0.05464	0.04862	0.00116
Februari 2019	-0.05104	-0.05837	-0.01372	-0.01974	0.00115
Maret 2019	-0.08802	-0.09535	0.00394	-0.00208	0.00020
April 2019	0.04290	0.03557	-0.00207	-0.00810	-0.00029
Mei 2019	0.00771	0.00038	-0.03814	-0.04417	-0.00002
Juni 2019	0.03571	0.02839	0.02408	0.01805	0.00051
Juli 2019	0.05419	0.04686	0.00501	-0.00101	-0.00005
E(R_i)	0.00733			$\sum \sigma_{im}$	0.02191
E(R_m)	0.00603			σ_{im}	0.00061

8. Indocement Tunggal Prakarsa Tbk. (INTP)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	0.03660	0.02321	0.03261	0.02658	0.00062
September 2016	-0.01977	-0.03317	-0.00395	-0.00998	0.00033
Oktober 2016	-0.05187	-0.06527	0.01076	0.00474	-0.00031
November 2016	-0.02888	-0.04227	-0.05046	-0.05649	0.00239
Desember 2016	-0.03599	-0.04939	0.02871	0.02268	-0.00112
Januari 2017	-0.02435	-0.03774	-0.00049	-0.00652	0.00025
Februari 2017	0.00832	-0.00507	0.01749	0.01146	-0.00006
Maret 2017	0.09571	0.08232	0.03368	0.02765	0.00228
April 2017	0.02108	0.00769	0.02105	0.01502	0.00012
Mei 2017	0.09145	0.07805	0.00930	0.00327	0.00026
Juni 2017	-0.00270	-0.01610	0.01596	0.00993	-0.00016
Juli 2017	-0.05149	-0.06488	0.00193	-0.00410	0.00027
Agustus 2017	0.13143	0.11803	0.00396	-0.00207	-0.00024
September 2017	-0.04545	-0.05885	0.00627	0.00025	-0.00001
Oktober 2017	0.18783	0.17444	0.01778	0.01176	0.00205
November 2017	-0.17929	-0.19268	-0.00893	-0.01496	0.00288
Desember 2017	0.19132	0.17792	0.06779	0.06177	0.01099
Januari 2018	-0.00683	-0.02023	0.03933	0.03331	-0.00067
Februari 2018	0.00803	-0.00537	-0.00127	-0.00730	0.00004
Maret 2018	-0.27190	-0.28529	-0.06188	-0.06790	0.01937
April 2018	0.10781	0.09442	-0.03141	-0.03743	-0.00353
Mei 2018	-0.00564	-0.01904	-0.00184	-0.00786	0.00015
Juni 2018	-0.22553	-0.23893	-0.03081	-0.03683	0.00880

Juli 2018	0.03480	0.02140	0.02366	0.01763	0.00038
Agustus 2018	0.25487	0.24147	0.01382	0.00779	0.00188
September 2018	0.04372	0.03033	-0.00696	-0.01299	-0.00039
Oktober 2018	-0.06486	-0.07826	-0.02425	-0.03027	0.00237
November 2018	0.10405	0.09065	0.03849	0.03247	0.00294
Desember 2018	-0.03403	-0.04743	0.02285	0.01682	-0.00080
Januari 2019	0.04201	0.02861	0.05464	0.04862	0.00139
Februari 2019	0.00000	-0.01339	-0.01372	-0.01974	0.00026
Maret 2019	0.11053	0.09714	0.00394	-0.00208	-0.00020
April 2019	0.03044	0.01705	-0.00207	-0.00810	-0.00014
Mei 2019	-0.03636	-0.04976	-0.03814	-0.04417	0.00220
Juni 2019	-0.05660	-0.07000	0.02408	0.01805	-0.00126
Juli 2019	0.12375	0.11036	0.00501	-0.00101	-0.00011
E(R_i)	0.01339			$\sum \sigma_{im}$	0.05318
E(R_m)	0.00603			σ_{im}	0.00148

