

DAFTAR PUSTAKA

- Adiningrum, T dkk 2016. "Penggunaan Metode Single Index Model Dalam Menentukan Portofolio Optimal Tahun 2012-2015 (Studi Pada Saham-saham Yang Terdaftar Dalam Indeks IDX30 Di Bursa Efek Indonesia)". *Jurnal Administrasi Bisnis*, (Online). Vol. 38, No.2 89–96. (<https://www.neliti.com> Diakses 18 Maret 2022)
- Bodie, Zvi, Alex Cane, & Alan J. Marcus. 2011. *Investments*. Singapore:Irwin/McGraww-Hill.Buraschi
- Chandra, Prasanna. 2017. *Investment Analysis and Portfolio Management*. Edisi 5. New Delhi. NJ: Tata McGraw Hill Education Publication Company Limited.
- Elton, Edwin J. dan Martin J. Gruber. 1995. *Modern Portofolio Theory and Investment Analysis*. Edisi 5. Toronto: John Wiley & Sons, Inc.
- Graham, Benjamin. 2019. *The Intelligent Investor*. Jakarta: Akademika.
- Hadi, Nor. 2013. *Pasar Modal*. Yogyakarta : Graha Ilmu.
- Halim, Abdul. 2018. *Analisis Investasi dan Aplikasinya*. Malang: Salemba Empat.
- Hartono, Jogiyanto. 2010. *Teori Portofolio dan Analisis Investasi*. Edisi 7. Yogyakarta: BPFE.
- _____. 2013. *Teori Portofolio dan Analisis Investasi*. Edisi 9. Yogyakarta: BPFE.
- Husein, Umar. 2000. *Metodologi Penelitian, Aplikasi dalam Pemasaran*. Jakarta: PT. Gramedia Pustaka Utama.
- Husnan, Suad. 2001. *Dasar-Dasar Teori Portofolio dan Analisis Sekuitas*. Edisi Ketiga. Yogyakarta: UUP AMP YKPN.
- Relly, Frank K dan Brown, Keith. 2011. *Investment Analysis And Portofolio Management*. Edisi 5. Florida: Cengage Learning.
- Mary, J. F. 2015. "The Single Index Model and The Construction of Optimal Portfolio With CNX PHARMA". *Jurnal International Journal of Management*, (Online). Vol. 6, No.187–96. (www.jifactor.com Diakses 11 April 2022).
- Republik Indonesia. 1995. *Undang-undang Republik Indonesia Nomor 8 tentang Pasar Modal*. Jakarta: Presiden Republik Indonesia.
- Samsul. 2006. *Pasar Modal dan Manajemen Portofolio*. Jakarta: Erlangga.

Sharpe, William F; Alexander, Gordon J. dan Bailey Jeffrey V. 2005. *Investasi*. Edisi Keenam. Jilid Pertama.

Sugiyono. 2017. *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung: CV Alfabeta.

Tandelilian, Eduardus . 2010. *Portofolio dan Investasi Teori dan Aplikasi*. Edisi Pertama. Yogyakarta: Kanisius.

_____. 2017. *Portofolio dan Investasi Teori dan Aplikasi*. Edisi Pertama. Yogyakarta: Kanisius

Yahayah, I. A. & Ikani, K. S. 2021. “*Optimal Portfolio Construction Using Sharpe’s Single Index Model-A Study of Selected Stocks from BSE*”. *Jurnal SSRN Electronic Journal*, (Online). Vol. 3, No. 12, 72–93. (<https://doi.org/10.2139/ssrn.3852369> Diakses 8 April 2022)

Wisadirana, Darsono. (2005). *Metode Penelitian & Pedoman Penulisan Skripsi Untuk Ilmu Social*. UMM Press, Malang.

Yasa, D. A. 2020. “*Analisis Pembentukan Portofolio Optimal dengan Menggunakan Model Indeks Tunggal pada Perusahaan Yang Terdaftar dalam LQ-45 di Bursa Efek Indonesia (Studi Pada Perusahaan BUMN yang Terdaftar Dalam Indeks LQ45 di Bursa Efek Indonesia Periode Februari 2018 – Januari 2020)*”. Skripsi Sarjana Fakultas Ekonomi dan Bisnis, Universitas Brawijaya, Malang.

