

**ANALISIS DAMPAK PEMILIHAN UMUM  
DI SELURUH DUNIA TAHUN 2017-2021 TERHADAP  
VOLATILITAS PASAR SAHAM**



**SUSANTI OCTAVIANI  
NIM: 1805421056**

**Skripsi yang Ditulis untuk Memenuhi Sebagian Persyaratan  
untuk Memperoleh Gelar Sarjana Terapan Administrasi Bisnis**

**PROGRAM STUDI ADMINISTRASI BISNIS TERAPAN  
JURUSAN ADMINISTRASI NIAGA  
POLITEKNIK NEGERI JAKARTA  
2022**



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

## ABSTRAK

SUSANTI OCTAVIANI. Analisis Dampak Pemilihan Umum di Seluruh Dunia Tahun 2017-2021 Terhadap Volatilitas Pasar Saham. Jurusan Administrasi Niaga Politeknik Negeri Jakarta. 2022.

Penelitian ini bertujuan untuk menganalisis karakteristik volatilitas pasar saham dunia bersifat *time varying* pada masa pemilihan umum, perbedaan volatilitas pasar saham pada kondisi pra, saat, dan pasca pada saat pemilihan umum, dan model *univariate* ARCH-GARCH terbaik dalam menggambarkan volatilitas pasar saham pada saat pemilihan umum. Penelitian ini merupakan penelitian kuantitatif, di mana pemilihan sampel penelitian dilakukan menggunakan metode *purposive sampling* dengan beberapa kriteria. Penelitian ini menggunakan data analisis berupa analisis statistik deskriptif dan analisis *time series* yang terdiri dari 10 sampel data *return* dari 10 indeks harga saham gabungan beberapa negara yang berbeda dari tahun 2017 hingga tahun 2022. Hasil penelitian ini menunjukkan bahwa indeks harga saham gabungan yang memiliki tingkat volatilitas tertinggi pada masa pemilihan umum adalah FTSE MIB, sedangkan indeks harga saham gabungan yang memiliki tingkat volatilitas rendah pada masa pemilihan umum adalah MOEX. Volatilitas yang terjadi pada masa pemilihan umum bersifat *time invarying*. Tidak terdapat perbedaan volatilitas antara pra, saat, maupun setelah masa pemilihan umum yang ditunjukkan dengan efek asimetris yang hanya terdapat pada 4 sampel. Model *univariate* yang paling baik dalam menggambarkan volatilitas indeks harga saham gabungan adalah ARCH (1).

**Kata Kunci:** Volatilitas, Pemilihan Umum, ARCH-GARCH, Pasar Saham, *Return*.



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

**ABSTRACT**

SUSANTI OCTAVIANI. *The Impact of Elections around the World on Stock Market Volatility in 2017-2021*. Department of Business Administration, Jakarta State Polytechnic. 2022.

*This study aims to analyze the time-varying characteristics of the world stock market volatility during the general election, the difference in stock market volatility in conditions pre, during, and post during the general election, and the best ARCH-GARCH univariate model for describing stock market volatility during the general election. This research is quantitative research, in which the selection of research samples uses a purposive sampling method with several criteria. This study uses analytical data in the form of descriptive statistical and time series analysis consisting of 10 samples of return data from 10 joint stock price indices of several different countries from 2017 to 2022. The results of this research indicate that the highest volatility in the composite stock price index during the general election is the FTSE MIB, while the composite stock price index which has the lowest volatility during the general election is MOEX. The volatility that occurs during the general election is time invariance. There is no difference in volatility between pre, during, and after the general election period which is indicated by an asymmetric effect that is only found in 4 samples. The best univariate model to describe the volatility of the composite stock price index is ARCH (1).*

**Keywords:** *Volatility, General Election, ARCH-GARCH, Stock Market, Return.*

POLITEKNIK  
NEGERI  
JAKARTA



POLITEKNIK NEGERI JAKARTA  
JURUSAN ADMINISTRASI NIAGA  
PROGRAM STUDI ADMINISTRASI BISNIS TERAPAN

**LEMBAR PERSETUJUAN**

Nama : Susanti Octaviani  
NIM : 1805421056  
Program Studi : Administrasi Bisnis Terapan  
Judul Laporan Tugas Akhir : Analisis Dampak Pemilihan Umum di Seluruh  
Dunia Tahun 2017-2021 Terhadap Volatilitas  
Pasar Saham

Depok, 22 Agustus 2022

Pembimbing I

Husnil Barry, S.E., M.S.M.  
NIP. 19880712014041002

Pembimbing II

Dr. Nidia Sofa, S.Pd.I, M.Pd.  
NIP. 198310222015042001

Mengetahui,  
Ketua Jurusan Administrasi Niaga



Dr. Dra. Iis Mariam, M.Si.  
NIP. 196501311989032001

**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



POLITEKNIK NEGERI JAKARTA  
JURUSAN ADMINISTRASI NIAGA  
PROGRAM STUDI ADMINISTRASI BISNIS TERAPAN

LEMBAR PENGESAHAN

Nama : Susanti Octaviani  
NIM : 1805421056  
Program Studi : Administrasi Bisnis Terapan  
Judul Laporan Tugas Akhir : Analisis Dampak Pemilihan Umum di Seluruh  
Dunia Tahun 2017-2021 Terhadap Volatilitas  
Pasar Saham

Telah berhasil dipertahankan di hadapan tim penguji dan diterima sebagai bagian persyaratan yang diperlukan untuk memperoleh gelar Sarjana Terapan Administrasi Bisnis pada Program Studi Administrasi Bisnis Terapan, Jurusan Administrasi Niaga, Politeknik Negeri Jakarta pada:

Hari : Senin  
Tanggal : 22 Agustus 2022  
Waktu : 09.00-10.00 WIB

TIM PENGUJI

Ketua Sidang : Husnil Barry, S.E., M.S.M  
NIP. 19880712014041002  
Penguji 1 : Riskon Ginting, S.E., M.Si.  
NIP. 196310161990031009  
Penguji 2 : Riza Hadikusuma, M.Ag.  
NIP. 197404032001121002



**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

## PERNYATAAN ORISINALITAS

Dengan ini saya menyatakan bahwa:

1. Skripsi ini merupakan karya asli dan belum pernah diajukan untuk mendapatkan gelar akademik Sarjana Terapan Administrasi Bisnis, baik di Politeknik Negeri Jakarta, maupun di perguruan tinggi lain.
2. Skripsi ini belum dipublikasikan, kecuali secara tertulis dengan jelas dicantumkan sebagai acuan dalam naskah dengan disebutkan nama pengarang dan dicantumkan dalam daftar pustaka.
3. Pernyataan ini saya buat dengan sesungguhnya dan apabila di kemudian hari terdapat penyimpangan dan ketidakbenaran, maka saya bersedia menerima sanksi akademik berupa pencabutan gelar yang telah diperoleh, serta sanksi lainnya dengan norma yang berlaku di Politeknik Negeri Jakarta.

Depok, 22 Agustus 2022

Yang membuat pernyataan,



**Susanti Octaviani**

1805421056



**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

## KATA PENGANTAR

Puji syukur atas kehadiran Tuhan Yang Maha Esa, yang telah memberikan rahmat serta karunia-Nya sehingga penulis berhasil menyelesaikan skripsi dengan judul “**Analisis Dampak Pemilihan Umum di Seluruh Dunia Tahun 2017-2021 Terhadap Volatilitas Pasar Saham**”.

Penulisan skripsi ini bertujuan untuk memenuhi Sebagian persyaratan untuk mendapatkan gelar sarjana terapan di program studi Administrasi Bisnis Terapan Politeknik Negeri Jakarta. Skripsi ini disusun berdasarkan data-data yang diperoleh penulis di bursa efek negara sampel untuk kemudian diolah dan dianalisis selama 3 (tiga) bulan.

Dalam penyusunan skripsi ini, penulis menyadari bahwa ada banyak pihak yang turut membantu dan berpartisipasi di dalam penulisan skripsi ini. Oleh karena itu, penulis ingin mengucapkan terima kasih kepada:

1. Dr. sc. H. Zainal Nur Arifin, Dipl-Ing, HTL, M.T. selaku Direktur Politeknik Negeri Jakarta.
2. Dr. Dra. Iis Mariam, M.Si. selaku Ketua Jurusan Administrasi Niaga.
3. Husnil Barry, S.E., M.S.M. selaku Kepala Program Studi Administrasi Bisnis Terapan (D4) dan Dosen Pembimbing Materi yang telah meluangkan waktu untuk memberikan pengarahan, bimbingan, serta dukungan kepada penulis dalam penyusunan skripsi ini.
4. Dr. Nidia Sofa, S.Pd.I, M.Pd. selaku Dosen Pembimbing Teknis yang telah memberikan arahan dan dukungan kepada penulis sehingga penulis dapat memperbaiki dan menyelesaikan skripsi ini.
5. Seluruh Bapak dan Ibu Dosen Jurusan Administrasi Niaga yang telah memberikan ilmu yang bermanfaat bagi penulis.
6. Ayahanda Asmuin Rais dan Ibunda Sukirah, serta adik-adik penulis yang telah bersedia memberikan restu dan dukungan sehingga penulis dapat menyelesaikan skripsi ini.



## © Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

7. Tim *People Operations* PT Anchor Teknologi Digital (Qoala) yang telah memberikan motivasi dengan memberikan pertanyaan “kapan sidang?” kepada penulis sehingga penulis dapat menyelesaikan skripsi ini sesuai dengan waktu yang telah ditentukan.
8. *Clementine for the emotional support. I would be remiss in not mentioning her because her belief in me has kept my spirits and motivation high during this process.*
9. Teman-teman ABT 2018 atas segala bantuan, dukungan, dan masukan-masukan demi berkembangnya skripsi ini.
10. Seluruh pihak yang tidak dapat penulis sebut satu persatu atas segala bantuan dan dukungan kepada penulis secara langsung maupun tidak langsung.

Penulis menyadari bahwa penyusunan skripsi ini masih belum sempurna, baik dari segi isi maupun penulisan karena keterbatasan dan kemampuan penulis. Oleh karena itu, penulis mengharapkan kritik dan saran yang bersifat membangun dari semua pihak agar menjadi bahan evaluasi bagi penulis dalam membuat penulisan ilmiah selanjutnya.

Akhir kata, penulis mengucapkan terima kasih. Semoga karya ilmiah ini dapat menjadi pengetahuan yang bermanfaat bagi pembaca.

Jakarta, 22 Agustus 2022  
Penulis

Susanti Octaviani  
NIM: 1805421056





**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

**DAFTAR ISI**

<b>ABSTRAK</b> .....	ii
<b>ABSTRACT</b> .....	iii
<b>LEMBAR PERSETUJUAN</b> .....	iv
<b>LEMBAR PENGESAHAN</b> .....	v
<b>PERNYATAAN ORISINALITAS</b> .....	vi
<b>KATA PENGANTAR</b> .....	vii
<b>DAFTAR ISI</b> .....	ix
<b>DAFTAR LAMPIRAN</b> .....	xi
<b>DAFTAR GAMBAR</b> .....	xii
<b>DAFTAR TABEL</b> .....	xiii
<b>BAB I PENDAHULUAN</b> .....	1
1.1 Latar Belakang .....	1
1.2 Identifikasi Masalah .....	7
1.3 Pembatasan Masalah .....	7
1.4 Rumusan Masalah .....	7
1.5 Tujuan Penelitian .....	8
1.6 Manfaat Penelitian .....	8
<b>BAB II LANDASAN TEORI</b> .....	9
2.1 Kerangka Teoretik .....	9
2.1.1 Pasar Saham .....	9
2.1.2 Volatilitas .....	11
2.1.3 Volatilitas <i>Time Series</i> .....	13
2.2 Hasil Penelitian/Jurnal Yang Relevan .....	14
2.3 Deskripsi Konseptual .....	18
2.4 Perumusan Hipotesis .....	19
<b>BAB III METODOLOGI PENELITIAN</b> .....	20
3.1 Waktu dan Tempat Penelitian .....	20
3.2 Metode Penelitian .....	20
3.2.1 Populasi dan Sampel .....	21
3.2.2 Teknik Pengumpulan Data .....	23
3.2.3 Teknik Pengolahan Data .....	24



**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

3.2.4 Teknik Analisis Data .....	25
<b>BAB IV HASIL PENELITIAN DAN PEMBAHASAN.....</b>	<b>31</b>
4.1 Hasil Rekapitulasi Data .....	31
4.2 Hasil Analisis.....	31
4.2.1 Analisis Statistik Deskriptif.....	31
4.2.2 Model ARCH-GARCH Terbaik.....	40
4.2.3 Perbedaan Volatilitas Pada Kondisi Pra, Saat, dan Pasca Masa Pemilihan Umum.....	48
4.3 Pembahasan .....	50
<b>BAB V KESIMPULAN DAN SARAN.....</b>	<b>53</b>
5.1 Kesimpulan.....	53
5.2 Saran .....	54
<b>DAFTAR PUSTAKA.....</b>	<b>55</b>
<b>LAMPIRAN.....</b>	<b>57</b>



**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

**DAFTAR LAMPIRAN**

Lampiran 1. Tabel Data Return Indeks Harga Saham Gabungan Harian .....	57
Lampiran 2. Hasil Analisis Statistik Deskriptif .....	87
Lampiran 3. Volume Rata-Rata Pada Kondisi Pra, Saat, dan Pasca Masa Pemilihan Umum .....	89
Lampiran 4. Hasil Analisis ARCH (1) dan GARCH (1,1) .....	90
Lampiran 5. Perbandingan T-GARCH Pra, Saat, dan Pasca Masa Pemilu .....	104





## DAFTAR GAMBAR

Gambar 1.1 Grafik Indeks Volatilitas CBOE di Sekitar Pemilihan Presiden Amerika Serikat 2020 .....	2
Gambar 1.2 Grafik Indeks Volatilitas Nikkei 225 di Sekitar Pemilihan Perdana Menteri Jepang 2021 .....	4
Gambar 2.1 Kerangka Konseptual .....	18
Gambar 3.1 Alur Pengolahan Data .....	24
Gambar 3.2 Plot Periode Kondisi Pra, Saat, dan Pasca Pemilihan Umum Penelitian.....	25
Gambar 4.1 Sentimen Negatif MOEX .....	35
Gambar 4.2 Sentimen Positif MOEX.....	35
Gambar 4.3 Sentimen Positif CAC 40 .....	36
Gambar 4.4 Sentimen Negatif CAC 40.....	36
Gambar 4.5 Sentimen Positif S&P 500.....	37
Gambar 4.6 Sentimen Negatif S&P 500 .....	37
Gambar 4.7 Sentimen Negatif FTSE MIB .....	38
Gambar 4.8 Sentimen Positif FTSE MIB .....	38

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

**DAFTAR TABEL**

Tabel 2.1 Hasil Penelitian Terdahulu .....	14
Tabel 3.1 Kriteria Sampel Penelitian .....	22
Tabel 3.2 Daftar Sampel Penelitian .....	22
Tabel 4.1 Hasil Statistik Deskriptif Pra Pemilihan Umum .....	32
Tabel 4.2 Hasil Analisis Statistik Deskriptif Pra Pemilihan Umum .....	32
Tabel 4.3 Hasil Statistik Deskriptif Saat Masa Pemilihan Umum.....	33
Tabel 4.4 Hasil Analisis Statistik Deskriptif Saat Masa Pemilihan Umum.....	34
Tabel 4.5 Hasil Statistik Deskriptif Pasca Pemilihan Umum .....	39
Tabel 4.6 Hasil Analisis Statistik Deskriptif Pasca Pemilihan Umum .....	39
Tabel 4.7 Hasil Analisis Model ARCH Seluruh Indeks .....	41
Tabel 4.8 Hasil Analisis Model GARCH Seluruh Indeks .....	41
Tabel 4.9 Model ARCH-GARCH S&P 500 .....	42
Tabel 4.10 Model ARCH-GARCH Nikkei 225 .....	42
Tabel 4.11 Model ARCH-GARCH DAX .....	43
Tabel 4.12 Model ARCH-GARCH MOEX .....	43
Tabel 4.13 Model ARCH-GARCH JKSE.....	44
Tabel 4.14 Model ARCH-GARCH IBOVESPA .....	45
Tabel 4.15 Model ARCH-GARCH FTSE 100 .....	45
Tabel 4.16 Model ARCH-GARCH CAC 40 .....	46
Tabel 4.17 Model ARCH-GARCH BIST 100 .....	46
Tabel 4.18 Model ARCH-GARCH FTSE MIB.....	47
Tabel 4.19 Hasil Analisis Efek Asimetris T-GARCH Pra, Saat, dan Pasca Masa Pemilu .....	49



## DAFTAR PUSTAKA

### Buku

- Ghozali, I. 2016. *Aplikasi Analisis Multivariate Dengan Program IBM SPSS 23*. Semarang: Badan Penerbit Universitas Diponegoro.
- Hasan, Z. 2009. *Economics with Islamic Orientation*. Oxford: Oxford University Press.
- Nasution, M. I., & dkk. 2015. *Bisnis dan Investasi Syariah*. Medan: FEBI UIN-SU PRESS.
- Sudarmanto, E. d. 2021. *Pasar Uang dan Pasar Modal*. Medan: Yayasan Kita Menulis.
- Sugiyono. 2018. *Metode Penelitian Bisnis*. Bandung: Penerbit Alfabeta.

### Jurnal

- Eichler, S., & Plaga, T. 2020. "The Economic Record of the Government and Sovereign Bond and Stock Returns Around National Elections". *Journal Pre-proof*.
- Hartati, & Saluza, I. 2017. "Aplikasi GARCH dalam Mengatasi Volatilitas Pada Data Keuangan". *Jurnal Matematika*, 4.
- Khohir, R. 2020. "Analisis Volatilitas Cryptocurrency untuk Estimasi Value at Risk menggunakan Model GARCH".
- Marcelin, I., Stephen, S.-A., Fanta, F., & Tecklezion, M. 2018. "Political Regimes, Investment, and Electoral Uncertainty". *Research in International Business and Finance*.
- Persson, T., & Tabellini, G. 2005. "Democracy and Development: Devil in the Details".
- Rowena, J., & Hendra. (017. "Earnings Volatility, Kebijakan Dividen, dan Pertumbuhan Asset Berpengaruh Terhadap Volatilitas Harga Saham Pada Perusahaan Manufaktur di BEI Periode 2013-2015". *Jurnal Administrasi Kantor*, 5.
- S, T. W. 2018. "Faktor-Faktor Yang Mempengaruhi Volatilitas Harga Saham Pada Perusahaan Yang Terdaftar di Indeks LQ45". 4.
- Salim, D. F., & Rizal, N. A. 2021. "Portofolio Optimal Beta dan Alpha". *Jurnal Riset Akuntansi dan Keuangan*, 182.

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



#### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

Sumiarti, Martha, S., & Rizki, S. W. 2021. "Pengukuran Value At Risk Dengan Prosedur Volatility Updating Hull and White Berdasarkan Robust Exponentially Weighted Moving Average". *Buletin Ilmiah Matematika, Statistika, dan Terapannya*, 437.

Tim Studi Volatilitas Pasar Modal Indonesia dan Perekonomian Dunia. 2011. "Volatilitas Pasar Modal Indonesia dan Perekonomian Dunia". *Kementerian Keuangan Republik Indonesia, Badan Pengawas Pasar Modal dan Lembaga Keuangan*.

#### Internet

Tim Binus University. (2018, Oktober 7). *Resiko Sistematis*. Binus University, Faculty of Economics & Communication (<https://finance.binus.ac.id/2018/10/resiko-sistematis/> diakses 9 Juni 2022).





LAMPIRAN

Lampiran 1. Tabel Data Return Indeks Harga Saham Gabungan Harian

Table with 18 columns: KONDISI PRA (TANGGAL, S&P 500, RETURN), KONDISI SAAT (TANGGAL, S&P 500, RETURN), KONDISI PASCA (TANGGAL, S&P 500, RETURN), KONDISI PRA (TANGGAL, NIKKEI 225, RETURN), KONDISI SAAT (TANGGAL, NIKKEI 225, RETURN), KONDISI PASCA (TANGGAL, NIKKEI 225, RETURN). Rows contain daily data from 05/11/2018 to 26/12/2018.