9. Semen Indonesia (Persero) Tbk. (SMGR)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	0.05600	0.04232	0.03261	0.02658	0.00112
September 2016	0.02020	0.00652	-0.00395	-0.00998	-0.00007
Oktober 2016	-0.02475	-0.03843	0.01076	0.00474	-0.00018
November 2016	-0.09898	-0.11267	-0.05046	-0.05649	0.00636
Desember 2016	0.03380	0.02012	0.02871	0.02268	0.00046
Januari 2017	-0.01635	-0.03003	-0.00049	-0.00652	0.00020
Februari 2017	0.06648	0.05280	0.01749	0.01146	0.00061
Maret 2017	-0.06494	-0.07862	0.03368	0.02765	-0.00217
April 2017	-0.01944	-0.03313	0.02105	0.01502	-0.00050
Mei 2017	0.07082	0.05714	0.00930	0.00327	0.00019
Juni 2017	0.05820	0.04452	0.01596	0.00993	0.00044
Juli 2017	-0.00500	-0.01868	0.00193	-0.00410	0.00008
Agustus 2017	0.05276	0.03908	0.00396	-0.00207	-0.00008
September 2017	-0.03341	-0.04710	0.00627	0.00025	-0.00001
Oktober 2017	0.07654	0.06286	0.01778	0.01176	0.00074
November 2017	-0.13761	-0.15130	-0.00893	-0.01496	0.00226
Desember 2017	0.05319	0.03951	0.06779	0.06177	0.00244
Januari 2018	0.12626	0.11258	0.03933	0.03331	0.00375
Februari 2018	-0.00224	-0.01592	-0.00127	-0.00730	0.00012
Maret 2018	-0.06966	-0.08335	-0.06188	-0.06790	0.00566
April 2018	-0.06763	-0.08132	-0.03141	-0.03743	0.00304
Mei 2018	-0.12953	-0.14322	-0.00184	-0.00786	0.00113
Juni 2018	-0.15179	-0.16547	-0.03081	-0.03683	0.00609

Juli 2018	0.06667	0.05298	0.02366	0.01763	0.00093
Agustus 2018	0.24342	0.22974	0.01382	0.00779	0.00179
September 2018	0.05026	0.03658	-0.00696	-0.01299	-0.00048
Oktober 2018	-0.09320	-0.10688	-0.02425	-0.03027	0.00324
November 2018	0.33611	0.32243	0.03849	0.03247	0.01047
Desember 2018	-0.04366	-0.05734	0.02285	0.01682	-0.00096
Januari 2019	0.10217	0.08849	0.05464	0.04862	0.00430
Februari 2019	-0.00197	-0.01565	-0.01372	-0.01974	0.00031
Maret 2019	0.09684	0.08316	0.00394	-0.00208	-0.00017
April 2019	-0.02703	-0.04071	-0.00207	-0.00810	0.00033
Mei 2019	-0.14444	-0.15813	-0.03814	-0.04417	0.00698
Juni 2019	0.00216	-0.01152	0.02408	0.01805	-0.00021
Juli 2019	0.11231	0.09863	0.00501	-0.00101	-0.00010
E(R_i)	0.01368			$\sum \sigma_{im}$	0.05811
E(R_m)	0.00603			σ_{im}	0.00161