Yunus, M. 2016. “*Analisis Pembentukan Portofolio Optimal Saham Menggunakan Model Indeks Tunggal Di Bursa Efek Optimal Stock Portfolio (Studi Kasus pada Jakarta Islamic Index di Bursa Efek Indonesia Periode Desember 2011 – Mei 2015)*”. Skripsi Sarjana Fakultas Ekonomi, Universitas Muhammadiyah Yogyakarta, Yogyakarta.

Zubir, Zalmi. 2011. *Manajemen Portofolio: Penerapannya dalam Investasi Saham*. Jakarta: Salemba Empat

<https://www.idx.co.id>

www.yahoofinance.com

www.bi.go.id

LAMPIRAN

Lampiran 1**BIODATA****Identitas Diri**

Nama : Rahma Kahar
Tempat, Tanggal Lahir : Minasatene, 7 Februari 2000
Jenis Kelamin : Perempuan
Agama : Islam
Alamat Rumah : Jl. Turi, Kel. Biraeng, Kec. Minasatene, Pangkep
No. Telepon : 0878 5790 9466
E-mail : rahmakahar07@gmail.com

Riwayat Pendidikan`

2006 – 2012 : SD Negeri 17 Langnga-langnga
2012 – 2015 : SMP Negeri 1 Minasatene
2015 – 2018 : SMA Negeri 11 Pangkep

Pengalaman Organisasi

1. Pengurus Ikatan Pemuda Pelajar Mahasiswa Pangkep Universitas Hasanuddin (IPPMP-UH) Periode 2020-2021
2. Pengurus Prima Dewan Masjid Indonesia Kabupaten Pangkep Periode 2022-2024

Demikian biodata ini dibuat dengan sebenarnya.

Makassar, 11 November 2022



Rahma Kahar

Lampiran 2

DATA HARGA SAHAM PENUTUPAN BULANAN (*CLOSING PRICE*) DARI 14 SAHAM

BULAN	<i>CLOSING PRICE</i>													
	KODE SAHAM													
	ANTM	BRIS	ELSA	KAEF	PGAS	PPRE	PTBA	PTPP	SMBR	SMGR	TLKM	WEGE	WIKA	WTON
5/1/2021	2450	1905	304	2600	1115	181	2210	1115	695	9700	3440	196	1250	284
6/1/2021	2300	2300	266	3140	1005	154	2000	915	615	9500	3150	183	990	240
7/1/2021	2520	2630	262	2660	975	192	2230	840	585	7700	3240	171	920	228
8/1/2021	2390	2220	260	2410	1035	180	2110	905	640	9250	3400	181	940	234
9/1/2021	2290	2040	306	2400	1190	220	2760	1090	660	8200	3690	196	1210	258
10/1/2021	2340	2110	304	2430	1510	206	2680	1205	760	9100	3800	195	1245	272
11/1/2021	2300	1955	278	2740	1500	190	2600	1130	680	8000	3990	202	1160	278
12/1/2021	2250	1780	276	2430	1375	174	2710	990	620	7250	4040	190	1105	246
1/1/2022	1770	1545	276	2200	1380	159	2850	930	550	6725	4190	173	1035	224
2/1/2022	2220	1665	312	2100	1440	160	3140	955	550	7200	4340	166	1010	214
3/1/2022	2440	1605	294	1740	1405	171	3290	995	540	6650	4580	183	995	218
4/1/2022	2600	1580	292	1475	1450	162	3820	935	510	6400	4620	182	950	212
5/1/2022	2510	1440	308	1510	1800	164	4530	935	540	7300	4310	177	965	212

Sumber: www.yahoofinance.com (2022)