- Hak Cipta :
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta





© Hak Cipta milik Politeknik Negeri Jakarta

27/12/2018	\$2,488.83	0.0085	24/12/2019	\$3,223.38	-0.0002	24/12/2020	\$3,703.06	0.0035	12/20/2019	¥23,816.63	-0.0020	12/23/2020	¥26,524.79	0.0033	12/22/2021	¥28,562.21	0.0016
28/12/2018	\$2,485.74	-0.0012	26/12/2019	\$3,239.91	0.0051	28/12/2020	\$3,735.36	0.0087	12/23/2019	¥23,821.11	0.0002	12/24/2020	¥26,668.35	0.0054	12/23/2021	¥28,798.37	0.0082
31/12/2018	\$2,506.85	0.0085	27/12/2019	\$3,240.02	0.0000	29/12/2020	\$3,727.04	-0.0022	12/24/2019	¥23,830.58	0.0004	12/25/2020	¥26,656.61	-0.0004	12/24/2021	¥28,782.59	-0.0005
02/01/2019	\$2,510.03	0.0013	30/12/2019	\$3,221.29	-0.0058	30/12/2020	\$3,732.04	0.0013	12/25/2019	¥23,782.87	-0.0020	12/28/2020	¥26,854.03	0.0074	12/27/2021	¥28,676.46	-0.0037
03/01/2019	\$2,447.89	-0.0251	31/12/2019	\$3,230.78	0.0029	31/12/2020	\$3,756.07	0.0064	12/26/2019	¥23,924.92	0.0060	12/29/2020	¥27,568.15	0.0262	12/28/2021	¥29,069.16	0.0136
04/01/2019	\$2,531.94	0.0338	02/01/2020	\$3,257.85	0.0083	04/01/2021	\$3,700.65	-0.0149	12/27/2019	¥23,837.72	-0.0037	12/30/2020	¥27,444.17	-0.0045	12/29/2021	¥28,906.88	-0.0056
07/01/2019	\$2,549.69	0.0070	03/01/2020	\$3,234.85	-0.0071	05/01/2021	\$3,726.86	0.0071	12/30/2019	¥23,656.62	-0.0076	1/4/2021	¥27,258.38	-0.0068	12/30/2021	¥28,791.71	-0.0040
08/01/2019	\$2,574.41	0.0096	06/01/2020	\$3,246.28	0.0035	06/01/2021	\$3,748.14	0.0057	1/6/2020	¥23,204.86	-0.0193	1/5/2021	¥27,158.63	-0.0037	1/4/2022	¥29,301.79	0.0176
09/01/2019	\$2,584.96	0.0041	07/01/2020	\$3,237.18	-0.0028	07/01/2021	\$3,803.79	0.0147	1/7/2020	¥23,575.72	0.0159	1/6/2021	¥27,055.94	-0.0038	1/5/2022	¥29,332.16	0.0010
10/01/2019	\$2,596.64	0.0045	08/01/2020	\$3,253.05	0.0049	08/01/2021	\$3,824.68	0.0055	1/8/2020	¥23,204.76	-0.0159	1/7/2021	¥27,490.13	0.0159	1/6/2022	¥28,487.87	-0.0292
11/01/2019	\$2,596.26	-0.0001	09/01/2020	\$3,274.70	0.0066	11/01/2021	\$3,799.61	-0.0066	1/9/2020	¥23,739.87	0.0228	1/8/2021	¥28,139.03	0.0233	1/7/2022	¥28,478.56	-0.0003
14/01/2019	\$2,582.61	-0.0053	10/01/2020	\$3,265.35	-0.0029	12/01/2021	\$3,801.19	0.0004	1/10/2020	¥23,850.57	0.0047	1/12/2021	¥28,164.34	0.0009	1/11/2022	¥28,222.48	-0.0090
15/01/2019	\$2,610.30	0.0107	13/01/2020	\$3,288.13	0.0070	13/01/2021	\$3,809.84	0.0023	1/14/2020	¥24,025.17	0.0073	1/13/2021	¥28,456.59	0.0103	1/12/2022	¥28,765.66	0.0191
16/01/2019	\$2,616.10	0.0022	14/01/2020	\$3,283.15	-0.0015	14/01/2021	\$3,795.54	-0.0038	1/15/2020	¥23,916.58	-0.0045	1/14/2021	¥28,698.26	0.0085	1/13/2022	¥28,489.13	-0.0097
17/01/2019	\$2,635.96	0.0076	15/01/2020	\$3,289.29	0.0019	15/01/2021	\$3,768.25	-0.0072	1/16/2020	¥23,933.13	0.0007	1/15/2021	¥28,519.18	-0.0063	1/14/2022	¥28,124.28	-0.0129
18/01/2019	\$2,670.71	0.0131	16/01/2020	\$3,316.81	0.0083	19/01/2021	\$3,798.91	0.0081	1/17/2020	¥24,041.26	0.0045	1/18/2021	¥28,242.21	-0.0098	1/17/2022	¥28,333.52	0.0074
22/01/2019	\$2,632.90	-0.0143	17/01/2020	\$3,329.62	0.0039	20/01/2021	\$3,851.85	0.0138	1/20/2020	¥24,083.51	0.0018	1/19/2021	¥28,633.46	0.0138	1/18/2022	¥28,257.25	-0.0027
23/01/2019	\$2,638.70	0.0022	21/01/2020	\$3,320.79	-0.0027	21/01/2021	\$3,853.07	0.0003	1/21/2020	¥23,864.56	-0.0091	1/20/2021	¥28,523.26	-0.0039	1/19/2022	¥27,467.23	-0.0284
24/01/2019	\$2,642.33	0.0014	22/01/2020	\$3,321.75	0.0003	22/01/2021	\$3,841.47	-0.0030	1/22/2020	¥24,031.35	0.0070	1/21/2021	¥28,756.86	0.0082	1/20/2022	¥27,772.93	0.0111
25/01/2019	\$2,664.76	0.0085	23/01/2020	\$3,325.84	0.0011	25/01/2021	\$3,855.36	0.0036	1/23/2020	¥23,795.44	-0.0099	1/22/2021	¥28,631.45	-0.0044	1/21/2022	¥27,522.26	-0.0091
28/01/2019	\$2,643.85	-0.0079	24/01/2020	\$3,295.47	-0.0091	26/01/2021	\$3,849.62	-0.0015	1/24/2020	¥23,827.18	0.0013	1/25/2021	¥28,822.29	0.0066	1/24/2022	¥27,588.37	0.0024
29/01/2019	\$2,640.00	-0.0015	27/01/2020	\$3,243.63	-0.0159	27/01/2021	\$3,750.77	-0.0260	1/27/2020	¥23,343.51	-0.0205	1/26/2021	¥28,546.18	-0.0096	1/25/2022	¥27,131.34	-0.0167
30/01/2019	\$2,681.05	0.0154	28/01/2020	\$3,276.24	0.0100	28/01/2021	\$3,787.38	0.0097	1/28/2020	¥23,215.71	-0.0055	1/27/2021	¥28,635.21	0.0031	1/26/2022	¥27,011.33	-0.0044
31/01/2019	\$2,704.10	0.0086	29/01/2020	\$3,273.40	-0.0009	29/01/2021	\$3,714.24	-0.0195	1/29/2020	¥23,379.40	0.0070	1/28/2021	¥28,197.42	-0.0154	1/27/2022	¥26,170.30	-0.0316
01/02/2019	\$2,706.53	0.0009	30/01/2020	\$3,283.66	0.0031	01/02/2021	\$3,773.86	0.0159	1/30/2020	¥22,977.75	-0.0173	1/29/2021	¥27,663.39	-0.0191	1/28/2022	¥26,717.34	0.0207
04/02/2019	\$2,724.87	0.0068	31/01/2020	\$3,225.52	-0.0179	02/02/2021	\$3,826.31	0.0138	1/31/2020	¥23,205.18	0.0098	2/1/2021	¥28,091.05	0.0153	1/31/2022	¥27,001.98	0.0106
05/02/2019	\$2,737.70	0.0047	03/02/2020	\$3,248.92	0.0072	03/02/2021	\$3,830.17	0.0010	2/3/2020	¥22,971.94	-0.0101	2/2/2021	¥28,362.17	0.0096	2/1/2022	¥27,078.48	0.0028
06/02/2019	\$2,731.61	-0.0022	04/02/2020	\$3,297.59	0.0149	04/02/2021	\$3,871.74	0.0108	2/4/2020	¥23,084.59	0.0049	2/3/2021	¥28,646.50	0.0100	2/2/2022	¥27,533.60	0.0167
07/02/2019	\$2,706.05	-0.0094	05/02/2020	\$3,334.69	0.0112	05/02/2021	\$3,886.83	0.0039	2/5/2020	¥23,319.56	0.0101	2/4/2021	¥28,341.95	-0.0107	2/3/2022	¥27,241.31	-0.0107
08/02/2019	\$2,707.88	0.0007	06/02/2020	\$3,345.78	0.0033	08/02/2021	\$3,915.59	0.0074	2/6/2020	¥23,873.59	0.0235	2/5/2021	¥28,779.19	0.0153	2/4/2022	¥27,439.99	0.0073
11/02/2019	\$2,709.80	0.0007	07/02/2020	\$3,327.71	-0.0054	09/02/2021	\$3,911.23	-0.0011	2/7/2020	¥23,827.98	-0.0019	2/8/2021	¥29,388.50	0.0210	2/7/2022	¥27,248.87	-0.0070
12/02/2019	\$2,744.73	0.0128	10/02/2020	\$3,352.09	0.0073	10/02/2021	\$3,909.88	-0.0003	2/10/2020	¥23,685.98	-0.0060	2/9/2021	¥29,505.93	0.0040	2/8/2022	¥27,284.52	0.0013
13/02/2019	\$2,753.03	0.0030	11/02/2020	\$3,357.75	0.0017	11/02/2021	\$3,916.38	0.0017	2/12/2020	¥23,861.21	0.0074	2/10/2021	¥29,562.93	0.0019	2/9/2022	¥27,579.87	0.0108
14/02/2019	\$2,745.73	-0.0027	12/02/2020	\$3,379.45	0.0064	12/02/2021	\$3,934.83	0.0047	2/13/2020	¥23,827.73	-0.0014	2/12/2021	¥29,520.07	-0.0015	2/10/2022	¥27,696.08	0.0042
15/02/2019	\$2,775.60	0.0108	13/02/2020	\$3,373.94	-0.0016	16/02/2021	\$3,932.59	-0.0006	2/14/2020	¥23,687.59	-0.0059	2/15/2021	¥30,084.15	0.0189	2/14/2022	¥27,079.59	-0.0225
19/02/2019	\$2,779.76	0.0015	14/02/2020	\$3,380.16	0.0018	17/02/2021	\$3,931.33	-0.0003	2/17/2020	¥23,523.24	-0.0070	2/16/2021	¥30,467.75	0.0127	2/15/2022	¥26,865.19	-0.0079
20/02/2019	\$2,784.70	0.0018	18/02/2020	\$3,370.29	-0.0029	18/02/2021	\$3,913.97	-0.0044	2/18/2020	¥23,193.80	-0.0141	2/17/2021	¥30,292.19	-0.0058	2/16/2022	¥27,460.40	0.0219
21/02/2019	\$2,774.88	-0.0035	19/02/2020	\$3,386.15	0.0047	19/02/2021	\$3,906.71	-0.0019	2/19/2020	¥23,400.70	0.0089	2/18/2021	¥30,236.09	-0.0019	2/17/2022	¥27,232.87	-0.0083
22/02/2019	\$2,792.67	0.0064	20/02/2020	\$3,373.23	-0.0038	22/02/2021	\$3,876.50	-0.0078	2/20/2020	¥23,479.15	0.0033	2/19/2021	¥30,017.92	-0.0072	2/18/2022	¥27,122.07	-0.0041
25/02/2019	\$2,796.11	0.0012	21/02/2020	\$3,337.75	-0.0106	23/02/2021	\$3,881.37	0.0013	2/21/2020	¥23,386.74	-0.0039	2/22/2021	¥30,156.03	0.0046	2/21/2022	¥26,910.87	-0.0078
26/02/2019	\$2,793.90	-0.0008	24/02/2020	\$3,225.89	-0.0341	24/02/2021	\$3,925.43	0.0113	2/25/2020	¥22,605.41	-0.0340	2/24/2021	¥29,671.70	-0.0162	2/22/2022	¥26,449.61	-0.0173
27/02/2019	\$2,792.38	-0.0005	25/02/2020	\$3,128.21	-0.0307	25/02/2021	\$3,829.34	-0.0248	2/26/2020	¥22,426.19	-0.0080	2/25/2021	¥30,168.27	0.0166	2/24/2022	¥25,970.82	-0.0183
28/02/2019	\$2,784.49	-0.0028	26/02/2020	\$3,116.39	-0.0038	26/02/2021	\$3,811.15	-0.0048	2/27/2020	¥21,948.23	-0.0215	2/26/2021	¥28,966.01	-0.0407	2/25/2022	¥26,476.50	0.0193
01/03/2019	\$2,803.69	0.0069	27/02/2020	\$2,978.76	-0.0452	01/03/2021	\$3,901.82	0.0235	2/28/2020	¥21,142.96	-0.0374	3/1/2021	¥29,663.50	0.0238	2/28/2022	¥26,526.82	0.0019
04/03/2019	\$2,792.81	-0.0039	28/02/2020	\$2,954.22	-0.0083	02/03/2021	\$3,870.29	-0.0081	3/2/2020	¥21,344.08	0.0095	3/2/2021	¥29,408.17	-0.0086	3/1/2022	¥26,844.72	0.0119
05/03/2019	\$2,789.65	-0.0011	02/03/2020	\$3,090.23	0.0450	03/03/2021	\$3,819.72	-0.0132	3/3/2020	¥21,082.73	-0.0123	3/3/2021	¥29,559.10	0.0051	3/2/2022	¥26,393.03	-0.0170

Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



**© Hak Cipta milik Politeknik Negeri Jakarta**

06/03/2019	\$2,771.45	-0.0065	03/03/2020	\$3,003.37	-0.0285	04/03/2021	\$3,768.47	-0.0135	3/4/2020	¥21,100.06	0.0008	3/4/2021	¥28,930.11	-0.0215	3/3/2022	¥26,577.27	0.0070
07/03/2019	\$2,748.93	-0.0082	04/03/2020	\$3,130.12	0.0413	05/03/2021	\$3,841.94	0.0193	3/5/2020	¥21,329.12	0.0108	3/5/2021	¥28,864.32	-0.0023	3/4/2022	¥25,985.47	-0.0225
08/03/2019	\$2,743.07	-0.0021	05/03/2020	\$3,023.94	-0.0345	08/03/2021	\$3,821.35	-0.0054	3/6/2020	¥20,749.75	-0.0275	3/8/2021	¥28,743.25	-0.0042	3/7/2022	¥25,221.41	-0.0298
11/03/2019	\$2,783.30	0.0146	06/03/2020	\$2,972.37	-0.0172	09/03/2021	\$3,875.44	0.0141	3/9/2020	¥19,698.76	-0.0520	3/9/2021	¥29,027.94	0.0099	3/8/2022	¥24,790.95	-0.0172
12/03/2019	\$2,791.52	0.0029	09/03/2020	\$2,746.56	-0.0790	10/03/2021	\$3,898.81	0.0060	3/10/2020	¥19,867.12	0.0085	3/10/2021	¥29,036.56	0.0003	3/9/2022	¥24,717.53	-0.0030
13/03/2019	\$2,810.92	0.0069	10/03/2020	\$2,882.23	0.0482	11/03/2021	\$3,939.34	0.0103	3/11/2020	¥19,416.06	-0.0230	3/11/2021	¥29,211.64	0.0060	3/10/2022	¥25,690.40	0.0386
14/03/2019	\$2,808.48	-0.0009	11/03/2020	\$2,741.38	-0.0501	12/03/2021	\$3,943.34	0.0010	3/12/2020	¥18,559.63	-0.0451	3/12/2021	¥29,717.83	0.0172	3/11/2022	¥25,162.78	-0.0208
15/03/2019	\$2,822.48	0.0050	12/03/2020	\$2,480.64	-0.0999	15/03/2021	\$3,968.94	0.0065	3/13/2020	¥17,431.05	-0.0627	3/15/2021	¥29,766.97	0.0017	3/14/2022	¥25,307.85	0.0057
18/03/2019	\$2,832.94	0.0037	13/03/2020	\$2,711.02	0.0888	16/03/2021	\$3,962.71	-0.0016	3/16/2020	¥17,002.04	-0.0249	3/16/2021	¥29,921.09	0.0052	3/15/2022	¥25,346.48	0.0015
19/03/2019	\$2,832.57	-0.0001	16/03/2020	\$2,386.13	-0.1277	17/03/2021	\$3,974.12	0.0029	3/17/2020	¥17,011.53	0.0006	3/17/2021	¥29,914.33	-0.0002	3/16/2022	¥25,762.01	0.0163
20/03/2019	\$2,824.23	-0.0029	17/03/2020	\$2,529.19	0.0582	18/03/2021	\$3,915.46	-0.0149	3/18/2020	¥16,726.55	-0.0169	3/18/2021	¥30,216.75	0.0101	3/17/2022	¥26,652.89	0.0340
21/03/2019	\$2,854.88	0.0108	18/03/2020	\$2,398.10	-0.0532	19/03/2021	\$3,913.10	-0.0006	3/19/2020	¥16,552.83	-0.0104	3/19/2021	¥29,792.05	-0.0142	3/18/2022	¥26,827.43	0.0065
22/03/2019	\$2,800.71	-0.0192	19/03/2020	\$2,409.39	0.0047	22/03/2021	\$3,940.59	0.0070	3/23/2020	¥16,887.78	0.0200	3/22/2021	¥29,174.15	-0.0210	3/22/2022	¥27,224.11	0.0147
25/03/2019	\$2,798.36	-0.0008	20/03/2020	\$2,304.92	-0.0443	23/03/2021	\$3,910.52	-0.0077	3/24/2020	¥18,092.35	0.0689	3/23/2021	¥28,995.92	-0.0061	3/23/2022	¥28,040.16	0.0295
26/03/2019	\$2,818.46	0.0072	23/03/2020	\$2,287.40	-0.0297	24/03/2021	\$3,889.14	-0.0055	3/25/2020	¥19,546.63	0.0773	3/24/2021	¥28,405.52	-0.0206	3/24/2022	¥28,110.39	0.0025
27/03/2019	\$2,805.37	-0.0047	24/03/2020	\$2,447.33	0.0897	25/03/2021	\$3,909.52	0.0052	3/26/2020	¥18,664.60	-0.0462	3/25/2021	¥28,729.88	0.0114	3/25/2022	¥28,149.84	0.0014
28/03/2019	\$2,815.44	0.0036	25/03/2020	\$2,475.56	0.0115	26/03/2021	\$3,974.54	0.0165	3/27/2020	¥19,389.43	0.0381	3/26/2021	¥29,176.70	0.0154	3/28/2022	¥27,943.89	-0.0073
29/03/2019	\$2,834.40	0.0067	26/03/2020	\$2,630.07	0.0605	29/03/2021	\$3,971.09	-0.0009	3/30/2020	¥19,084.97	-0.0158	3/29/2021	¥29,384.52	0.0071	3/29/2022	¥28,252.42	0.0110
01/04/2019	\$2,867.19	0.0115	27/03/2020	\$2,541.47	-0.0343	30/03/2021	\$3,958.55	-0.0032	3/31/2020	¥18,917.01	-0.0088	3/30/2021	¥29,432.70	0.0016	3/30/2022	¥28,027.25	-0.0080
02/04/2019	\$2,867.24	0.0000	30/03/2020	\$2,626.65	0.0330	31/03/2021	\$3,972.89	0.0036	4/1/2020	¥18,065.41	-0.0461	3/31/2021	¥29,178.80	-0.0087	3/31/2022	¥27,821.43	-0.0074
03/04/2019	\$2,873.40	0.0021	31/03/2020	\$2,584.59	-0.0161	01/04/2021	\$4,019.87	0.0118	4/2/2020	¥17,818.72	-0.0137	4/1/2021	¥29,388.87	0.0072	4/1/2022	¥27,665.98	-0.0056
04/04/2019	\$2,879.39	0.0021	01/04/2020	\$2,470.50	-0.0451	05/04/2021	\$4,077.91	0.0143	4/3/2020	¥17,820.19	0.0001	4/2/2021	¥29,854.00	0.0157	4/4/2022	¥27,736.47	0.0025
05/04/2019	\$2,892.74	0.0046	02/04/2020	\$2,526.90	0.0226	06/04/2021	\$4,073.94	-0.0010	4/6/2020	¥18,576.30	0.0416	4/5/2021	¥30,089.25	0.0078	4/5/2022	¥27,787.98	0.0019
08/04/2019	\$2,895.77	0.0010	03/04/2020	\$2,488.65	-0.0153	07/04/2021	\$4,079.95	0.0015	4/7/2020	¥18,950.18	0.0199	4/6/2021	¥29,696.63	-0.0131	4/6/2022	¥27,350.30	-0.0159
09/04/2019	\$2,878.20	-0.0061	06/04/2020	\$2,663.68	0.0680	08/04/2021	\$4,097.17	0.0042	4/8/2020	¥19,353.24	0.0210	4/7/2021	¥29,730.79	0.0011	4/7/2022	¥26,888.57	-0.0170
10/04/2019	\$2,888.21	0.0035	07/04/2020	\$2,659.41	-0.0016	09/04/2021	\$4,128.80	0.0077	4/9/2020	¥19,348.77	-0.0004	4/8/2021	¥29,708.98	-0.0007	4/8/2022	¥26,985.80	0.0036
11/04/2019	\$2,888.32	0.0000	08/04/2020	\$2,749.98	0.0335	12/04/2021	\$4,127.99	-0.0002	4/10/2020	¥19,498.50	0.0079	4/9/2021	¥29,768.06	0.0020	4/11/2022	¥26,821.52	-0.0061
12/04/2019	\$2,907.41	0.0066	09/04/2020	\$2,789.82	0.0144	13/04/2021	\$4,141.59	0.0033	4/13/2020	¥19,043.40	-0.0236	4/12/2021	¥29,538.73	-0.0077	4/12/2022	¥26,334.98	-0.0183
15/04/2019	\$2,905.58	-0.0006	13/04/2020	\$2,761.63	-0.0102	14/04/2021	\$4,124.66	-0.0041	4/14/2020	¥19,638.81	0.0308	4/13/2021	¥29,751.61	0.0072	4/13/2022	¥26,843.49	0.0191
16/04/2019	\$2,907.06	0.0005	14/04/2020	\$2,846.06	0.0301	15/04/2021	\$4,170.42	0.0110	4/15/2020	¥19,550.09	-0.0045	4/14/2021	¥29,620.99	-0.0044	4/14/2022	¥27,172.00	0.0122
17/04/2019	\$2,900.45	-0.0023	15/04/2020	\$2,783.36	-0.0223	16/04/2021	\$4,185.47	0.0036	4/16/2020	¥19,290.20	-0.0134	4/15/2021	¥29,642.69	0.0007	4/15/2022	¥27,093.19	-0.0029
18/04/2019	\$2,905.03	0.0016	16/04/2020	\$2,799.55	0.0058	19/04/2021	\$4,163.26	-0.0053	4/17/2020	¥19,897.26	0.0310	4/16/2021	¥29,683.37	0.0014	4/18/2022	¥26,799.71	-0.0109
22/04/2019	\$2,907.97	0.0010	17/04/2020	\$2,874.56	0.0264	20/04/2021	\$4,134.94	-0.0068	4/20/2020	¥19,669.12	-0.0115	4/19/2021	¥29,685.37	0.0001	4/19/2022	¥26,985.09	0.0069
23/04/2019	\$2,933.68	0.0088	20/04/2020	\$2,823.16	-0.0180	21/04/2021	\$4,173.42	0.0093	4/21/2020	¥19,280.78	-0.0199	4/20/2021	¥29,100.38	-0.0199	4/20/2022	¥27,217.85	0.0086
24/04/2019	\$2,927.25	-0.0022	21/04/2020	\$2,736.56	-0.0312	22/04/2021	\$4,134.98	-0.0093	4/22/2020	¥19,137.95	-0.0074	4/21/2021	¥28,508.55	-0.0205	4/21/2022	¥27,553.06	0.0122
25/04/2019	\$2,926.17	-0.0004	22/04/2020	\$2,799.31	0.0227	23/04/2021	\$4,180.17	0.0109	4/23/2020	¥19,429.44	0.0151	4/22/2021	¥29,188.17	0.0236	4/22/2022	¥27,105.26	-0.0164
26/04/2019	\$2,939.88	0.0047	23/04/2020	\$2,797.80	-0.0005	26/04/2021	\$4,187.62	0.0018	4/24/2020	¥19,262.00	-0.0087	4/23/2021	¥29,020.63	-0.0058	4/25/2022	¥26,590.78	-0.0192
29/04/2019	\$2,943.03	0.0011	24/04/2020	\$2,836.74	0.0138	27/04/2021	\$4,186.72	-0.0002	4/27/2020	¥19,783.22	0.0267	4/26/2021	¥29,126.23	0.0036	4/26/2022	¥26,700.11	0.0041
30/04/2019	\$2,945.83	0.0010	27/04/2020	\$2,878.48	0.0146	28/04/2021	\$4,183.18	-0.0008	4/28/2020	¥19,771.19	-0.0006	4/27/2021	¥28,991.89	-0.0046	4/27/2022	¥26,386.63	-0.0118
01/05/2019	\$2,923.73	-0.0075	28/04/2020	\$2,863.39	-0.0053	29/04/2021	\$4,211.47	0.0067	4/30/2020	¥20,193.69	0.0211	4/28/2021	¥29,053.97	0.0021	4/28/2022	¥26,847.90	0.0173
02/05/2019	\$2,917.52	-0.0021	29/04/2020	\$2,939.51	0.0262	30/04/2021	\$4,181.17	-0.0072	5/1/2020	¥19,619.35	-0.0289	4/30/2021	¥28,812.63	-0.0083	5/2/2022	¥26,818.53	-0.0011
03/05/2019	\$2,945.64	0.0096	30/04/2020	\$2,912.43	-0.0093	03/05/2021	\$4,192.66	0.0027	5/7/2020	¥19,674.77	0.0028	5/6/2021	¥29,331.37	0.0178	5/6/2022	¥27,003.56	0.0069
06/05/2019	\$2,932.47	-0.0045	01/05/2020	\$2,830.71	-0.0285	04/05/2021	\$4,164.66	-0.0067	5/8/2020	¥20,179.09	0.0253	5/7/2021	¥29,357.82	0.0009	5/9/2022	¥26,319.34	-0.0257
07/05/2019	\$2,884.05	-0.0166	04/05/2020	\$2,842.74	0.0042	05/05/2021	\$4,167.59	0.0007	5/11/2020	¥20,390.66	0.0104	5/10/2021	¥29,518.34	0.0055	5/10/2022	¥26,167.10	-0.0058
08/05/2019	\$2,879.42	-0.0016	05/05/2020	\$2,868.44	0.0090	06/05/2021	\$4,201.62	0.0081	5/12/2020	¥20,366.48	-0.0012	5/11/2021	¥28,608.59	-0.0313	5/11/2022	¥26,213.64	0.0018
09/05/2019	\$2,870.72	-0.0030	06/05/2020	\$2,848.42	-0.0070	07/05/2021	\$4,232.60	0.0073	5/13/2020	¥20,267.05	-0.0049	5/12/2021	¥28,147.51	-0.0162	5/12/2022	¥25,748.72	-0.0179