10. Telekomunikasi Indonesia (Persero) Tbk. (TLKM)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	-0.00473	-0.00673	0.03261	0.02658	-0.00018
September 2016	0.02375	0.02176	-0.00395	-0.00998	-0.00022
Oktober 2016	-0.02088	-0.02288	0.01076	0.00474	-0.00011
November 2016	-0.10427	-0.10626	-0.05046	-0.05649	0.00600
Desember 2016	0.05291	0.05091	0.02871	0.02268	0.00115
Januari 2017	-0.02764	-0.02964	-0.00049	-0.00652	0.00019
Februari 2017	-0.00517	-0.00717	0.01749	0.01146	-0.00008
Maret 2017	0.07273	0.07073	0.03368	0.02765	0.00196
April 2017	0.05811	0.05611	0.02105	0.01502	0.00084
Mei 2017	-0.00458	-0.00657	0.00930	0.00327	-0.00002
Juni 2017	0.03908	0.03708	0.01596	0.00993	0.00037
Juli 2017	0.03761	0.03561	0.00193	-0.00410	-0.00015
Agustus 2017	0.00000	-0.00200	0.00396	-0.00207	0.00000
September 2017	-0.00213	-0.00413	0.00627	0.00025	0.00000
Oktober 2017	-0.13889	-0.14089	0.01778	0.01176	-0.00166
November 2017	0.02978	0.02778	-0.00893	-0.01496	-0.00042
Desember 2017	0.06988	0.06788	0.06779	0.06177	0.00419
Januari 2018	-0.10135	-0.10335	0.03933	0.03331	-0.00344
Februari 2018	0.00251	0.00051	-0.00127	-0.00730	0.00000
Maret 2018	-0.10000	-0.10200	-0.06188	-0.06790	0.00693
April 2018	0.06389	0.06189	-0.03141	-0.03743	-0.00232
Mei 2018	-0.08094	-0.08294	-0.00184	-0.00786	0.00065
Juni 2018	0.06534	0.06334	-0.03081	-0.03683	-0.00233

Juli 2018	-0.04800	-0.05000	0.02366	0.01763	-0.00088
Agustus 2018	-0.02241	-0.02441	0.01382	0.00779	-0.00019
September 2018	0.04298	0.04098	-0.00696	-0.01299	-0.00053
Oktober 2018	0.05769	0.05569	-0.02425	-0.03027	-0.00169
November 2018	-0.04416	-0.04615	0.03849	0.03247	-0.00150
Desember 2018	0.01902	0.01702	0.02285	0.01682	0.00029
Januari 2019	0.04000	0.03800	0.05464	0.04862	0.00185
Februari 2019	-0.01026	-0.01225	-0.01372	-0.01974	0.00024
Maret 2019	0.02332	0.02132	0.00394	-0.00208	-0.00004
April 2019	-0.04051	-0.04250	-0.00207	-0.00810	0.00034
Mei 2019	0.02902	0.02703	-0.03814	-0.04417	-0.00119
Juni 2019	0.06154	0.05954	0.02408	0.01805	0.00107
Juli 2019	0.03865	0.03665	0.00501	-0.00101	-0.00004
E(R_i)	0.00200			$\sum \sigma_{im}$	0.00910
E(R_m)	0.00603			σ_{im}	0.00025

11. United Tractors Tbk. (UNTR)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	0.19048	0.17418	0.03261	0.02658	0.00463
September 2016	-0.05600	-0.07230	-0.00395	-0.00998	0.00072
Oktober 2016	0.22175	0.20545	0.01076	0.00474	0.00097
November 2016	-0.02890	-0.04520	-0.05046	-0.05649	0.00255
Desember 2016	0.01190	-0.00439	0.02871	0.02268	-0.00010
Januari 2017	0.02824	0.01194	-0.00049	-0.00652	-0.00008
Februari 2017	0.12815	0.11185	0.01749	0.01146	0.00128
Maret 2017	0.07505	0.05875	0.03368	0.02765	0.00162
April 2017	0.01509	-0.00120	0.02105	0.01502	-0.00002
Mei 2017	0.03253	0.01623	0.00930	0.00327	0.00005
Juni 2017	-0.01170	-0.02800	0.01596	0.00993	-0.00028
Juli 2017	0.09654	0.08024	0.00193	-0.00410	-0.00033
Agustus 2017	0.00664	-0.00965	0.00396	-0.00207	0.00002
September 2017	0.05611	0.03981	0.00627	0.00025	0.00001
Oktober 2017	0.08359	0.06730	0.01778	0.01176	0.00079
November 2017	-0.03389	-0.05018	-0.00893	-0.01496	0.00075
Desember 2017	0.05672	0.04042	0.06779	0.06177	0.00250
Januari 2018	0.09887	0.08257	0.03933	0.03331	0.00275
Februari 2018	-0.08483	-0.10113	-0.00127	-0.00730	0.00074
Maret 2018	-0.10112	-0.11742	-0.06188	-0.06790	0.00797
April 2018	0.06563	0.04933	-0.03141	-0.03743	-0.00185
Mei 2018	0.02786	0.01156	-0.00184	-0.00786	-0.00009
Juni 2018	-0.09843	-0.11473	-0.03081	-0.03683	0.00423