Lampiran 3

REALIZED RETURN, EXPECTED RETURN, STANDARD DEVIATION, DAN VARIANCE DARI 14 SAHAM

BULAN	REALIZED RETURN													
	KODE SAHAM													
	ANTM	BRIS	ELSA	KAEF	PGAS	PPRE	PTBA	PTPP	SMBR	SMGR	TLKM	WEGE	WIKA	WTON
5/1/2021														
6/1/2021	-0.06122	0.207349	-0.125	0.207692	-0.09865	-0.14917	-0.09502	-0.17937	-0.11511	-0.02062	-0.0843	-0.06633	-0.208	-0.15493
7/1/2021	0.095652	0.143478	-0.01504	-0.15287	-0.02985	0.246753	0.115	-0.08197	-0.04878	-0.18947	0.028571	-0.06557	-0.07071	-0.05
8/1/2021	-0.05159	-0.15589	-0.00763	-0.09398	0.061538	-0.0625	-0.05381	0.077381	0.094017	0.201299	0.049383	0.05848	0.021739	0.026316
9/1/2021	-0.04184	-0.08108	0.176923	-0.00415	0.149758	0.222222	0.308057	0.20442	0.03125	-0.11351	0.085294	0.082873	0.287234	0.102564
10/1/2021	0.021834	0.034314	-0.00654	0.0125	0.268908	-0.06364	-0.02899	0.105505	0.151515	0.109756	0.02981	-0.0051	0.028926	0.054264
11/1/2021	-0.01709	-0.07346	-0.08553	0.127572	-0.00662	-0.07767	-0.02985	-0.06224	-0.10526	-0.12088	0.05	0.035897	-0.06827	0.022059
12/1/2021	-0.02174	-0.08951	-0.00719	-0.11314	-0.08333	-0.08421	0.042308	-0.12389	-0.08824	-0.09375	0.012531	-0.05941	-0.04741	-0.11511
1/1/2022	-0.21333	-0.13202	0	-0.09465	0.003636	-0.08621	0.051661	-0.06061	-0.1129	-0.07241	0.037129	-0.08947	-0.06335	-0.08943
2/1/2022	0.254237	0.07767	0.130435	-0.04545	0.043478	0.006289	0.101754	0.026882	0	0.070632	0.0358	-0.04046	-0.02415	-0.04464
3/1/2022	0.099099	-0.03604	-0.05769	-0.17143	-0.02431	0.06875	0.047771	0.041885	-0.01818	-0.07639	0.0553	0.10241	-0.01485	0.018692
4/1/2022	0.065574	-0.01558	-0.0068	-0.1523	0.032028	-0.05263	0.161094	-0.0603	-0.05556	-0.03759	0.008734	-0.00546	-0.04523	-0.02752
5/1/2022	-0.03462	-0.08861	0.054795	0.023729	0.241379	0.012346	0.185864	0	0.058824	0.140625	-0.0671	-0.02747	0.015789	0
E (R_i)	0.007913	-0.01745	0.004227	-0.03804	0.046497	-0.00164	0.067153	-0.00936	-0.01737	-0.01686	0.020096	-0.00664	-0.01569	-0.02148
Varians (σ²)	0.013024	0.012568	0.007072	0.013763	0.013816	0.015335	0.013205	0.011433	0.00757	0.014457	0.002421	0.00402	0.013013	0.005451
Standar Deviasi (σ)	0.114124	0.112106	0.084098	0.117315	0.117543	0.123836	0.114914	0.106923	0.087007	0.120236	0.049206	0.063402	0.114074	0.073829

Sumber: Data diolah, penulis (2022)