NEGERI  
JAKARTA

**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumpulkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

10/05/2019	\$2.881.40	0.0037	07/05/2020	\$2.881.19	0.0114	10/05/2021	\$4.188.43	-0.0105	5/14/2020	¥19,914.78	-0.0175	5/13/2021	¥27,448.01	-0.0252	5/13/2022	¥26,427.65	0.0260
13/05/2019	\$2.811.87	-0.0244	08/05/2020	\$2.929.80	0.0167	11/05/2021	\$4.152.10	-0.0087	5/15/2020	¥20,037.47	0.0061	5/14/2021	¥28,084.47	0.0229	5/16/2022	¥26,547.05	0.0045
14/05/2019	\$2.834.41	0.0080	11/05/2020	\$2.930.19	0.0001	12/05/2021	\$4,063.04	-0.0217	5/18/2020	¥20,133.73	0.0048	5/17/2021	¥27,824.83	-0.0093	5/17/2022	¥26,659.75	0.0042
15/05/2019	\$2.850.96	0.0058	12/05/2020	\$2,870.12	-0.0207	13/05/2021	\$4,112.50	0.0121	5/19/2020	¥20,433.45	0.0148	5/18/2021	¥28,406.84	0.0207	5/18/2022	¥26,911.20	0.0094
16/05/2019	\$2,876.32	0.0089	13/05/2020	\$2,820.00	-0.0176	14/05/2021	\$4,173.85	0.0148	5/20/2020	¥20,595.15	0.0079	5/19/2021	¥28,044.45	-0.0128	5/19/2022	¥26,402.84	-0.0191
17/05/2019	\$2,859.53	-0.0059	14/05/2020	\$2,852.50	0.0115	17/05/2021	\$4,163.29	-0.0025	5/21/2020	¥20,552.31	-0.0021	5/20/2021	¥28,098.25	0.0019	5/20/2022	¥26,739.03	0.0127
20/05/2019	\$2,840.23	-0.0068	15/05/2020	\$2,863.70	0.0039	18/05/2021	\$4,127.83	-0.0086	5/22/2020	¥20,388.16	-0.0080	5/21/2021	¥28,317.83	0.0078	5/23/2022	¥27,001.52	0.0098
21/05/2019	\$2,864.36	0.0085	18/05/2020	\$2,953.91	0.0310	19/05/2021	\$4,115.68	-0.0029	5/25/2020	¥20,741.65	0.0172	5/24/2021	¥28,364.61	0.0017	5/24/2022	¥26,748.14	-0.0094
22/05/2019	\$2,856.27	-0.0028	19/05/2020	\$2,922.94	-0.0105	20/05/2021	\$4,159.12	0.0105	5/26/2020	¥21,271.17	0.0252	5/25/2021	¥28,553.98	0.0067	5/25/2022	¥26,677.80	-0.0026
23/05/2019	\$2,822.24	-0.0120	20/05/2020	\$2,971.61	0.0165	21/05/2021	\$4,155.86	-0.0008	5/27/2020	¥21,419.23	0.0069	5/26/2021	¥28,642.19	0.0031	5/26/2022	¥26,604.84	-0.0027
24/05/2019	\$2,826.06	0.0014	21/05/2020	\$2,948.51	-0.0078	24/05/2021	\$4,197.05	0.0099	5/28/2020	¥21,916.31	0.0229	5/27/2021	¥28,549.01	-0.0033	5/27/2022	¥26,781.68	0.0066
28/05/2019	\$2,802.39	-0.0084	22/05/2020	\$2,955.45	0.0024	25/05/2021	\$4,188.13	-0.0021	5/29/2020	¥21,877.89	-0.0018	5/28/2021	¥29,149.41	0.0208	5/30/2022	¥27,369.43	0.0217
29/05/2019	\$2,783.02	-0.0069	26/05/2020	\$2,991.77	0.0122	26/05/2021	\$4,195.99	0.0019	6/1/2020	¥22,062.39	0.0084	5/31/2021	¥28,860.08	-0.0100	5/31/2022	¥27,279.80	-0.0033
30/05/2019	\$2,788.86	0.0021	27/05/2020	\$3,036.13	0.0147	27/05/2021	\$4,200.88	0.0012	6/2/2020	¥22,325.61	0.0119	6/1/2021	¥28,814.34	-0.0016	6/1/2022	¥27,457.89	0.0065
31/05/2019	\$2,752.06	-0.0133	28/05/2020	\$3,029.73	-0.0021	28/05/2021	\$4,204.11	0.0008	6/3/2020	¥22,613.76	0.0128	6/2/2021	¥28,946.14	0.0046	6/2/2022	¥27,413.88	-0.0016
03/06/2019	\$2,744.45	-0.0028	29/05/2020	\$3,044.31	0.0048	01/06/2021	\$4,202.04	-0.0005	6/4/2020	¥22,695.74	0.0036	6/3/2021	¥29,058.11	0.0039	6/3/2022	¥27,761.57	0.0126
04/06/2019	\$2,803.27	0.0212	01/06/2020	\$3,055.73	0.0037	02/06/2021	\$4,208.12	0.0014	6/5/2020	¥22,863.73	0.0074	6/4/2021	¥28,941.52	-0.0040	6/6/2022	¥27,915.89	0.0055
05/06/2019	\$2,826.15	0.0081	02/06/2020	\$3,080.82	0.0082	03/06/2021	\$4,192.85	-0.0036	6/8/2020	¥23,178.10	0.0137	6/7/2021	¥29,019.24	0.0027	6/7/2022	¥27,943.95	0.0010
06/06/2019	\$2,843.49	0.0061	03/06/2020	\$3,122.87	0.0136	04/06/2021	\$4,229.89	0.0088	6/9/2020	¥23,091.03	-0.0038	6/8/2021	¥28,963.56	-0.0019	6/8/2022	¥28,234.29	0.0103
07/06/2019	\$2,873.34	0.0104	04/06/2020	\$3,112.85	-0.0034	07/06/2021	\$4,226.52	-0.0008	6/10/2020	¥23,124.95	0.0015	6/9/2021	¥28,860.80	-0.0036	6/9/2022	¥28,246.53	0.0004
10/06/2019	\$2,886.73	0.0046	05/06/2020	\$3,193.93	0.0259	08/06/2021	\$4,227.26	0.0002	6/11/2020	¥22,472.91	-0.0286	6/10/2021	¥28,958.56	0.0034	6/10/2022	¥27,824.29	-0.0151
11/06/2019	\$2,885.72	-0.0003	08/06/2020	\$3,232.39	0.0120	09/06/2021	\$4,219.55	-0.0018	6/12/2020	¥22,305.48	-0.0075	6/11/2021	¥28,948.73	-0.0003	6/13/2022	¥26,987.44	-0.0305
12/06/2019	\$2,879.84	-0.0020	09/06/2020	\$3,207.18	-0.0078	10/06/2021	\$4,239.18	0.0046	6/15/2020	¥21,530.95	-0.0353	6/14/2021	¥29,161.80	0.0073	6/14/2022	¥26,629.86	-0.0133
13/06/2019	\$2,891.64	0.0041	10/06/2020	\$3,190.14	-0.0053	11/06/2021	\$4,247.44	0.0019	6/16/2020	¥22,582.21	0.0477	6/15/2021	¥29,441.30	0.0095	6/15/2022	¥26,326.16	-0.0115
14/06/2019	\$2,886.98	-0.0016	11/06/2020	\$3,002.10	-0.0608	14/06/2021	\$4,255.15	0.0018	6/17/2020	¥22,455.76	-0.0056	6/16/2021	¥29,291.01	-0.0051	6/16/2022	¥26,431.20	0.0040
17/06/2019	\$2,889.67	0.0009	12/06/2020	\$3,041.31	0.0130	15/06/2021	\$4,246.59	-0.0020	6/18/2020	¥22,355.46	-0.0045	6/17/2021	¥29,018.33	-0.0094	6/17/2022	¥25,963.00	-0.0179
18/06/2019	\$2,917.75	0.0097	15/06/2020	\$3,066.59	0.0083	16/06/2021	\$4,223.70	-0.0054	6/19/2020	¥22,478.79	0.0055	6/18/2021	¥28,964.08	-0.0019	6/20/2022	¥25,771.22	-0.0074
19/06/2019	\$2,926.46	0.0030	16/06/2020	\$3,124.74	0.0188	17/06/2021	\$4,221.86	-0.0004	6/22/2020	¥22,437.27	-0.0018	6/21/2021	¥28,010.93	-0.0335	6/21/2022	¥26,246.31	0.0183
20/06/2019	\$2,954.18	0.0094	17/06/2020	\$3,113.49	-0.0036	18/06/2021	\$4,166.45	-0.0132	6/23/2020	¥22,549.05	0.0050	6/22/2021	¥28,884.13	0.0307	6/22/2022	¥26,149.55	-0.0037
21/06/2019	\$2,950.46	-0.0013	18/06/2020	\$3,115.34	0.0006	21/06/2021	\$4,224.79	0.0139	6/24/2020	¥22,534.32	-0.0007	6/23/2021	¥28,874.89	-0.0003	6/23/2022	¥26,171.25	0.0008
24/06/2019	\$2,945.35	-0.0017	19/06/2020	\$3,097.74	-0.0057	22/06/2021	\$4,246.44	0.0051	6/25/2020	¥22,259.79	-0.0123	6/24/2021	¥28,875.23	0.0000	6/24/2022	¥26,491.97	0.0122
25/06/2019	\$2,917.38	-0.0095	22/06/2020	\$3,117.86	0.0065	23/06/2021	\$4,241.84	-0.0011	6/26/2020	¥22,512.08	0.0113	6/25/2021	¥29,066.18	0.0066	6/27/2022	¥26,871.27	0.0142
26/06/2019	\$2,913.78	-0.0012	23/06/2020	\$3,131.29	0.0043	24/06/2021	\$4,266.49	0.0058	6/29/2020	¥21,995.04	-0.0232	6/28/2021	¥29,048.02	-0.0006	6/28/2022	¥27,049.47	0.0066
27/06/2019	\$2,924.92	0.0038	24/06/2020	\$3,050.33	-0.0262	25/06/2021	\$4,280.70	0.0033	6/30/2020	¥22,288.14	0.0132	6/29/2021	¥28,812.61	-0.0081	6/29/2022	¥26,804.60	-0.0091
28/06/2019	\$2,941.76	0.0057	25/06/2020	\$3,083.76	0.0109	28/06/2021	\$4,290.61	0.0023	7/1/2020	¥22,121.73	-0.0075	6/30/2021	¥28,791.53	-0.0007	6/30/2022	¥26,393.04	-0.0155
01/07/2019	\$2,964.33	0.0076	26/06/2020	\$3,009.05	-0.0245	29/06/2021	\$4,291.80	0.0003	7/2/2020	¥22,145.96	0.0011	7/1/2021	¥28,707.04	-0.0029	7/1/2022	¥25,935.62	-0.0175
02/07/2019	\$2,973.01	0.0029	29/06/2020	\$3,053.24	0.0146	30/06/2021	\$4,297.50	0.0015	7/3/2020	¥22,306.48	0.0072	7/2/2021	¥28,783.28	0.0027	7/4/2022	¥26,153.81	0.0084
03/07/2019	\$2,995.82	0.0076	30/06/2020	\$3,100.29	0.0153	01/07/2021	\$4,319.94	0.0052	7/6/2020	¥22,714.44	0.0181	7/5/2021	¥28,598.19	-0.0065	7/5/2022	¥26,423.47	0.0103
05/07/2019	\$2,990.41	-0.0018	01/07/2020	\$3,115.86	0.0050	02/07/2021	\$4,352.34	0.0075	7/7/2020	¥22,614.69	-0.0044	7/6/2021	¥28,643.21	0.0016	7/6/2022	¥26,107.65	-0.0120
08/07/2019	\$2,975.95	-0.0048	02/07/2020	\$3,130.01	0.0045	06/07/2021	\$4,343.54	-0.0020	7/8/2020	¥22,438.65	-0.0078	7/7/2021	¥28,366.95	-0.0097	7/7/2022	¥26,490.53	0.0146
09/07/2019	\$2,979.63	0.0012	06/07/2020	\$3,179.72	0.0158	07/07/2021	\$4,358.13	0.0034	7/9/2020	¥22,529.29	0.0040	7/8/2021	¥28,118.03	-0.0088	7/8/2022	¥26,517.19	0.0010
10/07/2019	\$2,993.07	0.0045	07/07/2020	\$3,145.82	-0.0109	08/07/2021	\$4,320.82	-0.0086	7/10/2020	¥22,290.81	-0.0106	7/9/2021	¥27,940.42	-0.0063			
11/07/2019	\$2,999.91	0.0023	08/07/2020	\$3,169.94	0.0078	09/07/2021	\$4,369.55	0.0112	7/13/2020	¥22,784.74	0.0219	7/12/2021	¥28,569.02	0.0222			
12/07/2019	\$3,013.77	0.0046	09/07/2020	\$3,152.05	-0.0057	12/07/2021	\$4,384.63	0.0034	7/14/2020	¥22,587.01	-0.0087	7/13/2021	¥28,718.24	0.0052			
15/07/2019	\$3,014.30	0.0002	10/07/2020	\$3,185.04	0.0104	13/07/2021	\$4,369.21	-0.0035	7/15/2020	¥22,945.50	0.0157	7/14/2021	¥28,608.49	-0.0038			
16/07/2019	\$3,004.04	-0.0034	13/07/2020	\$3,155.22	-0.0094	14/07/2021	\$4,374.30	0.0012	7/16/2020	¥22,770.36	-0.0077	7/15/2021	¥28,279.09	-0.0116			

## © Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



© Hak Cipta milik Politeknik Negeri Jakarta

17/07/2019	\$2,984.42	-0.0066	14/07/2020	\$3,197.52	0.0133	15/07/2021	\$4,360.03	-0.0033	7/17/2020	¥22,696.42	-0.0033	7/16/2021	¥28,003.08	-0.0098		
18/07/2019	\$2,995.11	0.0036	15/07/2020	\$3,226.56	0.0090	16/07/2021	\$4,327.16	-0.0076	7/20/2020	¥22,717.48	0.0009	7/19/2021	¥27,652.74	-0.0126		
19/07/2019	\$2,976.61	-0.0062	16/07/2020	\$3,215.57	-0.0034	19/07/2021	\$4,258.49	-0.0160	7/21/2020	¥22,884.22	0.0073	7/20/2021	¥27,388.16	-0.0096		
22/07/2019	\$2,985.03	0.0028	17/07/2020	\$3,224.73	0.0028	20/07/2021	\$4,323.06	0.0150	7/22/2020	¥22,751.61	-0.0058	7/21/2021	¥27,548.00	0.0058		
23/07/2019	\$3,005.47	0.0068	20/07/2020	\$3,251.84	0.0084	21/07/2021	\$4,358.69	0.0082	7/27/2020	¥22,715.85	-0.0016	7/26/2021	¥27,833.29	0.0103		
24/07/2019	\$3,019.56	0.0047	21/07/2020	\$3,257.30	0.0017	22/07/2021	\$4,367.48	0.0020	7/28/2020	¥22,657.38	-0.0026	7/27/2021	¥27,970.22	0.0049		
25/07/2019	\$3,003.67	-0.0053	22/07/2020	\$3,276.02	0.0057	23/07/2021	\$4,411.79	0.0101	7/29/2020	¥22,397.11	-0.0116	7/28/2021	¥27,581.66	-0.0140		
26/07/2019	\$3,025.86	0.0074	23/07/2020	\$3,235.66	-0.0124	26/07/2021	\$4,422.30	0.0024	7/30/2020	¥22,339.23	-0.0026	7/29/2021	¥27,782.42	0.0073		
29/07/2019	\$3,020.97	-0.0016	24/07/2020	\$3,215.63	-0.0062	27/07/2021	\$4,401.46	-0.0047	7/31/2020	¥21,710.00	-0.0286	7/30/2021	¥27,283.59	-0.0181		
30/07/2019	\$3,013.18	-0.0026	27/07/2020	\$3,239.41	0.0074	28/07/2021	\$4,400.64	-0.0002	8/3/2020	¥22,195.38	0.0221	8/2/2021	¥27,781.02	0.0181		
31/07/2019	\$2,980.38	-0.0109	28/07/2020	\$3,218.44	-0.0065	29/07/2021	\$4,419.15	0.0042	8/4/2020	¥22,573.66	0.0169	8/3/2021	¥27,641.83	-0.0050		
01/08/2019	\$2,953.56	-0.0090	29/07/2020	\$3,258.44	0.0124	30/07/2021	\$4,395.26	-0.0054	8/5/2020	¥22,514.85	-0.0026	8/4/2021	¥27,584.08	-0.0021		
02/08/2019	\$2,932.05	-0.0073	30/07/2020	\$3,246.22	-0.0038	02/08/2021	\$4,387.16	-0.0018	8/6/2020	¥22,418.15	-0.0043	8/5/2021	¥27,728.12	0.0052		
05/08/2019	\$2,844.74	-0.0302	31/07/2020	\$3,271.12	0.0076	03/08/2021	\$4,423.15	0.0082	8/7/2020	¥22,329.94	-0.0039	8/6/2021	¥27,820.04	0.0033		
06/08/2019	\$2,881.77	0.0129	03/08/2020	\$3,294.61	0.0072	04/08/2021	\$4,402.66	-0.0046	8/11/2020	¥22,750.24	0.0186	8/10/2021	¥27,888.15	0.0024		
07/08/2019	\$2,883.98	0.0008	04/08/2020	\$3,306.51	0.0036	05/08/2021	\$4,429.10	0.0060	8/12/2020	¥22,843.96	0.0041	8/11/2021	¥28,070.51	0.0065		
08/08/2019	\$2,938.09	0.0186	05/08/2020	\$3,327.77	0.0064	06/08/2021	\$4,436.52	0.0017	8/13/2020	¥23,249.61	0.0176	8/12/2021	¥28,015.02	-0.0020		
09/08/2019	\$2,918.65	-0.0066	06/08/2020	\$3,349.16	0.0064	09/08/2021	\$4,432.35	-0.0009	8/14/2020	¥23,289.36	0.0017	8/13/2021	¥27,977.15	-0.0014		
12/08/2019	\$2,882.70	-0.0124	07/08/2020	\$3,351.28	0.0006	10/08/2021	\$4,436.75	0.0010	8/17/2020	¥23,096.75	-0.0083	8/16/2021	¥27,523.19	-0.0164		
13/08/2019	\$2,926.32	0.0150	10/08/2020	\$3,360.47	0.0027	11/08/2021	\$4,442.41	0.0013	8/18/2020	¥23,051.08	-0.0020	8/17/2021	¥27,424.47	-0.0036		
14/08/2019	\$2,840.60	-0.0297	11/08/2020	\$3,333.69	-0.0080	12/08/2021	\$4,460.83	0.0041	8/19/2020	¥23,110.61	0.0026	8/18/2021	¥27,585.91	0.0059		
15/08/2019	\$2,847.60	0.0025	12/08/2020	\$3,380.35	0.0139	13/08/2021	\$4,468.00	0.0016	8/20/2020	¥22,880.62	-0.0100	8/19/2021	¥27,281.17	-0.0111		
16/08/2019	\$2,888.68	0.0143	13/08/2020	\$3,373.43	-0.0020	16/08/2021	\$4,479.71	0.0026	8/21/2020	¥22,920.30	0.0017	8/20/2021	¥27,013.25	-0.0099		
19/08/2019	\$2,923.65	0.0120	14/08/2020	\$3,372.85	-0.0002	17/08/2021	\$4,448.08	-0.0071	8/24/2020	¥22,985.51	0.0028	8/23/2021	¥27,494.24	0.0176		
20/08/2019	\$2,900.51	-0.0079	17/08/2020	\$3,381.99	0.0027	18/08/2021	\$4,400.27	-0.0108	8/25/2020	¥23,296.77	0.0135	8/24/2021	¥27,732.10	0.0086		
21/08/2019	\$2,924.43	0.0082	18/08/2020	\$3,389.78	0.0023	19/08/2021	\$4,405.80	0.0013	8/26/2020	¥23,290.86	-0.0003	8/25/2021	¥27,724.80	-0.0003		
22/08/2019	\$2,922.95	-0.0005	19/08/2020	\$3,374.85	-0.0044	20/08/2021	\$4,441.67	0.0081	8/27/2020	¥23,208.86	-0.0035	8/26/2021	¥27,742.29	0.0006		
23/08/2019	\$2,847.11	-0.0263	20/08/2020	\$3,385.51	0.0032	23/08/2021	\$4,479.53	0.0085	8/28/2020	¥22,882.65	-0.0142	8/27/2021	¥27,641.14	-0.0037		
26/08/2019	\$2,878.38	0.0109	21/08/2020	\$3,397.16	0.0034	24/08/2021	\$4,486.23	0.0015	8/31/2020	¥23,139.76	0.0112	8/30/2021	¥27,789.29	0.0053		
27/08/2019	\$2,869.16	-0.0032	24/08/2020	\$3,431.28	0.0100	25/08/2021	\$4,496.19	0.0022	9/1/2020	¥23,138.07	-0.0001	8/31/2021	¥28,089.54	0.0107		
28/08/2019	\$2,887.94	0.0065	25/08/2020	\$3,443.62	0.0036	26/08/2021	\$4,470.00	-0.0058	9/2/2020	¥23,247.15	0.0047	9/1/2021	¥28,451.02	0.0128		
29/08/2019	\$2,924.58	0.0126	26/08/2020	\$3,478.73	0.0101	27/08/2021	\$4,509.37	0.0088	9/3/2020	¥23,465.53	0.0093	9/2/2021	¥28,543.51	0.0032		
30/08/2019	\$2,926.46	0.0006	27/08/2020	\$3,484.55	0.0017	30/08/2021	\$4,528.79	0.0043	9/4/2020	¥23,205.43	-0.0111	9/3/2021	¥29,128.11	0.0203		
03/09/2019	\$2,906.27	-0.0069	28/08/2020	\$3,508.01	0.0067	31/08/2021	\$4,522.68	-0.0014	9/7/2020	¥23,089.95	-0.0050	9/6/2021	¥29,659.89	0.0181		
04/09/2019	\$2,937.78	0.0108	31/08/2020	\$3,500.31	-0.0022	01/09/2021	\$4,524.09	0.0003	9/8/2020	¥23,274.13	0.0079	9/7/2021	¥29,916.14	0.0086		
05/09/2019	\$2,976.00	0.0129	01/09/2020	\$3,526.65	0.0075	02/09/2021	\$4,536.95	0.0028	9/9/2020	¥23,032.54	-0.0104	9/8/2021	¥30,181.21	0.0088		
06/09/2019	\$2,978.71	0.0009	02/09/2020	\$3,580.84	0.0152	03/09/2021	\$4,535.43	-0.0003	9/10/2020	¥23,235.47	0.0088	9/9/2021	¥30,008.19	-0.0057		
09/09/2019	\$2,978.43	-0.0001	03/09/2020	\$3,455.06	-0.0358	07/09/2021	\$4,520.03	-0.0034	9/11/2020	¥23,406.49	0.0073	9/10/2021	¥30,381.84	0.0124		
10/09/2019	\$2,979.39	0.0003	04/09/2020	\$3,426.96	-0.0082	08/09/2021	\$4,514.07	-0.0013	9/14/2020	¥23,559.30	0.0065	9/13/2021	¥30,447.37	0.0022		
11/09/2019	\$3,000.93	0.0072	08/09/2020	\$3,331.84	-0.0281	09/09/2021	\$4,493.28	-0.0046	9/15/2020	¥23,454.89	-0.0044	9/14/2021	¥30,670.10	0.0073		
12/09/2019	\$3,009.57	0.0029	09/09/2020	\$3,398.96	0.0199	10/09/2021	\$4,458.58	-0.0078	9/16/2020	¥23,475.53	0.0009	9/15/2021	¥30,511.71	-0.0052		
13/09/2019	\$3,007.39	-0.0007	10/09/2020	\$3,339.19	-0.0177	13/09/2021	\$4,468.73	0.0023	9/17/2020	¥23,319.37	-0.0067	9/16/2021	¥30,323.34	-0.0062		
16/09/2019	\$2,997.96	-0.0031	11/09/2020	\$3,340.97	0.0005	14/09/2021	\$4,443.05	-0.0058	9/18/2020	¥23,360.30	0.0018	9/17/2021	¥30,500.05	0.0058		
17/09/2019	\$3,005.70	0.0026	14/09/2020	\$3,383.54	0.0127	15/09/2021	\$4,480.70	0.0084	9/23/2020	¥23,346.49	-0.0006	9/21/2021	¥29,839.71	-0.0219		
18/09/2019	\$3,006.73	0.0003	15/09/2020	\$3,401.20	0.0052	16/09/2021	\$4,473.75	-0.0016	9/24/2020	¥23,087.82	-0.0111	9/22/2021	¥29,639.40	-0.0067		
19/09/2019	\$3,006.79	0.0000	16/09/2020	\$3,385.49	-0.0046	17/09/2021	\$4,432.99	-0.0092	9/25/2020	¥23,204.62	0.0050	9/24/2021	¥30,248.81	0.0204		

NEGERI  
JAKARTA

Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



© Hak Cipta milik Politeknik Negeri Jakarta

20/09/2019	\$2,992.07	-0.0049	17/09/2020	\$3,357.01	-0.0084	20/09/2021	\$4,357.73	-0.0171	9/28/2020	¥23,511.62	0.0131	9/27/2021	¥30,240.06	-0.0003			
23/09/2019	\$2,991.78	-0.0001	18/09/2020	\$3,319.47	-0.0112	21/09/2021	\$4,354.19	-0.0008	9/29/2020	¥23,539.10	0.0012	9/28/2021	¥30,183.96	-0.0019			
24/09/2019	\$2,966.60	-0.0085	21/09/2020	\$3,281.06	-0.0116	22/09/2021	\$4,395.64	0.0095	9/30/2020	¥23,185.12	-0.0152	9/29/2021	¥29,544.29	-0.0214			
25/09/2019	\$2,984.87	0.0061	22/09/2020	\$3,315.57	0.0105	23/09/2021	\$4,448.98	0.0121	10/2/2020	¥23,029.90	-0.0067	9/30/2021	¥29,452.66	-0.0031			
26/09/2019	\$2,977.62	-0.0024	23/09/2020	\$3,236.92	-0.0240	24/09/2021	\$4,455.48	0.0015	10/5/2020	¥23,312.14	0.0122	10/1/2021	¥28,771.07	-0.0234			
27/09/2019	\$2,961.79	-0.0053	24/09/2020	\$3,246.59	0.0030	27/09/2021	\$4,443.11	-0.0028	10/6/2020	¥23,433.73	0.0052	10/4/2021	¥28,444.89	-0.0114			
30/09/2019	\$2,976.74	0.0050	25/09/2020	\$3,298.46	0.0159	28/09/2021	\$4,352.63	-0.0206	10/7/2020	¥23,422.82	-0.0005	10/5/2021	¥27,822.12	-0.0221			
01/10/2019	\$2,940.25	-0.0123	28/09/2020	\$3,351.60	0.0160	29/09/2021	\$4,359.46	0.0016	10/8/2020	¥23,647.07	0.0095	10/6/2021	¥27,528.87	-0.0106			
02/10/2019	\$2,887.61	-0.0181	29/09/2020	\$3,335.47	-0.0048	30/09/2021	\$4,307.54	-0.0120	10/9/2020	¥23,619.69	-0.0012	10/7/2021	¥27,678.21	0.0054			
03/10/2019	\$2,910.63	0.0079	30/09/2020	\$3,363.00	0.0082	01/10/2021	\$4,357.04	0.0114	10/12/2020	¥23,558.69	-0.0026	10/8/2021	¥28,048.94	0.0133			
04/10/2019	\$2,952.01	0.0141	01/10/2020	\$3,380.80	0.0053	04/10/2021	\$4,300.46	-0.0131	10/13/2020	¥23,601.78	0.0018	10/11/2021	¥28,498.20	0.0159			
07/10/2019	\$2,938.79	-0.0045	02/10/2020	\$3,348.42	-0.0096	05/10/2021	\$4,345.72	0.0105	10/14/2020	¥23,626.73	0.0011	10/12/2021	¥28,230.61	-0.0094			
08/10/2019	\$2,893.06	-0.0157	05/10/2020	\$3,408.60	0.0178	06/10/2021	\$4,363.55	0.0041	10/15/2020	¥23,507.23	-0.0051	10/13/2021	¥28,140.28	-0.0032			
09/10/2019	\$2,919.40	0.0091	06/10/2020	\$3,360.97	-0.0141	07/10/2021	\$4,399.76	0.0083	10/16/2020	¥23,410.63	-0.0041	10/14/2021	¥28,550.93	0.0145			
10/10/2019	\$2,938.13	0.0064	07/10/2020	\$3,419.44	0.0172	08/10/2021	\$4,391.34	-0.0019	10/19/2020	¥23,671.13	0.0111	10/15/2021	¥29,068.63	0.0180			
11/10/2019	\$2,970.27	0.0109	08/10/2020	\$3,446.83	0.0080	11/10/2021	\$4,361.19	-0.0069	10/20/2020	¥23,567.04	-0.0044	10/18/2021	¥29,025.46	-0.0015			
14/10/2019	\$2,966.15	-0.0014	09/10/2020	\$3,477.14	0.0088	12/10/2021	\$4,350.65	-0.0024	10/21/2020	¥23,639.46	0.0031	10/19/2021	¥29,215.52	0.0065			
15/10/2019	\$2,995.68	0.0099	12/10/2020	\$3,534.22	0.0163	13/10/2021	\$4,363.80	0.0030	10/22/2020	¥23,474.27	-0.0070	10/20/2021	¥29,255.55	0.0014			
16/10/2019	\$2,989.69	-0.0020	13/10/2020	\$3,511.93	-0.0063	14/10/2021	\$4,438.26	0.0169	10/23/2020	¥23,516.59	0.0018	10/21/2021	¥28,708.58	-0.0189			
17/10/2019	\$2,997.95	0.0028	14/10/2020	\$3,488.67	-0.0066	15/10/2021	\$4,471.37	0.0074	10/26/2020	¥23,494.34	-0.0009	10/22/2021	¥28,804.85	0.0033			
18/10/2019	\$2,986.20	-0.0039	15/10/2020	\$3,483.34	-0.0015	18/10/2021	\$4,486.46	0.0034	10/27/2020	¥23,485.80	-0.0004	10/25/2021	¥28,600.41	-0.0071			
21/10/2019	\$3,006.72	0.0068	16/10/2020	\$3,483.81	0.0001	19/10/2021	\$4,519.63	0.0074	10/28/2020	¥23,418.51	-0.0029	10/26/2021	¥29,106.01	0.0175			
22/10/2019	\$2,995.99	-0.0036	19/10/2020	\$3,426.92	-0.0165	20/10/2021	\$4,536.19	0.0037	10/29/2020	¥23,331.94	-0.0037	10/27/2021	¥29,098.24	-0.0003			
23/10/2019	\$3,004.52	0.0028	20/10/2020	\$3,443.12	0.0047	21/10/2021	\$4,549.78	0.0030	10/30/2020	¥22,977.13	-0.0153	10/28/2021	¥28,820.09	-0.0096			
24/10/2019	\$3,010.29	0.0019	21/10/2020	\$3,435.56	-0.0022	22/10/2021	\$4,544.90	-0.0011				10/29/2021	¥28,892.69	0.0025			
25/10/2019	\$3,022.55	0.0041	22/10/2020	\$3,453.49	0.0052	25/10/2021	\$4,566.48	0.0047									
28/10/2019	\$3,039.42	0.0056	23/10/2020	\$3,465.39	0.0034	26/10/2021	\$4,574.79	0.0018									
29/10/2019	\$3,036.89	-0.0008	26/10/2020	\$3,400.97	-0.0188	27/10/2021	\$4,551.68	-0.0051									
30/10/2019	\$3,046.77	0.0032	27/10/2020	\$3,390.68	-0.0030	28/10/2021	\$4,596.42	0.0098									
31/10/2019	\$3,037.56	-0.0030	28/10/2020	\$3,271.03	-0.0359	29/10/2021	\$4,605.38	0.0019									
01/11/2019	\$3,066.91	0.0096	29/10/2020	\$3,310.11	0.0119	01/11/2021	\$4,613.67	0.0018									
			30/10/2020	\$3,269.96	-0.0122												

POLITEKNIK  
NEGERI  
JAKARTA

Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



## © Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan tanpa izin Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun

KONDISI PRA			KONDISI SAAT			KONDISI PASCA			KONDISI PRA			KONDISI SAAT			KONDISI PASCA		
TANGGAL	DAX	RETURN	TANGGAL	DAX	RETURN	TANGGAL	DAX	RETURN	TANGGAL	MOEX	RETURN	TANGGAL	MOEX	RETURN	TANGGAL	MOEX	RETURN
9/26/2019	€ 12,289		9/28/2020	€ 12,871		9/27/2021	€ 15,574		16/01/2018	2,258 P		16/01/2019	2,435 P		17/01/2020	3,197 P	
9/27/2019	€ 12,381	0.0075	9/29/2020	€ 12,826	-0.0035	9/28/2021	€ 15,249	-0.0211	17/01/2018	2,278 P	0.0088	17/01/2019	2,448 P	0.0053	20/01/2020	3,220 P	0.0072
9/30/2019	€ 12,428	0.0038	9/30/2020	€ 12,761	-0.0051	9/29/2021	€ 15,365	0.0076	18/01/2018	2,297 P	0.0086	18/01/2019	2,474 P	0.0106	21/01/2020	3,209 P	-0.0033
10/1/2019	€ 12,264	-0.0133	10/1/2020	€ 12,731	-0.0024	9/30/2021	€ 15,261	-0.0068	19/01/2018	2,286 P	-0.0049	21/01/2019	2,468 P	-0.0022	22/01/2020	3,175 P	-0.0108
10/2/2019	€ 11,925	-0.0280	10/2/2020	€ 12,689	-0.0033	10/1/2021	€ 15,186	-0.0069	22/01/2018	2,309 P	0.0097	22/01/2019	2,469 P	0.0002	23/01/2020	3,141 P	-0.0106
10/4/2019	€ 12,013	0.0073	10/5/2020	€ 12,828	0.0109	10/4/2021	€ 15,037	-0.0079	24/01/2018	2,307 P	-0.0007	23/01/2019	2,491 P	0.0092	24/01/2020	3,146 P	0.0016
10/7/2019	€ 12,097	0.0070	10/6/2020	€ 12,906	0.0060	10/5/2021	€ 15,194	0.0104	25/01/2018	2,320 P	0.0056	24/01/2019	2,483 P	-0.0035	27/01/2020	3,085 P	-0.0196
10/8/2019	€ 11,970	-0.0106	10/7/2020	€ 12,929	0.0017	10/6/2021	€ 14,973	-0.0147	26/01/2018	2,295 P	-0.0107	25/01/2019	2,498 P	0.0062	28/01/2020	3,113 P	0.0090
10/9/2019	€ 12,094	0.0103	10/8/2020	€ 13,042	0.0088	10/7/2021	€ 15,251	0.0184	29/01/2018	2,284 P	-0.0048	28/01/2019	2,477 P	-0.0086	29/01/2020	3,129 P	0.0050
10/10/2019	€ 12,164	0.0058	10/9/2020	€ 13,051	0.0007	10/8/2021	€ 15,206	-0.0029	30/01/2018	2,280 P	-0.0017	29/01/2019	2,498 P	0.0087	30/01/2020	3,109 P	-0.0065
10/11/2019	€ 12,512	0.0282	10/12/2020	€ 13,138	0.0067	10/11/2021	€ 15,199	-0.0005	31/01/2018	2,290 P	0.0042	30/01/2019	2,512 P	0.0054	31/01/2020	3,077 P	-0.0103
10/14/2019	€ 12,487	-0.0020	10/13/2020	€ 13,019	-0.0091	10/12/2021	€ 15,147	-0.0034	01/02/2018	2,303 P	0.0055	31/01/2019	2,521 P	0.0037	03/02/2020	3,071 P	-0.0019
10/15/2019	€ 12,630	0.0114	10/14/2020	€ 13,028	0.0007	10/13/2021	€ 15,249	0.0067	02/02/2018	2,282 P	-0.0090	01/02/2019	2,522 P	0.0002	04/02/2020	3,098 P	0.0087
10/16/2019	€ 12,670	0.0032	10/15/2020	€ 12,704	-0.0252	10/14/2021	€ 15,463	0.0139	05/02/2018	2,277 P	-0.0022	04/02/2019	2,524 P	0.0007	05/02/2020	3,114 P	0.0054
10/17/2019	€ 12,655	-0.0012	10/16/2020	€ 12,909	0.0160	10/15/2021	€ 15,587	0.0080	06/02/2018	2,238 P	-0.0171	05/02/2019	2,547 P	0.0094	06/02/2020	3,097 P	-0.0057
10/18/2019	€ 12,634	-0.0017	10/19/2020	€ 12,855	-0.0042	10/18/2021	€ 15,474	-0.0073	07/02/2018	2,255 P	0.0073	06/02/2019	2,540 P	-0.0030	07/02/2020	3,088 P	-0.0029
10/21/2019	€ 12,748	0.0090	10/20/2020	€ 12,737	-0.0092	10/19/2021	€ 15,516	0.0027	08/02/2018	2,227 P	-0.0122	07/02/2019	2,510 P	-0.0118	10/02/2020	3,062 P	-0.0082
10/22/2019	€ 12,755	0.0005	10/21/2020	€ 12,558	-0.0142	10/20/2021	€ 15,523	0.0005	09/02/2018	2,197 P	-0.0136	08/02/2019	2,503 P	-0.0028	11/02/2020	3,098 P	0.0114
10/23/2019	€ 12,798	0.0034	10/22/2020	€ 12,543	-0.0012	10/21/2021	€ 15,473	-0.0032	12/02/2018	2,220 P	0.0104	11/02/2019	2,510 P	0.0030	12/02/2020	3,122 P	0.0079
10/24/2019	€ 12,872	0.0058	10/23/2020	€ 12,646	0.0082	10/22/2021	€ 15,543	0.0045	13/02/2018	2,251 P	0.0136	12/02/2019	2,533 P	0.0092	13/02/2020	3,110 P	-0.0039
10/25/2019	€ 12,895	0.0017	10/26/2020	€ 12,177	-0.0378	10/25/2021	€ 15,599	0.0036	14/02/2018	2,258 P	0.0032	13/02/2019	2,486 P	-0.0190	14/02/2020	3,097 P	-0.0042
10/28/2019	€ 12,942	0.0037	10/27/2020	€ 12,064	-0.0094	10/26/2021	€ 15,757	0.0101	15/02/2018	2,265 P	0.0033	14/02/2019	2,461 P	-0.0101	17/02/2020	3,110 P	0.0042
10/29/2019	€ 12,940	-0.0002	10/28/2020	€ 11,561	-0.0426	10/27/2021	€ 15,706	-0.0033	16/02/2018	2,255 P	-0.0045	15/02/2019	2,490 P	0.0119	18/02/2020	3,074 P	-0.0116
10/30/2019	€ 12,910	-0.0023	10/29/2020	€ 11,598	0.0032	10/28/2021	€ 15,696	-0.0006	19/02/2018	2,255 P	-0.0002	18/02/2019	2,472 P	-0.0072	19/02/2020	3,115 P	0.0131
10/31/2019	€ 12,867	-0.0034	10/30/2020	€ 11,556	-0.0036	10/29/2021	€ 15,689	-0.0005	20/02/2018	2,270 P	0.0067	19/02/2019	2,459 P	-0.0056	20/02/2020	3,125 P	0.0034
11/1/2019	€ 12,961	0.0073	11/2/2020	€ 11,788	0.0199	11/1/2021	€ 15,806	0.0075	21/02/2018	2,320 P	0.0219	20/02/2019	2,488 P	0.0118	21/02/2020	3,106 P	-0.0061
11/4/2019	€ 13,136	0.0134	11/3/2020	€ 12,089	0.0252	11/2/2021	€ 15,954	0.0093	22/02/2018	2,337 P	0.0071	21/02/2019	2,470 P	-0.0071	25/02/2020	3,003 P	-0.0338
11/5/2019	€ 13,149	0.0009	11/4/2020	€ 12,324	0.0193	11/3/2021	€ 15,960	0.0003	26/02/2018	2,353 P	0.0070	22/02/2019	2,489 P	0.0074	26/02/2020	3,017 P	0.0049
11/6/2019	€ 13,180	0.0024	11/5/2020	€ 12,568	0.0196	11/4/2021	€ 16,030	0.0044	27/02/2018	2,342 P	-0.0048	25/02/2019	2,495 P	0.0024	27/02/2020	2,916 P	-0.0342
11/7/2019	€ 13,289	0.0083	11/6/2020	€ 12,480	-0.0070	11/5/2021	€ 16,054	0.0015	28/02/2018	2,297 P	-0.0194	26/02/2019	2,494 P	-0.0002	28/02/2020	2,785 P	-0.0459
11/8/2019	€ 13,229	-0.0046	11/9/2020	€ 13,096	0.0482	11/8/2021	€ 16,047	-0.0005	01/03/2018	2,298 P	0.0005	27/02/2019	2,491 P	-0.0014	02/03/2020	2,766 P	-0.0070
11/11/2019	€ 13,198	-0.0023	11/10/2020	€ 13,163	0.0051	11/9/2021	€ 16,040	-0.0004	02/03/2018	2,289 P	-0.0040	28/02/2019	2,485 P	-0.0022	03/03/2020	2,821 P	0.0199
11/12/2019	€ 13,284	0.0064	11/11/2020	€ 13,216	0.0040	11/10/2021	€ 16,068	0.0017	05/03/2018	2,310 P	0.0090	01/03/2019	2,478 P	-0.0029	04/03/2020	2,828 P	0.0024
11/13/2019	€ 13,230	-0.0040	11/12/2020	€ 13,053	-0.0124	11/11/2021	€ 16,083	0.0010	06/03/2018	2,303 P	-0.0027	04/03/2019	2,474 P	-0.0017	05/03/2020	2,817 P	-0.0040
11/14/2019	€ 13,180	-0.0038	11/13/2020	€ 13,077	0.0018	11/12/2021	€ 16,094	0.0007	07/03/2018	2,291 P	-0.0053	05/03/2019	2,466 P	-0.0031	06/03/2020	2,720 P	-0.0351
11/15/2019	€ 13,242	0.0047	11/16/2020	€ 13,139	0.0047	11/15/2021	€ 16,149	0.0034	09/03/2018	2,312 P	0.0089	06/03/2019	2,494 P	0.0112	10/03/2020	2,499 P	-0.0846
11/18/2019	€ 13,207	-0.0026	11/17/2020	€ 13,133	-0.0004	11/16/2021	€ 16,248	0.0061	12/03/2018	2,318 P	0.0027	07/03/2019	2,477 P	-0.0070	11/03/2020	2,493 P	-0.0024
11/19/2019	€ 13,221	0.0011	11/18/2020	€ 13,202	0.0052	11/17/2021	€ 16,251	0.0002	13/03/2018	2,319 P	0.0006	11/03/2019	2,466 P	-0.0043	12/03/2020	2,286 P	-0.0865
11/20/2019	€ 13,158	-0.0048	11/19/2020	€ 13,086	-0.0088	11/18/2021	€ 16,222	-0.0018	14/03/2018	2,275 P	-0.0192	12/03/2019	2,468 P	0.0009	13/03/2020	2,316 P	0.0130
11/21/2019	€ 13,138	-0.0016	11/20/2020	€ 13,137	0.0039	11/19/2021	€ 16,160	-0.0038	15/03/2018	2,272 P	-0.0012	13/03/2019	2,471 P	0.0010	16/03/2020	2,267 P	-0.0216
11/22/2019	€ 13,164	0.0020	11/23/2020	€ 13,127	-0.0008	11/22/2021	€ 16,116	-0.0027	16/03/2018	2,295 P	0.0097	14/03/2019	2,458 P	-0.0052	17/03/2020	2,225 P	-0.0188
11/25/2019	€ 13,246	0.0063	11/24/2020	€ 13,292	0.0125	11/23/2021	€ 15,937	-0.0111	19/03/2018	2,282 P	-0.0056	15/03/2019	2,477 P	0.0077	18/03/2020	2,113 P	-0.0517



## © Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

11/26/2019	€ 13,236	-0.0008	11/25/2020	€ 13,290	-0.0002	11/24/2021	€ 15,878	-0.0037	20/03/2018	2,291 P	0.0041	18/03/2019	2,484 P	0.0028	19/03/2020	2,276 P	0.0743
11/27/2019	€ 13,287	0.0038	11/26/2020	€ 13,287	-0.0002	11/25/2021	€ 15,918	0.0025	21/03/2018	2,309 P	0.0079	19/03/2019	2,493 P	0.0038	20/03/2020	2,332 P	0.0243
11/28/2019	€ 13,246	-0.0031	11/27/2020	€ 13,336	0.0037	11/26/2021	€ 15,257	-0.0424	22/03/2018	2,286 P	-0.0103	20/03/2019	2,504 P	0.0044	23/03/2020	2,253 P	-0.0341
11/29/2019	€ 13,236	-0.0007	11/30/2020	€ 13,291	-0.0033	11/29/2021	€ 15,281	0.0016	23/03/2018	2,286 P	-0.0001	21/03/2019	2,508 P	0.0014	24/03/2020	2,416 P	0.0697
12/2/2019	€ 12,965	-0.0207	12/1/2020	€ 13,382	0.0068	11/30/2021	€ 15,100	-0.0119	04/04/2018	2,266 P	-0.0088	22/03/2019	2,493 P	-0.0060	25/03/2020	2,453 P	0.0151
12/3/2019	€ 12,989	0.0019	12/2/2020	€ 13,313	-0.0052	12/1/2021	€ 15,473	0.0244	05/04/2018	2,296 P	0.0134	25/03/2019	2,498 P	0.0020	26/03/2020	2,490 P	0.0151
12/4/2019	€ 13,141	0.0116	12/3/2020	€ 13,253	-0.0045	12/2/2021	€ 15,263	-0.0136	06/04/2018	2,281 P	-0.0066	26/03/2019	2,513 P	0.0060	27/03/2020	2,401 P	-0.0363
12/5/2019	€ 13,055	-0.0065	12/4/2020	€ 13,299	0.0035	12/3/2021	€ 15,170	-0.0061	09/04/2018	2,091 P	-0.0871	27/03/2019	2,487 P	-0.0101	30/03/2020	2,433 P	0.0133
12/6/2019	€ 13,167	0.0085	12/7/2020	€ 13,271	-0.0021	12/6/2021	€ 15,381	0.0138	10/04/2018	2,174 P	0.0389	28/03/2019	2,492 P	0.0020	31/03/2020	2,509 P	0.0305
12/9/2019	€ 13,106	-0.0046	12/8/2020	€ 13,278	0.0006	12/7/2021	€ 15,814	0.0278	11/04/2018	2,192 P	0.0084	29/03/2019	2,497 P	0.0019	01/04/2020	2,474 P	-0.0141
12/10/2019	€ 13,071	-0.0027	12/9/2020	€ 13,340	0.0046	12/8/2021	€ 15,687	-0.0081	12/04/2018	2,210 P	0.0081	01/04/2019	2,521 P	0.0096	02/04/2020	2,546 P	0.0288
12/11/2019	€ 13,147	0.0058	12/10/2020	€ 13,296	-0.0033	12/9/2021	€ 15,639	-0.0031	13/04/2018	2,175 P	-0.0159	02/04/2019	2,528 P	0.0026	03/04/2020	2,572 P	0.0103
12/12/2019	€ 13,222	0.0057	12/11/2020	€ 13,114	-0.0137	12/10/2021	€ 15,623	-0.0010	16/04/2018	2,144 P	-0.0146	03/04/2019	2,532 P	0.0018	06/04/2020	2,623 P	0.0194
12/13/2019	€ 13,283	0.0046	12/14/2020	€ 13,223	0.0083	12/13/2021	€ 15,622	-0.0001	17/04/2018	2,191 P	0.0219	04/04/2019	2,536 P	0.0013	07/04/2020	2,635 P	0.0046
12/16/2019	€ 13,408	0.0094	12/15/2020	€ 13,363	0.0105	12/14/2021	€ 15,454	-0.0108	18/04/2018	2,241 P	0.0227	05/04/2019	2,541 P	0.0022	08/04/2020	2,670 P	0.0133
12/17/2019	€ 13,288	-0.0090	12/16/2020	€ 13,566	0.0151	12/15/2021	€ 15,476	0.0015	19/04/2018	2,231 P	-0.0049	08/04/2019	2,560 P	0.0075	09/04/2020	2,702 P	0.0118
12/18/2019	€ 13,222	-0.0050	12/17/2020	€ 13,667	0.0074	12/16/2021	€ 15,636	0.0103	20/04/2018	2,233 P	0.0009	09/04/2019	2,570 P	0.0040	10/04/2020	2,678 P	-0.0089
12/19/2019	€ 13,212	-0.0008	12/18/2020	€ 13,631	-0.0027	12/17/2021	€ 15,532	-0.0067	23/04/2018	2,251 P	0.0082	10/04/2019	2,579 P	0.0032	13/04/2020	2,629 P	-0.0185
12/20/2019	€ 13,319	0.0081	12/21/2020	€ 13,246	-0.0286	12/20/2021	€ 15,240	-0.0190	24/04/2018	2,254 P	0.0012	11/04/2019	2,551 P	-0.0106	14/04/2020	2,632 P	0.0011
12/23/2019	€ 13,301	-0.0013	12/22/2020	€ 13,418	0.0129	12/21/2021	€ 15,447	0.0135	25/04/2018	2,254 P	-0.0001	12/04/2019	2,560 P	0.0032	15/04/2020	2,499 P	-0.0518
12/27/2019	€ 13,337	0.0027	12/23/2020	€ 13,587	0.0125	12/22/2021	€ 15,593	0.0094	26/04/2018	2,286 P	0.0143	15/04/2019	2,545 P	-0.0057	16/04/2020	2,515 P	0.0064
12/30/2019	€ 13,249	-0.0066	12/28/2020	€ 13,790	0.0148	12/23/2021	€ 15,756	0.0104	27/04/2018	2,301 P	0.0067	16/04/2019	2,560 P	0.0058	17/04/2020	2,535 P	0.0079
1/2/2020	€ 13,386	0.0103	12/29/2020	€ 13,761	-0.0021	12/27/2021	€ 15,835	0.0050	02/05/2018	2,306 P	0.0021	17/04/2019	2,568 P	0.0033	20/04/2020	2,526 P	-0.0036
1/3/2020	€ 13,219	-0.0125	12/30/2020	€ 13,719	-0.0031	12/28/2021	€ 15,964	0.0081	03/05/2018	2,274 P	-0.0141	18/04/2019	2,561 P	-0.0029	21/04/2020	2,488 P	-0.0151
1/6/2020	€ 13,127	-0.0070	1/4/2021	€ 13,727	0.0006	12/29/2021	€ 15,852	-0.0070	04/05/2018	2,289 P	0.0067	22/04/2019	2,585 P	0.0093	22/04/2020	2,573 P	0.0337
1/7/2020	€ 13,227	0.0076	1/5/2021	€ 13,651	-0.0055	12/30/2021	€ 15,885	0.0021	07/05/2018	2,297 P	0.0033	23/04/2019	2,587 P	0.0011	23/04/2020	2,599 P	0.0101
1/8/2020	€ 13,320	0.0070	1/6/2021	€ 13,892	0.0175	1/3/2022	€ 16,021	0.0085	08/05/2018	2,302 P	0.0021	24/04/2019	2,579 P	-0.0033	24/04/2020	2,562 P	-0.0145
1/9/2020	€ 13,495	0.0130	1/7/2021	€ 13,968	0.0055	1/4/2022	€ 16,153	0.0082	10/05/2018	2,313 P	0.0047	25/04/2019	2,561 P	-0.0070	27/04/2020	2,571 P	0.0035
1/10/2020	€ 13,483	-0.0009	1/8/2021	€ 14,050	0.0058	1/5/2022	€ 16,272	0.0073	11/05/2018	2,345 P	0.0139	26/04/2019	2,564 P	0.0011	28/04/2020	2,612 P	0.0159
1/13/2020	€ 13,452	-0.0024	1/11/2021	€ 13,937	-0.0081	1/6/2022	€ 16,052	-0.0136	14/05/2018	2,358 P	0.0053	29/04/2019	2,570 P	0.0024	29/04/2020	2,663 P	0.0193
1/14/2020	€ 13,456	0.0004	1/12/2021	€ 13,925	-0.0008	1/7/2022	€ 15,948	-0.0065	15/05/2018	2,337 P	-0.0088	30/04/2019	2,559 P	-0.0041	30/04/2020	2,651 P	-0.0047
1/15/2020	€ 13,432	-0.0018	1/13/2021	€ 13,940	0.0011	1/10/2022	€ 15,768	-0.0113	16/05/2018	2,338 P	0.0006	02/05/2019	2,575 P	0.0062	04/05/2020	2,625 P	-0.0098
1/16/2020	€ 13,429	-0.0002	1/14/2021	€ 13,989	0.0035	1/11/2022	€ 15,942	0.0109	17/05/2018	2,324 P	-0.0064	03/05/2019	2,581 P	0.0022	05/05/2020	2,654 P	0.0109
1/17/2020	€ 13,526	0.0072	1/15/2021	€ 13,788	-0.0145	1/12/2022	€ 16,010	0.0043	18/05/2018	2,327 P	0.0015	06/05/2019	2,580 P	-0.0005	06/05/2020	2,632 P	-0.0081
1/20/2020	€ 13,549	0.0017	1/18/2021	€ 13,848	0.0044	1/13/2022	€ 16,032	0.0013	21/05/2018	2,333 P	0.0024	07/05/2019	2,565 P	-0.0057	07/05/2020	2,634 P	0.0007
1/21/2020	€ 13,556	0.0005	1/19/2021	€ 13,815	-0.0024	1/14/2022	€ 15,883	-0.0093	22/05/2018	2,327 P	-0.0025	08/05/2019	2,544 P	-0.0081	08/05/2020	2,642 P	0.0029
1/22/2020	€ 13,516	-0.0030	1/20/2021	€ 13,921	0.0077	1/17/2022	€ 15,934	0.0032	23/05/2018	2,296 P	-0.0135	10/05/2019	2,515 P	-0.0117	12/05/2020	2,642 P	0.0002
1/23/2020	€ 13,388	-0.0095	1/21/2021	€ 13,907	-0.0011	1/18/2022	€ 15,773	-0.0102	24/05/2018	2,294 P	-0.0007	13/05/2019	2,509 P	-0.0024	13/05/2020	2,605 P	-0.0141
1/24/2020	€ 13,577	0.0140	1/22/2021	€ 13,874	-0.0024	1/19/2022	€ 15,810	0.0024	25/05/2018	2,307 P	0.0055	14/05/2019	2,562 P	0.0021	14/05/2020	2,590 P	-0.0056
1/27/2020	€ 13,205	-0.0278	1/25/2021	€ 13,644	-0.0167	1/20/2022	€ 15,912	0.0065	28/05/2018	2,311 P	0.0020	15/05/2019	2,554 P	-0.0031	15/05/2020	2,594 P	0.0014
1/28/2020	€ 13,324	0.0090	1/26/2021	€ 13,871	0.0165	1/21/2022	€ 15,604	-0.0196	29/05/2018	2,298 P	-0.0058	16/05/2019	2,581 P	0.0104	18/05/2020	2,694 P	0.0380
1/29/2020	€ 13,345	0.0016	1/27/2021	€ 13,620	-0.0182	1/24/2022	€ 15,011	-0.0387	30/05/2018	2,298 P	-0.0002	17/05/2019	2,577 P	-0.0014	19/05/2020	2,712 P	0.0065
1/30/2020	€ 13,157	-0.0142	1/28/2021	€ 13,666	0.0033	1/25/2022	€ 15,124	0.0075	31/05/2018	2,303 P	0.0023	20/05/2019	2,572 P	-0.0023	20/05/2020	2,771 P	0.0215
1/31/2020	€ 12,982	-0.0134	1/29/2021	€ 13,433	-0.0172	1/26/2022	€ 15,459	0.0219	01/06/2018	2,295 P	-0.0033	21/05/2019	2,617 P	0.0173	21/05/2020	2,719 P	-0.0190
2/3/2020	€ 13,045	0.0049	2/1/2021	€ 13,622	0.0140	1/27/2022	€ 15,524	0.0042	04/06/2018	2,324 P	0.0123	22/05/2019	2,639 P	0.0084	22/05/2020	2,709 P	-0.0034
2/4/2020	€ 13,282	0.0180	2/2/2021	€ 13,835	0.0155	1/28/2022	€ 15,319	-0.0133	05/06/2018	2,318 P	-0.0023	23/05/2019	2,619 P	-0.0076	25/05/2020	2,758 P	0.0178