Juli 2018	0.11551	0.09921	0.02366	0.01763	0.00175
Agustus 2018	-0.02411	-0.04041	0.01382	0.00779	-0.00031
September 2018	-0.04070	-0.05700	-0.00696	-0.01299	0.00074
Oktober 2018	0.01515	-0.00115	-0.02425	-0.03027	0.00003
November 2018	-0.17910	-0.19540	0.03849	0.03247	-0.00634
Desember 2018	-0.00545	-0.02175	0.02285	0.01682	-0.00037
Januari 2019	-0.05941	-0.07571	0.05464	0.04862	-0.00368
Februari 2019	0.03013	0.01383	-0.01372	-0.01974	-0.00027
Maret 2019	0.01887	0.00257	0.00394	-0.00208	-0.00001
April 2019	0.00648	-0.00982	-0.00207	-0.00810	0.00008
Mei 2019	-0.06716	-0.08346	-0.03814	-0.04417	0.00369
Juni 2019	0.11243	0.09613	0.02408	0.01805	0.00174
Juli 2019	-0.11613	-0.13243	0.00501	-0.00101	0.00013
E(R_i)	0.01630			$\sum \sigma_{im}$	0.02603
E(R_m)	0.00603			σ_{im}	0.00072

12. Unilever Indonesia Tbk. (UNVR)

Periode	R_i	$(R_i - E(R_i))$	R_m	$(R_m - E(R_m))$	$\sigma_{im} = (R_i - E(R_i)) \times (R_m - E(R_m))$
Agustus 2016	0.01332	0.01295	0.03261	0.02658	0.00034
September 2016	-0.02410	-0.02447	-0.00395	-0.00998	0.00024
Oktober 2016	-0.00168	-0.00206	0.01076	0.00474	-0.00001
November 2016	-0.08881	-0.08919	-0.05046	-0.05649	0.00504
Desember 2016	-0.04257	-0.04294	0.02871	0.02268	-0.00097
Januari 2017	0.06186	0.06148	-0.00049	-0.00652	-0.00040
Februari 2017	0.02367	0.02329	0.01749	0.01146	0.00027
Maret 2017	0.02727	0.02689	0.03368	0.02765	0.00074
April 2017	0.02712	0.02675	0.02105	0.01502	0.00040
Mei 2017	0.03764	0.03727	0.00930	0.00327	0.00012
Juni 2017	0.05685	0.05648	0.01596	0.00993	0.00056
Juli 2017	0.00307	0.00270	0.00193	-0.00410	-0.00001
Agustus 2017	0.03269	0.03231	0.00396	-0.00207	-0.00007
September 2017	-0.03116	-0.03153	0.00627	0.00025	-0.00001
Oktober 2017	0.01276	0.01239	0.01778	0.01176	0.00015
November 2017	-0.00605	-0.00642	-0.00893	-0.01496	0.00010
Desember 2017	0.13387	0.13350	0.06779	0.06177	0.00825
Januari 2018	-0.02683	-0.02721	0.03933	0.03331	-0.00091
Februari 2018	-0.00919	-0.00956	-0.00127	-0.00730	0.00007
Maret 2018	-0.08117	-0.08154	-0.06188	-0.06790	0.00554
April 2018	-0.06411	-0.06448	-0.03141	-0.03743	0.00241
Mei 2018	-0.01618	-0.01655	-0.00184	-0.00786	0.00013
Juni 2018	0.01096	0.01059	-0.03081	-0.03683	-0.00039