Lampiran 4

**REALIZED RETURN, EXPECTED RETURN, STANDARD DEVIATION,
DAN VARIANCE IHSG**

NO	BULAN	HARGA PENUTUPAN	REALIZED RETURN
1	5/1/2021	5947.462891	
2	6/1/2021	5985.48877	0.00639363
3	7/1/2021	6070.039063	0.014125879
4	8/1/2021	6150.298828	0.013222281
5	9/1/2021	6286.942871	0.022217464
6	10/1/2021	6591.346191	0.048418337
7	11/1/2021	6533.932129	-0.008710521
8	12/1/2021	6581.481934	0.007277364
9	1/1/2022	6631.150879	0.007546772
10	2/1/2022	6888.170898	0.038759489
11	3/1/2022	7071.441895	0.026606627
12	4/1/2022	7228.914063	0.022268749
13	5/1/2022	7148.970215	-0.011058901
E (Rm)			0.0156
Varians (σ^2)			0.0003
Standar Deviasi(σ)			0.0175

Sumber: www.yahooofinance.com diolah oleh peneliti, (2022)

Lampiran 5

PERHITUNGAN KOVARIAN MASING-MASING SAHAM

ANTM

No	Ri	E (Ri)	Ri - E(Ri)	Rm	E (Rm)	Rm - E(Rm)	$\sigma_{im} = (R_i - E(R_i)) - (R_m - E(R_m))$
1	-0.0612	0.00791	-0.0691	0.00639	0.0156	-0.0092	0.00064
2	0.09565	0.00791	0.08774	0.01413	0.0156	-0.0015	-0.00013
3	-0.0516	0.00791	-0.0595	0.01322	0.0156	-0.0024	0.00014
4	-0.0418	0.00791	-0.0498	0.02222	0.0156	0.00663	-0.00033
5	0.02183	0.00791	0.01392	0.04842	0.0156	0.03283	0.00046
6	-0.0171	0.00791	-0.025	-0.0087	0.0156	-0.0243	0.00061
7	-0.0217	0.00791	-0.0297	0.00728	0.0156	-0.0083	0.00025
8	-0.2133	0.00791	-0.2212	0.00755	0.0156	-0.008	0.00178
9	0.25424	0.00791	0.24632	0.03876	0.0156	0.02317	0.00571
10	0.0991	0.00791	0.09119	0.02661	0.0156	0.01102	0.001
11	0.06557	0.00791	0.05766	0.02227	0.0156	0.00668	0.00039
12	-0.0346	0.00791	-0.0425	-0.0111	0.0156	-0.0266	0.00113
Total							0.00097

Sumber: Data diolah, penulis (2022)

ELSA

No	Ri	E (Ri)	Ri - E(Ri)	Rm	E (Rm)	Rm - E(Rm)	$\sigma_{im} = (R_i - E(R_i)) - (R_m - E(R_m))$
1	-0.125	0.00423	-0.1292	0.00639	0.0156	-0.0092	0.00119
2	-0.015	0.00423	-0.0193	0.01413	0.0156	-0.0015	2.8E-05
3	-0.0076	0.00423	-0.0119	0.01322	0.0156	-0.0024	2.8E-05
4	0.17692	0.00423	0.1727	0.02222	0.0156	0.00663	0.00114
5	-0.0065	0.00423	-0.0108	0.04842	0.0156	0.03283	-0.00035
6	-0.0855	0.00423	-0.0898	-0.0087	0.0156	-0.0243	0.00218
7	-0.0072	0.00423	-0.0114	0.00728	0.0156	-0.0083	9.5E-05
8	0	0.00423	-0.0042	0.00755	0.0156	-0.008	3.4E-05
9	0.13043	0.00423	0.12621	0.03876	0.0156	0.02317	0.00292
10	-0.0577	0.00423	-0.0619	0.02661	0.0156	0.01102	-0.00068
11	-0.0068	0.00423	-0.011	0.02227	0.0156	0.00668	-7.4E-05
12	0.05479	0.00423	0.05057	-0.0111	0.0156	-0.0266	-0.00135
Total							0.00043

Sumber: Data diolah, penulis (2022)