NEGERI  
JAKARTA



**© Hak Cipta milik Politeknik Negeri Jakarta**

2/5/2020	€ 13,478	0.0147	2/3/2021	€ 13,934	0.0071	1/31/2022	€ 15,471	0.0099	06/06/2018	2,315 P	-0.0012	24/05/2019	2,619 P	0.0002	26/05/2020	2,754 P	-0.0014
2/6/2020	€ 13,575	0.0071	2/4/2021	€ 14,060	0.0090	2/1/2022	€ 15,619	0.0095	07/06/2018	2,316 P	0.0003	27/05/2019	2,633 P	0.0052	27/05/2020	2,741 P	-0.0047
2/7/2020	€ 13,514	-0.0045	2/5/2021	€ 14,057	-0.0003	2/2/2022	€ 15,614	-0.0004	08/06/2018	2,268 P	-0.0210	28/05/2019	2,610 P	-0.0088	28/05/2020	2,780 P	0.0141
2/10/2020	€ 13,494	-0.0015	2/8/2021	€ 14,060	0.0002	2/3/2022	€ 15,368	-0.0158	11/06/2018	2,272 P	0.0017	29/05/2019	2,641 P	0.0119	29/05/2020	2,735 P	-0.0164
2/11/2020	€ 13,628	0.0099	2/9/2021	€ 14,012	-0.0034	2/4/2022	€ 15,100	-0.0177	13/06/2018	2,271 P	-0.0004	30/05/2019	2,660 P	0.0069	01/06/2020	2,750 P	0.0056
2/12/2020	€ 13,750	0.0089	2/10/2021	€ 13,933	-0.0056	2/7/2022	€ 15,207	0.0071	14/06/2018	2,253 P	-0.0076	31/05/2019	2,665 P	0.0022	02/06/2020	2,797 P	0.0167
2/13/2020	€ 13,745	-0.0003	2/11/2021	€ 14,041	0.0077	2/8/2022	€ 15,242	0.0023	15/06/2018	2,238 P	-0.0071	03/06/2019	2,730 P	0.00239	03/06/2020	2,831 P	0.0123
2/14/2020	€ 13,744	-0.0001	2/12/2021	€ 14,050	0.0006	2/9/2022	€ 15,482	0.0156	18/06/2018	2,223 P	-0.0067	04/06/2019	2,706 P	-0.0087	04/06/2020	2,766 P	-0.0232
2/17/2020	€ 13,784	0.0029	2/15/2021	€ 14,109	0.0042	2/10/2022	€ 15,490	0.0005	19/06/2018	2,221 P	-0.0005	05/06/2019	2,702 P	-0.0016	05/06/2020	2,793 P	0.0095
2/18/2020	€ 13,681	-0.0075	2/16/2021	€ 14,065	-0.0032	2/11/2022	€ 15,425	-0.0042	20/06/2018	2,256 P	0.0156	06/06/2019	2,728 P	0.0097	08/06/2020	2,796 P	0.0013
2/19/2020	€ 13,789	0.0078	2/17/2021	€ 13,909	-0.0111	2/14/2022	€ 15,114	-0.0204	21/06/2018	2,246 P	-0.0046	07/06/2019	2,730 P	0.0005	09/06/2020	2,796 P	-0.0001
2/20/2020	€ 13,664	-0.0091	2/18/2021	€ 13,887	-0.0016	2/15/2022	€ 15,413	0.0196	22/06/2018	2,250 P	0.0017	10/06/2019	2,743 P	0.0047	10/06/2020	2,785 P	-0.0038
2/21/2020	€ 13,579	-0.0062	2/19/2021	€ 13,993	0.0076	2/16/2022	€ 15,396	-0.0011	25/06/2018	2,237 P	-0.0058	11/06/2019	2,752 P	0.0033	11/06/2020	2,744 P	-0.0150
2/24/2020	€ 13,035	-0.0409	2/22/2021	€ 13,950	-0.0031	2/17/2022	€ 15,268	-0.0084	26/06/2018	2,231 P	-0.0025	13/06/2019	2,758 P	0.0024	15/06/2020	2,719 P	-0.0091
2/25/2020	€ 12,790	-0.0190	2/23/2021	€ 13,865	-0.0061	2/18/2022	€ 15,043	-0.0149	27/06/2018	2,254 P	0.0101	14/06/2019	2,739 P	-0.0069	16/06/2020	2,748 P	0.0107
2/26/2020	€ 12,775	-0.0012	2/24/2021	€ 13,976	0.0080	2/21/2022	€ 14,731	-0.0209	28/06/2018	2,250 P	-0.0015	17/06/2019	2,734 P	-0.0018	17/06/2020	2,740 P	-0.0030
2/27/2020	€ 12,367	-0.0324	2/25/2021	€ 13,879	-0.0069	2/22/2022	€ 14,693	-0.0026	29/06/2018	2,296 P	0.0201	18/06/2019	2,762 P	0.0100	18/06/2020	2,724 P	-0.0058
2/28/2020	€ 11,890	-0.0393	2/26/2021	€ 13,786	-0.0067	2/23/2022	€ 14,631	-0.0042	02/07/2018	2,319 P	0.0101	19/06/2019	2,759 P	-0.0009	19/06/2020	2,759 P	0.0125
3/2/2020	€ 11,858	-0.0027	3/1/2021	€ 14,013	0.0163	2/24/2022	€ 14,052	-0.0404	03/07/2018	2,302 P	-0.0076	20/06/2019	2,780 P	0.0076	22/06/2020	2,763 P	0.0017
3/3/2020	€ 11,985	0.0107	3/2/2021	€ 14,040	0.0019	2/25/2022	€ 14,567	0.0360	04/07/2018	2,304 P	0.0010	21/06/2019	2,761 P	-0.0068	23/06/2020	2,792 P	0.0103
3/4/2020	€ 12,128	0.0118	3/3/2021	€ 14,080	0.0029	2/28/2022	€ 14,461	-0.0073	05/07/2018	2,347 P	0.0184	24/06/2019	2,763 P	0.0005	25/06/2020	2,761 P	-0.0112
3/5/2020	€ 11,945	-0.0152	3/4/2021	€ 14,056	-0.0017	3/1/2022	€ 13,905	-0.0392	06/07/2018	2,345 P	-0.0006	25/06/2019	2,754 P	-0.0032	26/06/2020	2,762 P	0.0004
3/6/2020	€ 11,542	-0.0343	3/5/2021	€ 13,921	-0.0097	3/2/2022	€ 14,000	0.0068	09/07/2018	2,373 P	0.0118	26/06/2019	2,775 P	0.0077	29/06/2020	2,768 P	0.0022
3/9/2020	€ 10,625	-0.0828	3/8/2021	€ 14,381	0.0325	3/3/2022	€ 13,698	-0.0218	10/07/2018	2,365 P	-0.0034	27/06/2019	2,780 P	0.0016	30/06/2020	2,743 P	-0.0090
3/10/2020	€ 10,475	-0.0142	3/9/2021	€ 14,438	0.0040	3/4/2022	€ 13,095	-0.0451	11/07/2018	2,336 P	-0.0123	28/06/2019	2,766 P	-0.0050	02/07/2020	2,789 P	0.0165
3/11/2020	€ 10,439	-0.0035	3/10/2021	€ 14,540	0.0071	3/7/2022	€ 12,835	-0.0200	12/07/2018	2,322 P	-0.0060	01/07/2019	2,801 P	0.0128	03/07/2020	2,802 P	0.0046
3/12/2020	€ 9,161	-0.1305	3/11/2021	€ 14,569	0.0020	3/8/2022	€ 12,832	-0.0002	13/07/2018	2,346 P	0.0104	02/07/2019	2,810 P	0.0030	06/07/2020	2,835 P	0.0119
3/13/2020	€ 9,232	0.0077	3/12/2021	€ 14,502	-0.0046	3/9/2022	€ 13,848	0.0762	16/07/2018	2,334 P	-0.0052	03/07/2019	2,824 P	0.0050	07/07/2020	2,825 P	-0.0035
3/16/2020	€ 8,742	-0.0545	3/15/2021	€ 14,461	-0.0028	3/10/2022	€ 13,442	-0.0297	17/07/2018	2,311 P	-0.0100	04/07/2019	2,843 P	0.0066	08/07/2020	2,816 P	-0.0033
3/17/2020	€ 8,939	0.0223	3/16/2021	€ 14,558	0.0066	3/11/2022	€ 13,628	0.0137	18/07/2018	2,295 P	-0.0070	05/07/2019	2,835 P	-0.0026	09/07/2020	2,782 P	-0.0119
3/18/2020	€ 8,442	-0.0572	3/17/2021	€ 14,597	0.0027	3/14/2022	€ 13,929	0.0218	19/07/2018	2,269 P	-0.0111	08/07/2019	2,823 P	-0.0045	10/07/2020	2,801 P	0.0066
3/19/2020	€ 8,610	0.0198	3/18/2021	€ 14,776	0.0122	3/15/2022	€ 13,917	-0.0009	20/07/2018	2,248 P	-0.0096	09/07/2019	2,823 P	0.0000	13/07/2020	2,767 P	-0.0123
3/20/2020	€ 8,929	0.0363	3/19/2021	€ 14,621	-0.0105	3/16/2022	€ 14,441	0.0369	23/07/2018	2,261 P	0.0060	10/07/2019	2,823 P	0.0000	14/07/2020	2,745 P	-0.0081
3/23/2020	€ 8,741	-0.0213	3/22/2021	€ 14,657	0.0025	3/17/2022	€ 14,388	-0.0037	24/07/2018	2,278 P	0.0075	11/07/2019	2,790 P	-0.0118	15/07/2020	2,748 P	0.0012
3/24/2020	€ 9,701	0.1041	3/23/2021	€ 14,662	0.0003	3/18/2022	€ 14,413	0.0017	25/07/2018	2,283 P	0.0020	12/07/2019	2,778 P	-0.0043	16/07/2020	2,760 P	0.0044
3/25/2020	€ 9,874	0.0177	3/24/2021	€ 14,610	-0.0035	3/21/2022	€ 14,327	-0.0060	26/07/2018	2,293 P	0.0045	15/07/2019	2,756 P	-0.0076	17/07/2020	2,775 P	0.0053
3/26/2020	€ 10,001	0.0127	3/25/2021	€ 14,621	0.0008	3/22/2022	€ 14,473	0.0102	27/07/2018	2,293 P	-0.0002	16/07/2019	2,756 P	-0.0002	20/07/2020	2,802 P	0.0098
3/27/2020	€ 9,633	-0.0375	3/26/2021	€ 14,749	0.0087	3/23/2022	€ 14,284	-0.0132	30/07/2018	2,296 P	0.0013	17/07/2019	2,713 P	-0.0156	21/07/2020	2,826 P	0.0083
3/30/2020	€ 9,816	0.0189	3/29/2021	€ 14,818	0.0047	3/24/2022	€ 14,274	-0.0007	31/07/2018	2,321 P	0.0110	18/07/2019	2,703 P	-0.0039	22/07/2020	2,835 P	0.0032
3/31/2020	€ 9,936	0.0121	3/30/2021	€ 15,009	0.0128	3/25/2022	€ 14,306	0.0022	01/08/2018	2,315 P	-0.0026	19/07/2019	2,701 P	-0.0007	23/07/2020	2,852 P	0.0060
4/1/2020	€ 9,545	-0.0402	3/31/2021	€ 15,008	0.0000	3/28/2022	€ 14,417	0.0078	02/08/2018	2,295 P	-0.0087	22/07/2019	2,684 P	-0.0061	24/07/2020	2,863 P	0.0040
4/2/2020	€ 9,571	0.0027	4/1/2021	€ 15,107	0.0066	3/29/2022	€ 14,820	0.0276	03/08/2018	2,298 P	0.0012	23/07/2019	2,701 P	0.0062	27/07/2020	2,885 P	0.0076
4/3/2020	€ 9,526	-0.0047	4/6/2021	€ 15,213	0.0070	3/30/2022	€ 14,606	-0.0146	06/08/2018	2,300 P	0.0008	24/07/2019	2,683 P	-0.0067	28/07/2020	2,895 P	0.0037
4/6/2020	€ 10,075	0.0561	4/7/2021	€ 15,176	-0.0024	3/31/2022	€ 14,415	-0.0132	07/08/2018	2,312 P	0.0053	25/07/2019	2,701 P	0.0067	29/07/2020	2,918 P	0.0079
4/7/2020	€ 10,357	0.0276	4/8/2021	€ 15,203	0.0017	4/1/2022	€ 14,446	0.0022	08/08/2018	2,293 P	-0.0083	26/07/2019	2,716 P	0.0054	30/07/2020	2,883 P	-0.0123
4/8/2020	€ 10,333	-0.0023	4/9/2021	€ 15,234	0.0021	4/4/2022	€ 14,518	0.0049	09/08/2018	2,310 P	0.0072	29/07/2019	2,728 P	0.0046	31/07/2020	2,912 P	0.0100

**NEGERI  
JAKARTA**

**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumunkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta





## © Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumpukan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

4/9/2020	€ 10,565	0.0222	4/12/2021	€ 15,215	-0.0013	4/5/2022	€ 14,424	-0.0065	10/08/2018	2,275 P	-0.0151	30/07/2019	2,735 P	0.0023	03/08/2020	2,930 P	0.0063
4/14/2020	€ 10,697	0.0124	4/13/2021	€ 15,234	0.0013	4/6/2022	€ 14,152	-0.0191	13/08/2018	2,286 P	0.0046	31/07/2019	2,740 P	0.0018	04/08/2020	2,940 P	0.0036
4/15/2020	€ 10,280	-0.0397	4/14/2021	€ 15,209	-0.0017	4/7/2022	€ 14,078	-0.0052	14/08/2018	2,283 P	-0.0012	01/08/2019	2,729 P	-0.0037	05/08/2020	2,993 P	0.0176
4/16/2020	€ 10,302	0.0021	4/15/2021	€ 15,255	0.0030	4/8/2022	€ 14,284	0.0145	15/08/2018	2,267 P	-0.0069	02/08/2019	2,675 P	-0.0202	06/08/2020	2,989 P	-0.0014
4/17/2020	€ 10,626	0.0310	4/16/2021	€ 15,460	0.0133	4/11/2022	€ 14,193	-0.0064	16/08/2018	2,261 P	-0.0027	05/08/2019	2,649 P	-0.0097	07/08/2020	2,972 P	-0.0054
4/20/2020	€ 10,676	0.0047	4/19/2021	€ 15,368	-0.0059	4/12/2022	€ 14,125	-0.0048	17/08/2018	2,255 P	-0.0026	06/08/2019	2,683 P	0.0128	10/08/2020	2,961 P	-0.0039
4/21/2020	€ 10,250	-0.0407	4/20/2021	€ 15,130	-0.0157	4/13/2022	€ 14,076	-0.0034	20/08/2018	2,272 P	0.0077	07/08/2019	2,675 P	-0.0031	11/08/2020	3,006 P	0.0150
4/22/2020	€ 10,415	0.0160	4/21/2021	€ 15,196	0.0044	4/14/2022	€ 14,164	0.0062	21/08/2018	2,292 P	0.0084	08/08/2019	2,697 P	0.0081	12/08/2020	3,054 P	0.0160
4/23/2020	€ 10,514	0.0094	4/22/2021	€ 15,321	0.0082	4/19/2022	€ 14,153	-0.0007	22/08/2018	2,297 P	0.0023	09/08/2019	2,680 P	-0.0063	13/08/2020	3,080 P	0.0086
4/24/2020	€ 10,336	-0.0170	4/23/2021	€ 15,280	-0.0027	4/20/2022	€ 14,362	0.0146	23/08/2018	2,260 P	-0.0162	12/08/2019	2,690 P	0.0038	14/08/2020	3,062 P	-0.0060
4/27/2020	€ 10,660	0.0309	4/26/2021	€ 15,296	0.0011	4/21/2022	€ 14,502	0.0097	24/08/2018	2,280 P	0.0087	13/08/2019	2,680 P	-0.0037	17/08/2020	3,052 P	-0.0031
4/28/2020	€ 10,796	0.0126	4/27/2021	€ 15,249	-0.0031	4/22/2022	€ 14,142	-0.0252	27/08/2018	2,313 P	0.0144	14/08/2019	2,637 P	-0.0162	18/08/2020	3,051 P	-0.0006
4/29/2020	€ 11,108	0.0285	4/28/2021	€ 15,292	0.0028	4/25/2022	€ 13,924	-0.0155	28/08/2018	2,316 P	0.0014	15/08/2019	2,626 P	-0.0044	19/08/2020	3,057 P	0.0019
4/30/2020	€ 10,862	-0.0224	4/29/2021	€ 15,154	-0.0091	4/26/2022	€ 13,756	-0.0121	29/08/2018	2,348 P	0.0138	16/08/2019	2,615 P	-0.0040	20/08/2020	2,994 P	-0.0208
5/4/2020	€ 10,467	-0.0370	4/30/2021	€ 15,136	-0.0012	4/27/2022	€ 13,794	0.0027	30/08/2018	2,331 P	-0.0075	19/08/2019	2,648 P	0.0125	21/08/2020	2,996 P	0.0006
5/5/2020	€ 10,729	0.0248	5/3/2021	€ 15,236	0.0066	4/28/2022	€ 13,980	0.0134	31/08/2018	2,346 P	0.0064	20/08/2019	2,673 P	0.0093	24/08/2020	3,029 P	0.0112
5/6/2020	€ 10,606	-0.0116	5/4/2021	€ 14,856	-0.0253	4/29/2022	€ 14,098	0.0084	03/09/2018	2,346 P	0.0001	21/08/2019	2,674 P	0.0004	25/08/2020	3,029 P	-0.0001
5/7/2020	€ 10,759	0.0143	5/5/2021	€ 15,171	0.0209	5/2/2022	€ 13,939	-0.0113	04/09/2018	2,336 P	-0.0041	22/08/2019	2,675 P	0.0004	26/08/2020	3,052 P	0.0075
5/8/2020	€ 10,904	0.0134	5/6/2021	€ 15,197	0.0017	5/3/2022	€ 14,039	0.0072	05/09/2018	2,321 P	-0.0065	23/08/2019	2,661 P	-0.0054	27/08/2020	3,012 P	-0.0132
5/11/2020	€ 10,825	-0.0073	5/7/2021	€ 15,400	0.0133	5/4/2022	€ 13,971	-0.0049	06/09/2018	2,321 P	-0.0003	26/08/2019	2,658 P	-0.0009	28/08/2020	2,980 P	-0.0106
5/12/2020	€ 10,820	-0.0005	5/10/2021	€ 15,400	0.0000	5/5/2022	€ 13,903	-0.0049	07/09/2018	2,322 P	0.0005	27/08/2019	2,659 P	0.0004	31/08/2020	2,966 P	-0.0047
5/13/2020	€ 10,543	-0.0259	5/11/2021	€ 15,120	-0.0184	5/6/2022	€ 13,674	-0.0166	10/09/2018	2,336 P	0.0060	28/08/2019	2,677 P	0.0067	01/09/2020	2,975 P	0.0030
5/14/2020	€ 10,337	-0.0197	5/12/2021	€ 15,150	0.0020	5/9/2022	€ 13,381	-0.0217	11/09/2018	2,335 P	-0.0003	29/08/2019	2,714 P	0.0137	02/09/2020	2,957 P	-0.0062
5/15/2020	€ 10,465	0.0123	5/13/2021	€ 15,200	0.0033	5/10/2022	€ 13,535	0.0114	12/09/2018	2,341 P	0.0023	30/08/2019	2,740 P	0.0095	03/09/2020	2,932 P	-0.0083
5/18/2020	€ 11,059	0.0552	5/14/2021	€ 15,417	0.0142	5/11/2022	€ 13,829	0.0215	13/09/2018	2,357 P	0.0071	02/09/2019	2,773 P	0.0120	04/09/2020	2,922 P	-0.0035
5/19/2020	€ 11,075	0.0015	5/17/2021	€ 15,397	-0.0013	5/12/2022	€ 13,740	-0.0065	14/09/2018	2,360 P	0.0012	03/09/2019	2,774 P	0.0004	07/09/2020	2,932 P	0.0037
5/20/2020	€ 11,224	0.0133	5/18/2021	€ 15,387	-0.0007	5/13/2022	€ 14,028	0.0208	17/09/2018	2,374 P	0.0057	04/09/2019	2,793 P	0.0069	08/09/2020	2,889 P	-0.0149
5/21/2020	€ 11,066	-0.0142	5/19/2021	€ 15,114	-0.0179	5/16/2022	€ 13,964	-0.0045	18/09/2018	2,403 P	0.0121	05/09/2019	2,807 P	0.0049	09/09/2020	2,876 P	-0.0044
5/22/2020	€ 11,074	0.0007	5/20/2021	€ 15,370	0.0168	5/17/2022	€ 14,186	0.0157	19/09/2018	2,404 P	0.0008	06/09/2019	2,798 P	-0.0034	10/09/2020	2,898 P	0.0074
5/25/2020	€ 11,391	0.0283	5/21/2021	€ 15,438	0.0044	5/18/2022	€ 14,008	-0.0126	20/09/2018	2,401 P	-0.0015	09/09/2019	2,787 P	-0.0039	11/09/2020	2,911 P	0.0045
5/26/2020	€ 11,505	0.0099	5/25/2021	€ 15,465	0.0018	5/19/2022	€ 13,882	-0.0090	21/09/2018	2,427 P	0.0107	10/09/2019	2,788 P	0.0003	14/09/2020	2,928 P	0.0061
5/27/2020	€ 11,658	0.0132	5/26/2021	€ 15,451	-0.0009	5/20/2022	€ 13,982	0.0071	24/09/2018	2,430 P	0.0013	11/09/2019	2,817 P	0.0105	15/09/2020	2,981 P	0.0177
5/28/2020	€ 11,781	0.0105	5/27/2021	€ 15,407	-0.0029	5/23/2022	€ 14,175	0.0137	25/09/2018	2,444 P	0.0058	12/09/2019	2,800 P	-0.0061	16/09/2020	2,975 P	-0.0019
5/29/2020	€ 11,587	-0.0166	5/28/2021	€ 15,520	0.0073	5/24/2022	€ 13,920	-0.0182	26/09/2018	2,427 P	-0.0070	13/09/2019	2,792 P	-0.0030	17/09/2020	2,972 P	-0.0011
6/2/2020	€ 12,021	0.0368	5/31/2021	€ 15,421	-0.0064	5/25/2022	€ 14,008	0.0063	27/09/2018	2,475 P	0.0193	16/09/2019	2,834 P	0.0151	18/09/2020	2,952 P	-0.0067
6/3/2020	€ 12,487	0.0380	6/1/2021	€ 15,567	0.0094	5/26/2022	€ 14,231	0.0158	28/09/2018	2,475 P	0.0003	17/09/2019	2,821 P	-0.0048	21/09/2020	2,864 P	-0.0303
6/4/2020	€ 12,431	-0.0046	6/2/2021	€ 15,603	0.0023	5/27/2022	€ 14,462	0.0161	01/10/2018	2,472 P	-0.0013	18/09/2019	2,819 P	-0.0008	22/09/2020	2,885 P	0.0073
6/5/2020	€ 12,848	0.0330	6/3/2021	€ 15,633	0.0019	5/30/2022	€ 14,576	0.0078	02/10/2018	2,450 P	-0.0092	19/09/2019	2,795 P	-0.0085	23/09/2020	2,916 P	0.0109
6/8/2020	€ 12,820	-0.0022	6/4/2021	€ 15,693	0.0038	5/31/2022	€ 14,388	-0.0130	03/10/2018	2,494 P	0.0179	20/09/2019	2,796 P	0.0006	24/09/2020	2,913 P	-0.0012
6/9/2020	€ 12,618	-0.0159	6/7/2021	€ 15,677	-0.0010	6/1/2022	€ 14,340	-0.0033	04/10/2018	2,465 P	-0.0116	23/09/2019	2,785 P	-0.0039	25/09/2020	2,897 P	-0.0055
6/10/2020	€ 12,530	-0.0070	6/8/2021	€ 15,641	-0.0023	6/2/2022	€ 14,485	0.0100	05/10/2018	2,451 P	-0.0057	24/09/2019	2,755 P	-0.0112	28/09/2020	2,927 P	0.0104
6/11/2020	€ 11,970	-0.0457	6/9/2021	€ 15,581	-0.0038	6/3/2022	€ 14,460	-0.0017	08/10/2018	2,454 P	0.0014	25/09/2019	2,760 P	0.0021	29/09/2020	2,910 P	-0.0058
6/12/2020	€ 11,949	-0.0018	6/10/2021	€ 15,571	-0.0006	6/6/2022	€ 14,654	0.0133	09/10/2018	2,444 P	-0.0043	26/09/2019	2,773 P	0.0045	30/09/2020	2,906 P	-0.0015
6/15/2020	€ 11,911	-0.0032	6/11/2021	€ 15,693	0.0078	6/7/2022	€ 14,557	-0.0067	10/10/2018	2,418 P	-0.0108	27/09/2019	2,758 P	-0.0053	01/10/2020	2,890 P	-0.0055
6/16/2020	€ 12,316	0.0334	6/14/2021	€ 15,674	-0.0013	6/8/2022	€ 14,446	-0.0076	11/10/2018	2,366 P	-0.0214	30/09/2019	2,747 P	-0.0039	02/10/2020	2,852 P	-0.0130
6/17/2020	€ 12,382	0.0054	6/15/2021	€ 15,730	0.0036	6/9/2022	€ 14,199	-0.0173	12/10/2018	2,403 P	0.0153	01/10/2019	2,759 P	0.0042	05/10/2020	2,882 P	0.0103