Juli 2018	-0.06182	-0.06220	0.02366	0.01763	-0.00110
Agustus 2018	0.01387	0.01350	0.01382	0.00779	0.00011
September 2018	0.07241	0.07203	-0.00696	-0.01299	-0.00094
Oktober 2018	-0.08081	-0.08118	-0.02425	-0.03027	0.00246
November 2018	-0.02256	-0.02293	0.03849	0.03247	-0.00074
Desember 2018	0.07456	0.07418	0.02285	0.01682	0.00125
Januari 2019	0.10132	0.10095	0.05464	0.04862	0.00491
Februari 2019	-0.02650	-0.02687	-0.01372	-0.01974	0.00053
Maret 2019	0.01079	0.01041	0.00394	-0.00208	-0.00002
April 2019	-0.07520	-0.07558	-0.00207	-0.00810	0.00061
Mei 2019	-0.02198	-0.02235	-0.03814	-0.04417	0.00099
Juni 2019	0.01124	0.01086	0.02408	0.01805	0.00020
Juli 2019	-0.03111	-0.03148	0.00501	-0.00101	0.00003
E(R_i)	0.00037			$\sum \sigma_{im}$	0.02987
E(R_m)	0.00603			σ_{im}	0.00083

Lampiran 09 Hasil Perhitungan *Alpha* dan *Beta*

No	Kode Emiten	σ_{im}	σ_m^2	$\beta_i = \sigma_{im} / \sigma_m^2$	$E(R_i)$	$E(R_m)$	$\alpha_i = E(R_i) - (\beta_i \times E(R_m))$
1.	ADRO	0.00126	0.00074	1.70977	0.01097	0.00603	0.00066
2.	BBCA	0.00086	0.00074	1.16207	0.02234	0.00603	0.01534
3.	BBNI	0.00151	0.00074	2.04673	0.01591	0.00603	0.00358
4.	BBRI	0.00118	0.00074	1.60022	0.02031	0.00603	0.01067
5.	BMRI	0.00085	0.00074	1.15541	0.01393	0.00603	0.00697
6.	GGRM	0.00068	0.00074	0.93043	0.00474	0.00603	-0.00087
7.	ICBP	0.00061	0.00074	0.82701	0.00733	0.00603	0.00235
8.	INTP	0.00148	0.00074	2.00731	0.01339	0.00603	0.00130
9.	SMGR	0.00161	0.00074	2.19316	0.01368	0.00603	0.00047
10.	TLKM	0.00025	0.00074	0.34351	0.00200	0.00603	-0.00007
11.	UNTR	0.00072	0.00074	0.98247	0.01630	0.00603	0.01038
12.	UNVR	0.00083	0.00074	1.12746	0.00037	0.00603	-0.00642

Lampiran 10 Hasil Perhitungan Varian Kesalahan Residu dan *Excess Return to Beta* (ERB)

No	Kode Saham	σ_{ei}^2	$E(R_i)$	$E(R_i) - R_f$	β_i	$ERB = (E(R_i) - R_f) / \beta_i$
1.	ADRO	0.01356	0.01097	0.00675	1.70977	0.00395
2.	BBCA	0.00294	0.02234	0.01812	1.16207	0.01560
3.	BBNI	0.00925	0.01591	0.01169	2.04673	0.00571
4.	BBRI	0.00529	0.02031	0.01609	1.60022	0.01006
5.	BMRI	0.00332	0.01393	0.00972	1.15541	0.00841
6.	GGRM	0.00400	0.00474	0.00052	0.93043	0.00056
7.	ICBP	0.00304	0.00733	0.00311	0.82701	0.00376
8.	INTP	0.01409	0.01339	0.00917	2.00731	0.00457
9.	SMGR	0.01372	0.01368	0.00946	2.19316	0.00432
10.	TLKM	0.00307	0.00200	-0.00222	0.34351	-0.00647
11.	UNTR	0.00775	0.01630	0.01208	0.98247	0.01230
12.	UNVR	0.00352	0.00037	-0.00385	1.12746	-0.00341
$R_f = 0.00422$						