PGAS

No	Ri	E (Ri)	Ri - E(Ri)	Rm	E (Rm)	Rm - E(Rm)	$\sigma_{im} = (R_i - E(R_i)) - (R_m - E(R_m))$
1	-0.0987	0.0465	-0.1452	0.00639	0.0156	-0.0092	0.00133
2	-0.0299	0.0465	-0.0763	0.01413	0.0156	-0.0015	0.00011
3	0.06154	0.0465	0.01504	0.01322	0.0156	-0.0024	-3.6E-05
4	0.14976	0.0465	0.10326	0.02222	0.0156	0.00663	0.00068
5	0.26891	0.0465	0.22241	0.04842	0.0156	0.03283	0.0073
6	-0.0066	0.0465	-0.0531	-0.0087	0.0156	-0.0243	0.00129
7	-0.0833	0.0465	-0.1298	0.00728	0.0156	-0.0083	0.00108
8	0.00364	0.0465	-0.0429	0.00755	0.0156	-0.008	0.00034
9	0.04348	0.0465	-0.003	0.03876	0.0156	0.02317	-7E-05
10	-0.0243	0.0465	-0.0708	0.02661	0.0156	0.01102	-0.00078
11	0.03203	0.0465	-0.0145	0.02227	0.0156	0.00668	-9.7E-05
12	0.24138	0.0465	0.19488	-0.0111	0.0156	-0.0266	-0.00519
Total							0.0005

Sumber: Data diolah, penulis (2022)

PTBA

No	Ri	E (Ri)	Ri - E(Ri)	Rm	E (Rm)	Rm - E(Rm)	$\sigma_{im} = (R_i - E(R_i)) - (R_m - E(R_m))$
1	-0.095	0.06715	-0.1622	0.00639	0.01559	-0.0092	0.00149
2	0.115	0.06715	0.04785	0.01413	0.01559	-0.0015	-7E-05
3	-0.0538	0.06715	-0.121	0.01322	0.01559	-0.0024	0.00029
4	0.30806	0.06715	0.2409	0.02222	0.01559	0.00663	0.0016
5	-0.029	0.06715	-0.0961	0.04842	0.01559	0.03283	-0.00316
6	-0.0299	0.06715	-0.097	-0.0087	0.01559	-0.0243	0.00236
7	0.04231	0.06715	-0.0248	0.00728	0.01559	-0.0083	0.00021
8	0.05166	0.06715	-0.0155	0.00755	0.01559	-0.008	0.00012
9	0.10175	0.06715	0.0346	0.03876	0.01559	0.02317	0.0008
10	0.04777	0.06715	-0.0194	0.02661	0.01559	0.01102	-0.00021
11	0.16109	0.06715	0.09394	0.02227	0.01559	0.00668	0.00063
12	0.18586	0.06715	0.11871	-0.0111	0.01559	-0.0266	-0.00316
Total							7.4E-05

Sumber: Data diolah, penulis (2022)

TLKM

No	Ri	E (Ri)	Ri - E(Ri)	Rm	E (Rm)	Rm - E(Rm)	$\sigma_{im} = (R_i - E(R_i)) - (R_m - E(R_m))$
1	-0.0987	0.0201	-0.1044	0.00639	0.01559	-0.0843	0.00096
2	-0.0299	0.0201	0.00848	0.01413	0.01559	0.02857	-1.2E-05
3	0.06154	0.0201	0.02929	0.01322	0.01559	0.04938	-6.9E-05
4	0.14976	0.0201	0.0652	0.02222	0.01559	0.08529	0.00043
5	0.26891	0.0201	0.00971	0.04842	0.01559	0.02981	0.00032
6	-0.0066	0.0201	0.0299	-0.0087	0.01559	0.05	-0.00073
7	-0.0833	0.0201	-0.0076	0.00728	0.01559	0.01253	6.3E-05
8	0.00364	0.0201	0.01703	0.00755	0.01559	0.03713	-0.00014
9	0.04348	0.0201	0.0157	0.03876	0.01559	0.0358	0.00036
10	-0.0243	0.0201	0.0352	0.02661	0.01559	0.0553	0.00039
11	0.03203	0.0201	-0.0114	0.02227	0.01559	0.00873	-7.6E-05
12	0.24138	0.0201	-0.0872	-0.0111	0.01559	-0.0671	0.00232
Total							0.00032