© Hak Cipta milik Politeknik Negeri Jakarta

Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

6/18/2020	€ 12,282	-0.0082	6/16/2021	€ 15,711	-0.0012	6/10/2022	€ 13,762	-0.0313	15/10/2018	2,389 P	-0.0058	02/10/2019	2,719 P	-0.0144	06/10/2020	2,893 P	0.0038
6/19/2020	€ 12,331	0.0040	6/17/2021	€ 15,728	0.0011	6/13/2022	€ 13,427	-0.0246	16/10/2018	2,417 P	0.0117	03/10/2019	2,707 P	-0.0044	07/10/2020	2,843 P	-0.0176
6/22/2020	€ 12,263	-0.0055	6/18/2021	€ 15,448	-0.0179	6/14/2022	€ 13,304	-0.0092	17/10/2018	2,411 P	-0.0024	04/10/2019	2,693 P	-0.0055	08/10/2020	2,846 P	0.0013
6/23/2020	€ 12,524	0.0210	6/21/2021	€ 15,603	0.0100	6/15/2022	€ 13,485	0.0135	18/10/2018	2,379 P	-0.0137	07/10/2019	2,719 P	0.0099	09/10/2020	2,834 P	-0.0043
6/24/2020	€ 12,094	-0.0349	6/22/2021	€ 15,636	0.0021	6/16/2022	€ 13,038	-0.0337	19/10/2018	2,345 P	-0.0143	08/10/2019	2,708 P	-0.0042	12/10/2020	2,846 P	0.0042
6/25/2020	€ 12,178	0.0069	6/23/2021	€ 15,456	-0.0116	6/17/2022	€ 13,126	0.0067	22/10/2018	2,309 P	-0.0156	09/10/2019	2,713 P	0.0019	13/10/2020	2,829 P	-0.0060
6/26/2020	€ 12,089	-0.0073	6/24/2021	€ 15,589	0.0086	6/20/2022	€ 13,266	0.0106	23/10/2018	2,306 P	-0.0013	10/10/2019	2,722 P	0.0031	14/10/2020	2,856 P	0.0094
6/29/2020	€ 12,232	0.0117	6/25/2021	€ 15,608	0.0012	6/21/2022	€ 13,292	0.0020	24/10/2018	2,336 P	0.0133	11/10/2019	2,708 P	-0.0050	15/10/2020	2,817 P	-0.0137
6/30/2020	€ 12,311	0.0064	6/28/2021	€ 15,554	-0.0035	6/22/2022	€ 13,144	-0.0112	25/10/2018	2,332 P	-0.0021	14/10/2019	2,697 P	-0.0039	16/10/2020	2,800 P	-0.0063
7/1/2020	€ 12,261	-0.0041	6/29/2021	€ 15,691	0.0087	6/23/2022	€ 12,913	-0.0178	26/10/2018	2,293 P	-0.0166	15/10/2019	2,715 P	0.0066	19/10/2020	2,794 P	-0.0019
7/2/2020	€ 12,608	0.0280	6/30/2021	€ 15,531	-0.0102	6/24/2022	€ 13,118	0.0158	29/10/2018	2,317 P	0.0103	16/10/2019	2,744 P	0.0107	20/10/2020	2,803 P	0.0031
7/3/2020	€ 12,528	-0.0064	7/1/2021	€ 15,604	0.0047	6/27/2022	€ 13,186	0.0052	30/10/2018	2,300 P	-0.0074	17/10/2019	2,749 P	0.0016	21/10/2020	2,786 P	-0.0060
7/6/2020	€ 12,733	0.0163	7/2/2021	€ 15,650	0.0030	6/28/2022	€ 13,232	0.0035	31/10/2018	2,353 P	0.0227	18/10/2019	2,753 P	0.0016	22/10/2020	2,803 P	0.0061
7/7/2020	€ 12,617	-0.0092	7/5/2021	€ 15,662	0.0008	6/29/2022	€ 13,003	-0.0174	01/11/2018	2,359 P	0.0028	21/10/2019	2,761 P	0.0030	23/10/2020	2,817 P	0.0048
7/8/2020	€ 12,495	-0.0097	7/6/2021	€ 15,511	-0.0097	6/30/2022	€ 12,784	-0.0170	02/11/2018	2,378 P	0.0079	22/10/2019	2,802 P	0.0148	26/10/2020	2,786 P	-0.0111
7/9/2020	€ 12,489	-0.0004	7/7/2021	€ 15,693	0.0116	7/1/2022	€ 12,813	0.0023	06/11/2018	2,412 P	0.0143	23/10/2019	2,822 P	0.0069	27/10/2020	2,763 P	-0.0081
7/10/2020	€ 12,634	0.0115	7/8/2021	€ 15,421	-0.0175	7/4/2022	€ 12,773	-0.0031	07/11/2018	2,445 P	0.0136	24/10/2019	2,877 P	0.0195	28/10/2020	2,693 P	-0.0255
7/13/2020	€ 12,800	0.0134	7/9/2021	€ 15,688	0.0172	7/5/2022	€ 12,401	-0.0296	08/11/2018	2,439 P	-0.0028	25/10/2019	2,873 P	-0.0013	29/10/2020	2,709 P	0.0058
7/14/2020	€ 12,697	-0.0080	7/12/2021	€ 15,791	0.0065	7/6/2022	€ 12,595	0.0155	09/11/2018	2,403 P	-0.0145	28/10/2019	2,857 P	-0.0058	30/10/2020	2,691 P	-0.0068
7/15/2020	€ 12,931	0.0182	7/13/2021	€ 15,790	-0.0001	7/7/2022	€ 12,843	0.0196	12/11/2018	2,394 P	-0.0040	29/10/2019	2,886 P	0.0103	02/11/2020	2,738 P	0.0173
7/16/2020	€ 12,875	-0.0043	7/14/2021	€ 15,789	0.0000	7/8/2022	€ 13,015	0.0133	13/11/2018	2,375 P	-0.0079	30/10/2019	2,911 P	0.0085	03/11/2020	2,786 P	0.0177
7/17/2020	€ 12,920	0.0035	7/15/2021	€ 15,630	-0.0101				14/11/2018	2,379 P	0.0015	31/10/2019	2,894 P	-0.0059	05/11/2020	2,861 P	0.0265
7/20/2020	€ 13,047	0.0098	7/16/2021	€ 15,540	-0.0057				15/11/2018	2,381 P	0.0012	01/11/2019	2,930 P	0.0125	06/11/2020	2,896 P	0.0119
7/21/2020	€ 13,172	0.0095	7/19/2021	€ 15,133	-0.0265				16/11/2018	2,373 P	-0.0037	05/11/2019	2,950 P	0.0065	09/11/2020	2,988 P	0.0313
7/22/2020	€ 13,104	-0.0051	7/20/2021	€ 15,216	0.0055				19/11/2018	2,374 P	0.0005	06/11/2019	2,981 P	0.0106	10/11/2020	2,999 P	0.0036
7/23/2020	€ 13,103	-0.0001	7/21/2021	€ 15,423	0.0135				20/11/2018	2,342 P	-0.0136	07/11/2019	3,009 P	0.0092	11/11/2020	3,015 P	0.0055
7/24/2020	€ 12,838	-0.0205	7/22/2021	€ 15,515	0.0060				21/11/2018	2,358 P	0.0070	08/11/2019	2,973 P	-0.0118	12/11/2020	3,026 P	0.0036
7/27/2020	€ 12,839	0.0000	7/23/2021	€ 15,669	0.0099				22/11/2018	2,370 P	0.0049	11/11/2019	2,961 P	-0.0040	13/11/2020	3,025 P	-0.0002
7/28/2020	€ 12,835	-0.0003	7/26/2021	€ 15,619	-0.0032				23/11/2018	2,343 P	-0.0113	12/11/2019	2,951 P	-0.0035	16/11/2020	3,080 P	0.0179
7/29/2020	€ 12,822	-0.0010	7/27/2021	€ 15,519	-0.0064				26/11/2018	2,309 P	-0.0148	13/11/2019	2,934 P	-0.0059	17/11/2020	3,052 P	-0.0090
7/30/2020	€ 12,380	-0.0351	7/28/2021	€ 15,570	0.0033				27/11/2018	2,339 P	0.0130	14/11/2019	2,922 P	-0.0039	18/11/2020	3,081 P	0.0093
7/31/2020	€ 12,313	-0.0054	7/29/2021	€ 15,640	0.0045				28/11/2018	2,381 P	0.0180	15/11/2019	2,935 P	0.0042	19/11/2020	3,046 P	-0.0112
8/3/2020	€ 12,647	0.0267	7/30/2021	€ 15,544	-0.0062				29/11/2018	2,399 P	0.0073	18/11/2019	2,924 P	-0.0035	20/11/2020	3,051 P	0.0015
8/4/2020	€ 12,601	-0.0037	8/2/2021	€ 15,569	0.0016				30/11/2018	2,393 P	-0.0025	19/11/2019	2,942 P	0.0059	23/11/2020	3,047 P	-0.0013
8/5/2020	€ 12,660	0.0047	8/3/2021	€ 15,555	-0.0009				03/12/2018	2,441 P	0.0201	20/11/2019	2,936 P	-0.0018	24/11/2020	3,096 P	0.0159
8/6/2020	€ 12,592	-0.0054	8/4/2021	€ 15,692	0.0088				04/12/2018	2,443 P	0.0009	21/11/2019	2,943 P	0.0021	25/11/2020	3,135 P	0.0124
8/7/2020	€ 12,675	0.0066	8/5/2021	€ 15,745	0.0033				05/12/2018	2,446 P	0.0009	22/11/2019	2,948 P	0.0017	26/11/2020	3,139 P	0.0013
8/10/2020	€ 12,688	0.0010	8/6/2021	€ 15,761	0.0011				06/12/2018	2,412 P	-0.0137	25/11/2019	2,955 P	0.0026	27/11/2020	3,143 P	0.0013
8/11/2020	€ 12,947	0.0202	8/9/2021	€ 15,745	-0.0010				07/12/2018	2,431 P	0.0078	26/11/2019	2,931 P	-0.0084	30/11/2020	3,108 P	-0.0112
8/12/2020	€ 13,059	0.0086	8/10/2021	€ 15,771	0.0016				10/12/2018	2,397 P	-0.0143	27/11/2019	2,929 P	-0.0005	01/12/2020	3,148 P	0.0129
8/13/2020	€ 12,994	-0.0050	8/11/2021	€ 15,826	0.0035				11/12/2018	2,394 P	-0.0011	28/11/2019	2,928 P	-0.0005	02/12/2020	3,190 P	0.0132
8/14/2020	€ 12,901	-0.0071	8/12/2021	€ 15,938	0.0070				12/12/2018	2,370 P	-0.0100	29/11/2019	2,935 P	0.0027	03/12/2020	3,163 P	-0.0085
8/17/2020	€ 12,921	0.0015	8/13/2021	€ 15,977	0.0025				13/12/2018	2,379 P	0.0034	02/12/2019	2,921 P	-0.0048	04/12/2020	3,185 P	0.0069
8/18/2020	€ 12,882	-0.0030	8/16/2021	€ 15,926	-0.0032				14/12/2018	2,366 P	-0.0054	03/12/2019	2,883 P	-0.0130	07/12/2020	3,195 P	0.0032
8/19/2020	€ 12,977	0.0074	8/17/2021	€ 15,922	-0.0002				17/12/2018	2,359 P	-0.0028	04/12/2019	2,901 P	0.0059	08/12/2020	3,180 P	-0.0049
8/20/2020	€ 12,830	-0.0114	8/18/2021	€ 15,966	0.0028				18/12/2018	2,350 P	-0.0038	05/12/2019	2,899 P	-0.0005	09/12/2020	3,212 P	0.0100



## © Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

8/21/2020	€ 12,765	-0.0051	8/19/2021	€ 15,766	-0.0126				19/12/2018	2,359 P	0.0035	06/12/2019	2,929 P	0.0101	10/12/2020	3,258 P	0.0144
8/24/2020	€ 13,067	0.0234	8/20/2021	€ 15,808	0.0027				20/12/2018	2,353 P	-0.0024	09/12/2019	2,945 P	0.0055	11/12/2020	3,277 P	0.0056
8/25/2020	€ 13,062	-0.0004	8/23/2021	€ 15,853	0.0028				21/12/2018	2,347 P	-0.0024	10/12/2019	2,932 P	-0.0043	14/12/2020	3,255 P	-0.0067
8/26/2020	€ 13,190	0.0098	8/24/2021	€ 15,906	0.0033				24/12/2018	2,322 P	-0.0107	11/12/2019	2,954 P	0.0075	15/12/2020	3,248 P	-0.0021
8/27/2020	€ 13,096	-0.0071	8/25/2021	€ 15,861	-0.0028				26/12/2018	2,309 P	-0.0058	12/12/2019	2,983 P	0.0096	16/12/2020	3,270 P	0.0067
8/28/2020	€ 13,033	-0.0048	8/26/2021	€ 15,794	-0.0042				27/12/2018	2,328 P	0.0082	13/12/2019	2,997 P	0.0046	17/12/2020	3,283 P	0.0039
8/31/2020	€ 12,945	-0.0068	8/27/2021	€ 15,852	0.0037				28/12/2018	2,359 P	0.0131	16/12/2019	3,006 P	0.0032	18/12/2020	3,274 P	-0.0027
9/1/2020	€ 12,974	0.0022	8/30/2021	€ 15,887	0.0022				03/01/2019	2,376 P	0.0072	17/12/2019	3,013 P	0.0024	21/12/2020	3,186 P	-0.0271
9/2/2020	€ 13,243	0.0205	8/31/2021	€ 15,835	-0.0033				04/01/2019	2,407 P	0.0129	18/12/2019	3,024 P	0.0035	22/12/2020	3,236 P	0.0156
9/3/2020	€ 13,058	-0.0141	9/1/2021	€ 15,824	-0.0007				08/01/2019	2,390 P	-0.0070	19/12/2019	3,008 P	-0.0051	23/12/2020	3,252 P	0.0048
9/4/2020	€ 12,843	-0.0166	9/2/2021	€ 15,841	0.0010				09/01/2019	2,414 P	0.0102	20/12/2019	3,016 P	0.0025	24/12/2020	3,237 P	-0.0047
9/7/2020	€ 13,100	0.0199	9/3/2021	€ 15,781	-0.0038				10/01/2019	2,434 P	0.0083	23/12/2019	3,034 P	0.0059	28/12/2020	3,259 P	0.0068
9/8/2020	€ 12,968	-0.0101	9/6/2021	€ 15,932	0.0095				11/01/2019	2,444 P	0.0042	24/12/2019	3,031 P	-0.0011	29/12/2020	3,275 P	0.0048
9/9/2020	€ 13,237	0.0205	9/7/2021	€ 15,843	-0.0056				14/01/2019	2,440 P	-0.0018	26/12/2019	3,032 P	0.0004	30/12/2020	3,289 P	0.0044
9/10/2020	€ 13,209	-0.0021	9/8/2021	€ 15,610	-0.0148				15/01/2019	2,440 P	-0.0002	27/12/2019	3,050 P	0.0062	04/01/2021	3,351 P	0.0185
9/11/2020	€ 13,203	-0.0005	9/9/2021	€ 15,623	0.0008							30/12/2019	3,046 P	-0.0015	05/01/2021	3,359 P	0.0026
9/14/2020	€ 13,194	-0.0007	9/10/2021	€ 15,610	-0.0009							03/01/2020	3,076 P	0.0100	06/01/2021	3,371 P	0.0035
9/15/2020	€ 13,218	0.0018	9/13/2021	€ 15,701	0.0059							06/01/2020	3,079 P	0.0008	08/01/2021	3,455 P	0.0246
9/16/2020	€ 13,255	0.0028	9/14/2021	€ 15,723	0.0014							08/01/2020	3,110 P	0.0101	11/01/2021	3,482 P	0.0080
9/17/2020	€ 13,208	-0.0036	9/15/2021	€ 15,616	-0.0068							09/01/2020	3,118 P	0.0026	12/01/2021	3,472 P	-0.0031
9/18/2020	€ 13,116	-0.0070	9/16/2021	€ 15,652	0.0023							10/01/2020	3,124 P	0.0018	13/01/2021	3,470 P	-0.0004
9/21/2020	€ 12,542	-0.0447	9/17/2021	€ 15,490	-0.0104							13/01/2020	3,152 P	0.0089	14/01/2021	3,491 P	0.0059
9/22/2020	€ 12,594	0.0041	9/20/2021	€ 15,132	-0.0234							14/01/2020	3,130 P	-0.0070			
9/23/2020	€ 12,643	0.0038	9/21/2021	€ 15,349	0.0142												
9/24/2020	€ 12,607	-0.0029	9/22/2021	€ 15,507	0.0103												
			9/23/2021	€ 15,644	0.0088												

POLITEKNIK  
NEGERI  
JAKARTA



## © Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan tanpa izin Politeknik Negeri Jakarta
2. Dilarang mengumpukan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun