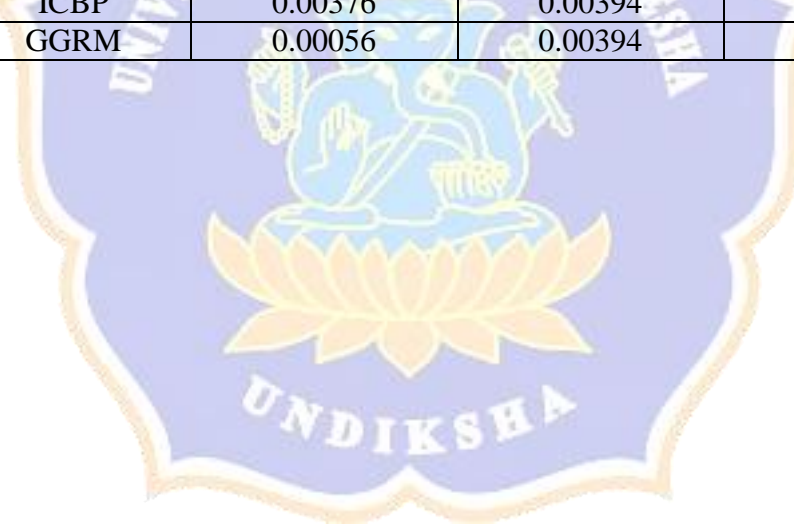
Lampiran 11 Hasil Pemeringkatan *Excess Return to Beta* (ERB) dan Nilai *Cut-off Rate* (C_i)

No	Kode Saham	ERB	C_i
1.	BBCA	0.01560	0.00394
2.	UNTR	0.01230	0.00103
3.	BBRI	0.01006	0.00264
4.	BMRI	0.00841	0.00192
5.	BBNI	0.00571	0.00143
6.	INTP	0.00457	0.00079
7.	SMGR	0.00432	0.00088
8.	ADRO	0.00395	0.00054
9.	ICBP	0.00376	0.00053
10.	GGRM	0.00056	0.00008



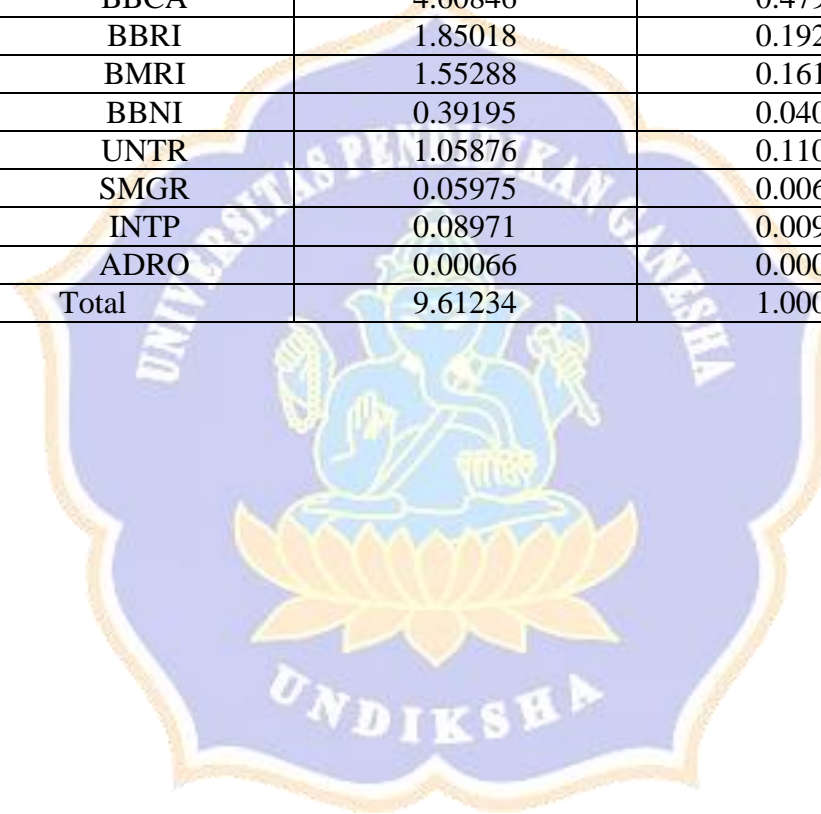
Lampiran 12 Hasil Perbandingan *Excess Return to Beta (ERB)* dan *Cut-off Point (C*)*