Sumber: Data diolah, penulis (2022)

Lampiran 6

BETA, ALPHA, DAN VARIANCE ERROR RESIDUAL**BETA**

No	EMITEN	σ_{im}	σ_m^2	$\beta_i = \sigma_{im}/\sigma_m^2$
1	ANTM	0.00097	0.0003	3.183758
2	ELSA	0.000431	0.0003	1.413261
3	PGAS	0.0005	0.0003	1.633425
4	PTBA	7.41E-05	0.0003	0.2431
5	TLKM	0.000319	0.0003	1.047078

Sumber: Data diolah, penulis (2022)

ALPHA

No	EMITEN	E (R _i)	β_i	E (R _m)	$\alpha_i = E(R_i) - \beta_i \cdot E(R_m)$
1	ANTM	0.007913	3.18376	0.015589	-0.041717899
2	ELSA	0.004227	1.41326	0.015589	-0.017803757
3	PGAS	0.046497	1.63342	0.015589	0.021033326
4	PTBA	0.067153	0.2431	0.015589	0.06336347
5	TLKM	0.020096	1.04708	0.015589	0.003772949

Sumber: Data diolah, penulis (2022)

VARIANCE ERROR RESIDUAL

No	EMITEN	σ_i^2	σ_m^2	α_i	$\sigma_{ei}^2 = \sigma_i^2 - ((\sigma_m^2 \cdot \alpha_i)^2)$
1	ANTM	0.013024	0.0003	-0.041718	0.013024202
2	ELSA	0.007072	0.0003	-0.017804	0.00707239
3	PGAS	0.013816	0.0003	0.021033	0.013816257
4	PTBA	0.013205	0.0003	0.063363	0.013205199
5	TLKM	0.002421	0.0003	0.003773	0.002421215

Sumber: Data diolah, penulis (2022)

Lampiran 7

RETURN SBI BULANAN

NO	PERIODE	TAHUNAN	BULANAN
1	6/1/2021	3.50 %	0.0029 %
2	7/1/2021	3.50 %	0.0029 %
3	8/1/2021	3.50 %	0.0029 %
4	9/1/2021	3.50 %	0.0029 %
5	10/1/2021	3.50 %	0.0029 %
6	11/1/2021	3.50 %	0.0029 %
7	12/1/2021	3.50 %	0.0029 %
8	1/1/2022	3.50 %	0.0029 %
9	2/1/2022	3.50 %	0.0029 %
10	3/1/2022	3.50 %	0.0029 %
11	4/1/2022	3.50 %	0.0029 %
12	5/1/2022	3.50 %	0.0029 %
JUMLAH			0,0348%
E (Rf)			0,0029%
			0,000029

Sumber: www.bi.go.id, diolah penulis (2022)

Lampiran 8

PERHITUNGAN CUT-OFF RATE

EMITEN	ERB	$A_i = \frac{(E(R_i) - R_{br}) \cdot \beta_i}{\sigma_{\epsilon_i}^2}$	$A_j = \frac{(E(R_j) - R_{br}) \cdot \beta_j}{\sigma_{\epsilon_j}^2}$	$B_i = \frac{\beta_i^2}{\sigma_{\epsilon_i}^2}$	$B_j = \frac{\beta_j^2}{\sigma_{\epsilon_j}^2}$	$C_i = \frac{\sigma_m^2 \sum_{j=1}^i A_j}{1 + \sigma_m^2 \sum_{j=1}^i B_j}$	Ci*
PTBA	0.264239	1.1826	1.1826	4.4753	4.4753	0.000359783	0.0035
PGAS	0.02668	5.1522	6.3348	193.11	197.59	0.001820355	0.0035
TLKM	0.016407	7.4293	13.764	452.82	650.41	0.003499818	0.0035
ANTM	0.001569	1.2215	14.986	778.27	1428.7	0.003180925	0.0035
ELSA	0.000928	0.2619	15.247	282.41	1711.1	0.003053481	0.0035

Sumber: Data diolah, penulis (2022)