No	Kode Saham	ERB	C*	Keputusan
1.	BBCA	0.01560	0.00394	Optimal
2.	BBRI	0.01006	0.00394	Optimal
3.	BMRI	0.00841	0.00394	Optimal
4.	BBNI	0.00571	0.00394	Optimal
5.	UNTR	0.01230	0.00394	Optimal
6.	SMGR	0.00432	0.00394	Optimal
7.	INTP	0.00457	0.00394	Optimal
8.	ADRO	0.00395	0.00394	Optimal
9.	ICBP	0.00376	0.00394	-
10.	GGRM	0.00056	0.00394	-



Lampiran 13 Hasil Perhitungan Skala Tertimbang (Z_i) dan Proporsi Dana (W_i)

No	Kode Saham	Z_i	W_i
1.	BBCA	4.60846	0.47943
2.	BBRI	1.85018	0.19248
3.	BMRI	1.55288	0.16155
4.	BBNI	0.39195	0.04078
5.	UNTR	1.05876	0.11015
6.	SMGR	0.05975	0.00622
7.	INTP	0.08971	0.00933
8.	ADRO	0.00066	0.00007
Total		9.61234	1.00000



Lampiran 14 Hasil Perhitungan *Return* Ekspektasi Portofolio

No	Kode Saham	W_i	α_i	β_i	$\alpha_p = W_i \times \alpha_i$	$\beta_p = W_i \times \beta_i$
1.	BBCA	0.47943	0.01534	1.16207	0.00735	0.55713
2.	BBRI	0.19248	0.01067	1.60022	0.00205	0.30801
3.	BMRI	0.16155	0.00697	1.15541	0.00113	0.18666
4.	BBNI	0.04078	0.00358	2.04673	0.00015	0.08346
5.	UNTR	0.11015	0.01038	0.98247	0.00114	0.10821
6.	SMGR	0.00622	0.00047	2.19316	0.00000	0.01363
7.	INTP	0.00933	0.00130	2.00731	0.00001	0.01873
8.	ADRO	0.00007	0.00066	1.70977	0.00000	0.00012
Jumlah					0.01184	1.27595



Lampiran 15 Hasil Perhitungan Risiko Portofolio

No	Kode Saham	W_i	σ_{ei}^2	$\sigma_{ep}^2 = W_i \times \sigma_{ei}^2$	β_p
1.	BBCA	0.47943	0.01534	1.16207	0.55713
2.	BBRI	0.19248	0.01067	1.60022	0.30801
3.	BMRI	0.16155	0.00697	1.15541	0.18666
4.	BBNI	0.04078	0.00358	2.04673	0.08346
5.	UNTR	0.11015	0.01038	0.98247	0.10821
6.	SMGR	0.00622	0.00047	2.19316	0.01363
7.	INTP	0.00933	0.00130	2.00731	0.01873
8.	ADRO	0.00007	0.00066	1.70977	0.00012
Jumlah				0.00441	1.27595