KONDISI PRA			KONDISI SAAT			KONDISI PASCA			KONDISI PRA			KONDISI SAAT			KONDISI PASCA		
TANGGAL	JKSE	RETURN	TANGGAL	JKSE	RETURN	TANGGAL	JKSE	RETURN	TANGGAL	IBOVESPA	RETURN	TANGGAL	IBOVESPA	RETURN	TANGGAL	IBOVESPA	RETURN
17/04/2017	Rp5.577		17/04/2018	Rp6.286		18/04/2019	Rp6.507		07/10/2016	RS 61,109		09/10/2017	RS 75,727		08/10/2018	RS 86,084	
18/04/2017	Rp5.607	0.0052	18/04/2018	Rp6.320	0.0054	22/04/2019	Rp6.415	-0.0143	10/10/2016	RS 61,668	0.0091	10/10/2017	RS 76,897	0.0153	09/10/2018	RS 86,088	0.0000
20/04/2017	Rp5.595	-0.0020	19/04/2018	Rp6.356	0.0057	23/04/2019	Rp6.463	0.0075	11/10/2016	RS 61,022	-0.0105	11/10/2017	RS 76,660	-0.0031	10/10/2018	RS 83,679	-0.0284
21/04/2017	Rp5.664	0.0123	20/04/2018	Rp6.338	-0.0029	24/04/2019	Rp6.448	-0.0023	13/10/2016	RS 61,119	0.0016	13/10/2017	RS 76,990	0.0043	11/10/2018	RS 82,921	-0.0091
25/04/2017	Rp5.681	0.0029	23/04/2018	Rp6.308	-0.0047	25/04/2019	Rp6.373	-0.0117	14/10/2016	RS 61,767	0.0105	16/10/2017	RS 76,892	-0.0013	15/10/2018	RS 83,360	0.0053
26/04/2017	Rp5.727	0.0080	24/04/2018	Rp6.230	-0.0125	26/04/2019	Rp6.401	0.0044	17/10/2016	RS 62,696	0.0149	17/10/2017	RS 76,201	-0.0090	16/10/2018	RS 85,718	0.0279
27/04/2017	Rp5.707	-0.0034	25/04/2018	Rp6.080	-0.0243	29/04/2019	Rp6.426	0.0039	18/10/2016	RS 63,782	0.0172	18/10/2017	RS 76,591	0.0051	17/10/2018	RS 85,764	0.0005
28/04/2017	Rp5.685	-0.0038	26/04/2018	Rp5.909	-0.0285	30/04/2019	Rp6.455	0.0046	19/10/2016	RS 63,506	-0.0043	19/10/2017	RS 76,283	-0.0040	18/10/2018	RS 83,847	-0.0226
02/05/2017	Rp5.676	-0.0017	27/04/2018	Rp5.919	0.0017	02/05/2019	Rp6.374	-0.0126	20/10/2016	RS 63,838	0.0052	20/10/2017	RS 76,391	0.0014	19/10/2018	RS 84,220	0.0044
03/05/2017	Rp5.647	-0.0050	30/04/2018	Rp5.995	0.0127	03/05/2019	Rp6.319	-0.0087	21/10/2016	RS 64,108	0.0042	23/10/2017	RS 75,413	-0.0129	22/10/2018	RS 85,597	0.0162
04/05/2017	Rp5.669	0.0039	02/05/2018	Rp6.012	0.0029	06/05/2019	Rp6.256	-0.0100	24/10/2016	RS 64,060	-0.0007	24/10/2017	RS 76,350	0.0123	23/10/2018	RS 85,300	-0.0035
05/05/2017	Rp5.683	0.0025	03/05/2018	Rp5.859	-0.0259	07/05/2019	Rp6.297	0.0065	25/10/2016	RS 63,866	-0.0030	25/10/2017	RS 76,671	0.0042	24/10/2018	RS 83,064	-0.0266
08/05/2017	Rp5.708	0.0043	04/05/2018	Rp5.792	-0.0114	08/05/2019	Rp6.270	-0.0043	26/10/2016	RS 63,826	-0.0006	26/10/2017	RS 75,896	-0.0102	25/10/2018	RS 84,084	0.0122
09/05/2017	Rp5.697	-0.0019	07/05/2018	Rp5.885	0.0159	09/05/2019	Rp6.199	-0.0115	27/10/2016	RS 64,250	0.0066	27/10/2017	RS 75,976	0.0011	26/10/2018	RS 85,720	0.0193
10/05/2017	Rp5.653	-0.0078	08/05/2018	Rp5.775	-0.0189	10/05/2019	Rp6.209	0.0017	28/10/2016	RS 64,308	0.0009	30/10/2017	RS 74,800	-0.0156	29/10/2018	RS 83,797	-0.0227
12/05/2017	Rp5.675	0.0039	09/05/2018	Rp5.908	0.0228	13/05/2019	Rp6.135	-0.0119	31/10/2016	RS 64,925	0.0095	31/10/2017	RS 74,308	-0.0066	30/10/2018	RS 86,886	0.0362
15/05/2017	Rp5.689	0.0024	11/05/2018	Rp5.957	0.0082	14/05/2019	Rp6.071	-0.0105	01/11/2016	RS 63,326	-0.0249	01/11/2017	RS 73,824	-0.0065	31/10/2018	RS 87,424	0.0062
16/05/2017	Rp5.647	-0.0074	14/05/2018	Rp5.947	-0.0016	15/05/2019	Rp5.981	-0.0150	03/11/2016	RS 61,750	-0.0252	03/11/2017	RS 73,915	0.0012	01/11/2018	RS 88,419	0.0113
17/05/2017	Rp5.615	-0.0056	15/05/2018	Rp5.838	-0.0185	16/05/2019	Rp5.896	-0.0143	04/11/2016	RS 61,598	-0.0025	06/11/2017	RS 74,311	0.0053	05/11/2018	RS 89,598	0.0132
18/05/2017	Rp5.645	0.0053	16/05/2018	Rp5.841	0.0006	17/05/2019	Rp5.827	-0.0118	07/11/2016	RS 64,052	0.0391	07/11/2017	RS 72,415	-0.0258	06/11/2018	RS 88,669	-0.0104
19/05/2017	Rp5.792	0.0256	17/05/2018	Rp5.816	-0.0044	20/05/2019	Rp5.907	0.0137	08/11/2016	RS 64,158	0.0017	08/11/2017	RS 74,363	0.0265	07/11/2018	RS 87,714	-0.0108
22/05/2017	Rp5.749	-0.0074	18/05/2018	Rp5.783	-0.0056	21/05/2019	Rp5.951	0.0075	09/11/2016	RS 63,258	-0.0141	09/11/2017	RS 72,931	-0.0194	08/11/2018	RS 85,620	-0.0242
23/05/2017	Rp5.731	-0.0033	21/05/2018	Rp5.734	-0.0086	22/05/2019	Rp5.940	-0.0020	10/11/2016	RS 61,201	-0.0331	10/11/2017	RS 72,166	-0.0105	09/11/2018	RS 85,641	0.0002
24/05/2017	Rp5.703	-0.0048	22/05/2018	Rp5.751	0.0030	23/05/2019	Rp6.033	0.0155	11/11/2016	RS 59,184	-0.0335	13/11/2017	RS 72,475	0.0043	12/11/2018	RS 85,525	-0.0014
26/05/2017	Rp5.717	0.0023	23/05/2018	Rp5.792	0.0071	24/05/2019	Rp6.057	0.0041	14/11/2016	RS 59,657	0.0080	14/11/2017	RS 70,827	-0.0230	13/11/2018	RS 84,914	-0.0072
29/05/2017	Rp5.712	-0.0008	24/05/2018	Rp5.947	0.0263	27/05/2019	Rp6.099	0.0068	16/11/2016	RS 60,759	0.0183	16/11/2017	RS 72,512	0.0235	14/11/2018	RS 85,973	0.0124
30/05/2017	Rp5.693	-0.0033	25/05/2018	Rp5.976	0.0049	28/05/2019	Rp6.033	-0.0109	17/11/2016	RS 59,770	-0.0164	17/11/2017	RS 73,437	0.0127	16/11/2018	RS 88,515	0.0291
31/05/2017	Rp5.738	0.0078	28/05/2018	Rp6.068	0.0154	29/05/2019	Rp6.104	0.0117	18/11/2016	RS 59,962	0.0032	21/11/2017	RS 74,595	0.0156	19/11/2018	RS 87,901	-0.0070
02/06/2017	Rp5.742	0.0007	30/05/2018	Rp6.011	-0.0095	31/05/2019	Rp6.209	0.0171	21/11/2016	RS 61,070	0.0183	22/11/2017	RS 74,519	-0.0010	21/11/2018	RS 87,269	-0.0072
05/06/2017	Rp5.748	0.0010	31/05/2018	Rp5.984	-0.0046	10/06/2019	Rp6.290	0.0129	22/11/2016	RS 61,954	0.0144	23/11/2017	RS 74,487	-0.0004	22/11/2018	RS 87,477	0.0024
06/06/2017	Rp5.708	-0.0071	04/06/2018	Rp6.015	0.0052	11/06/2019	Rp6.306	0.0026	23/11/2016	RS 61,986	0.0005	24/11/2017	RS 74,157	-0.0044	23/11/2018	RS 86,230	-0.0144
07/06/2017	Rp5.717	0.0017	05/06/2018	Rp6.089	0.0122	12/06/2019	Rp6.276	-0.0047	24/11/2016	RS 61,396	-0.0096	27/11/2017	RS 74,059	-0.0013	26/11/2018	RS 85,547	-0.0080
08/06/2017	Rp5.703	-0.0025	06/06/2018	Rp6.070	-0.0031	13/06/2019	Rp6.273	-0.0005	25/11/2016	RS 61,559	0.0027	28/11/2017	RS 74,140	0.0011	27/11/2018	RS 87,891	0.0270
09/06/2017	Rp5.676	-0.0048	07/06/2018	Rp6.107	0.0061	14/06/2019	Rp6.250	-0.0036	28/11/2016	RS 62,855	0.0208	29/11/2017	RS 72,700	-0.0196	28/11/2018	RS 89,251	0.0154
12/06/2017	Rp5.691	0.0028	08/06/2018	Rp5.994	-0.0187	17/06/2019	Rp6.191	-0.0096	29/11/2016	RS 60,987	-0.0302	30/11/2017	RS 71,971	-0.0101	29/11/2018	RS 89,710	0.0051
13/06/2017	Rp5.708	0.0028	20/06/2018	Rp5.884	-0.0185	18/06/2019	Rp6.257	0.0107	30/11/2016	RS 61,906	0.0150	01/12/2017	RS 72,264	0.0041	30/11/2018	RS 89,504	-0.0023
14/06/2017	Rp5.793	0.0148	21/06/2018	Rp5.822	-0.0105	19/06/2019	Rp6.339	0.0130	01/12/2016	RS 59,507	-0.0395	04/12/2017	RS 73,090	0.0114	03/12/2018	RS 89,820	0.0035
15/06/2017	Rp5.776	-0.0029	22/06/2018	Rp5.822	-0.0001	20/06/2019	Rp6.336	-0.0006	02/12/2016	RS 60,316	0.0135	05/12/2017	RS 72,546	-0.0075	04/12/2018	RS 88,624	-0.0134
16/06/2017	Rp5.724	-0.0092	25/06/2018	Rp5.859	0.0064	21/06/2019	Rp6.315	-0.0032	05/12/2016	RS 59,832	-0.0081	06/12/2017	RS 73,268	0.0099	05/12/2018	RS 89,040	0.0047
19/06/2017	Rp5.742	0.0032	26/06/2018	Rp5.826	-0.0057	24/06/2019	Rp6.288	-0.0043	06/12/2016	RS 61,088	0.0208	07/12/2017	RS 72,487	-0.0107	06/12/2018	RS 88,846	-0.0022
20/06/2017	Rp5.792	0.0087	27/06/2018	Rp5.788	-0.0066	25/06/2019	Rp6.320	0.0051	07/12/2016	RS 61,414	0.0053	08/12/2017	RS 72,732	0.0034	07/12/2018	RS 88,115	-0.0083
21/06/2017	Rp5.819	0.0046	28/06/2018	Rp5.667	-0.0210	26/06/2019	Rp6.310	-0.0016	08/12/2016	RS 60,677	-0.0121	11/12/2017	RS 72,800	0.0009	10/12/2018	RS 85,915	-0.0253



© Hak Cipta milik Politeknik Negeri Jakarta

22/06/2017	Rp5.830	0.0019	29/06/2018	Rp5.799	0.0230	27/06/2019	Rp6.353	0.0067	09/12/2016	RS 60,501	-0.0029	12/12/2017	RS 73,814	0.0138	11/12/2018	RS 86,420	0.0059
03/07/2017	Rp5.910	0.0137	02/07/2018	Rp5.747	-0.0091	28/06/2019	Rp6.359	0.0009	12/12/2016	RS 59,179	-0.0221	13/12/2017	RS 72,914	-0.0123	12/12/2018	RS 86,977	0.0064
04/07/2017	Rp5.865	-0.0076	03/07/2018	Rp5.634	-0.0198	01/07/2019	Rp6.380	0.0033	13/12/2016	RS 59,281	0.0017	14/12/2017	RS 72,429	-0.0067	13/12/2018	RS 87,838	0.0099
05/07/2017	Rp5.825	-0.0069	04/07/2018	Rp5.734	0.0175	02/07/2019	Rp6.385	0.0008	14/12/2016	RS 58,212	-0.0182	15/12/2017	RS 72,608	0.0025	14/12/2018	RS 87,450	-0.0044
06/07/2017	Rp5.850	0.0042	05/07/2018	Rp5.739	0.0010	03/07/2019	Rp6.363	-0.0035	15/12/2016	RS 58,396	0.0032	18/12/2017	RS 73,115	0.0070	17/12/2018	RS 86,400	-0.0121
07/07/2017	Rp5.815	-0.0060	06/07/2018	Rp5.695	-0.0078	04/07/2019	Rp6.376	0.0021	16/12/2016	RS 58,389	-0.0001	19/12/2017	RS 72,680	-0.0060	18/12/2018	RS 86,610	0.0024
10/07/2017	Rp5.772	-0.0075	09/07/2018	Rp5.807	0.0196	05/07/2019	Rp6.373	-0.0004	19/12/2016	RS 57,111	-0.0221	20/12/2017	RS 73,367	0.0094	19/12/2018	RS 85,674	-0.0109
11/07/2017	Rp5.773	0.0003	10/07/2018	Rp5.882	0.0127	08/07/2019	Rp6.352	-0.0034	20/12/2016	RS 57,583	0.0082	21/12/2017	RS 75,133	0.0238	20/12/2018	RS 85,269	-0.0047
12/07/2017	Rp5.819	0.0079	11/07/2018	Rp5.893	0.0020	09/07/2019	Rp6.388	0.0057	21/12/2016	RS 57,647	0.0011	22/12/2017	RS 75,187	0.0007	21/12/2018	RS 85,697	0.0050
13/07/2017	Rp5.830	0.0019	12/07/2018	Rp5.908	0.0025	10/07/2019	Rp6.411	0.0035	22/12/2016	RS 57,255	-0.0068	26/12/2017	RS 75,688	0.0066	26/12/2018	RS 85,136	-0.0066
14/07/2017	Rp5.832	0.0003	13/07/2018	Rp5.944	0.0061	11/07/2019	Rp6.417	0.0010	23/12/2016	RS 57,937	0.0118	27/12/2017	RS 76,073	0.0051	27/12/2018	RS 85,460	0.0038
17/07/2017	Rp5.841	0.0016	16/07/2018	Rp5.905	-0.0066	12/07/2019	Rp6.373	-0.0068	26/12/2016	RS 58,620	0.0117	28/12/2017	RS 76,402	0.0043	28/12/2018	RS 87,887	0.0280
18/07/2017	Rp5.822	-0.0032	17/07/2018	Rp5.862	-0.0074	15/07/2019	Rp6.418	0.0070	27/12/2016	RS 58,697	0.0013	29/12/2017	RS 76,402	0.0000	02/01/2019	RS 91,012	0.0349
19/07/2017	Rp5.807	-0.0027	18/07/2018	Rp5.891	0.0050	16/07/2019	Rp6.402	-0.0026	28/12/2016	RS 59,782	0.0183	02/01/2018	RS 77,891	0.0193	03/01/2019	RS 91,564	0.0060
20/07/2017	Rp5.825	0.0032	19/07/2018	Rp5.871	-0.0033	17/07/2019	Rp6.395	-0.0011	29/12/2016	RS 60,227	0.0074	03/01/2018	RS 77,995	0.0013	04/01/2019	RS 91,841	0.0030
21/07/2017	Rp5.765	-0.0103	20/07/2018	Rp5.873	0.0003	18/07/2019	Rp6.403	0.0014	02/01/2017	RS 59,589	-0.0106	04/01/2018	RS 78,647	0.0083	07/01/2019	RS 91,699	-0.0015
24/07/2017	Rp5.802	0.0063	23/07/2018	Rp5.916	0.0073	19/07/2019	Rp6.457	0.0083	03/01/2017	RS 61,814	-0.0367	05/01/2018	RS 79,071	0.0054	08/01/2019	RS 92,032	0.0036
25/07/2017	Rp5.814	0.0021	24/07/2018	Rp5.932	0.0027	22/07/2019	Rp6.434	-0.0036	04/01/2017	RS 61,589	-0.0036	08/01/2018	RS 79,379	0.0039	09/01/2019	RS 93,613	0.0170
26/07/2017	Rp5.800	-0.0023	25/07/2018	Rp5.934	0.0003	23/07/2019	Rp6.404	-0.0046	05/01/2017	RS 62,071	0.0078	09/01/2018	RS 78,864	-0.0065	10/01/2019	RS 93,806	0.0021
27/07/2017	Rp5.820	0.0034	26/07/2018	Rp5.946	0.0021	24/07/2019	Rp6.385	-0.0029	06/01/2017	RS 61,665	-0.0066	10/01/2018	RS 78,201	-0.0084	11/01/2019	RS 93,658	-0.0016
28/07/2017	Rp5.831	0.0019	27/07/2018	Rp5.989	0.0072	25/07/2019	Rp6.401	0.0026	09/01/2017	RS 61,700	0.0006	11/01/2018	RS 79,365	0.0148	14/01/2019	RS 94,474	0.0087
31/07/2017	Rp5.841	0.0017	30/07/2018	Rp6.028	0.0065	26/07/2019	Rp6.325	-0.0120	10/01/2017	RS 62,132	0.0070	12/01/2018	RS 79,349	-0.0002	15/01/2019	RS 94,056	-0.0044
01/08/2017	Rp5.805	-0.0061	31/07/2018	Rp5.936	-0.0153	29/07/2019	Rp6.299	-0.0042	11/01/2017	RS 62,446	0.0050	15/01/2018	RS 79,752	0.0051	16/01/2019	RS 94,393	0.0036
02/08/2017	Rp5.824	0.0033	01/08/2018	Rp6.033	0.0162	30/07/2019	Rp6.377	0.0123	12/01/2017	RS 63,954	0.0239	16/01/2018	RS 79,832	0.0010	17/01/2019	RS 95,351	0.0101
03/08/2017	Rp5.781	-0.0075	02/08/2018	Rp6.012	-0.0036	31/07/2019	Rp6.391	0.0021	13/01/2017	RS 63,652	-0.0047	17/01/2018	RS 81,189	0.0169	18/01/2019	RS 96,097	0.0078
04/08/2017	Rp5.777	-0.0005	03/08/2018	Rp6.008	-0.0007	01/08/2019	Rp6.382	-0.0014	16/01/2017	RS 63,831	0.0028	18/01/2018	RS 80,963	-0.0028	21/01/2019	RS 96,010	-0.0009
07/08/2017	Rp5.749	-0.0049	06/08/2018	Rp6.101	0.0155	02/08/2019	Rp6.340	-0.0065	17/01/2017	RS 64,354	0.0082	19/01/2018	RS 81,220	0.0032	22/01/2019	RS 95,103	-0.0095
08/08/2017	Rp5.811	0.0106	07/08/2018	Rp6.091	-0.0016	05/08/2019	Rp6.176	-0.0263	18/01/2017	RS 64,150	-0.0032	22/01/2018	RS 81,675	0.0056	23/01/2019	RS 96,558	0.0152
09/08/2017	Rp5.824	0.0023	08/08/2018	Rp6.095	0.0006	06/08/2019	Rp6.119	-0.0091	19/01/2017	RS 63,951	-0.0031	23/01/2018	RS 80,678	-0.0123	24/01/2019	RS 97,677	0.0115
10/08/2017	Rp5.826	0.0003	09/08/2018	Rp6.065	-0.0049	07/08/2019	Rp6.204	0.0137	20/01/2017	RS 64,521	0.0089	24/01/2018	RS 83,680	0.0365	28/01/2019	RS 95,444	-0.0231
11/08/2017	Rp5.766	-0.0103	10/08/2018	Rp6.077	0.0020	08/08/2019	Rp6.275	0.0113	23/01/2017	RS 65,749	0.0189	26/01/2018	RS 85,531	0.0219	29/01/2019	RS 95,639	0.0020
14/08/2017	Rp5.801	0.0061	13/08/2018	Rp5.861	-0.0362	09/08/2019	Rp6.282	0.0012	24/01/2017	RS 65,840	0.0014	29/01/2018	RS 84,698	-0.0098	30/01/2019	RS 96,996	0.0141
15/08/2017	Rp5.835	0.0058	14/08/2018	Rp5.770	-0.0157	12/08/2019	Rp6.251	-0.0050	26/01/2017	RS 66,191	0.0053	30/01/2018	RS 84,482	-0.0026	31/01/2019	RS 97,394	0.0041
16/08/2017	Rp5.892	0.0097	15/08/2018	Rp5.817	0.0081	13/08/2019	Rp6.211	-0.0064	27/01/2017	RS 66,034	-0.0024	31/01/2018	RS 84,913	0.0051	01/02/2019	RS 97,861	0.0048
18/08/2017	Rp5.894	0.0003	16/08/2018	Rp5.784	-0.0057	14/08/2019	Rp6.267	0.0090	30/01/2017	RS 64,302	-0.0266	01/02/2018	RS 85,495	0.0068	04/02/2019	RS 98,589	0.0074
21/08/2017	Rp5.861	-0.0056	20/08/2018	Rp5.892	0.0186	15/08/2019	Rp6.258	-0.0016	31/01/2017	RS 64,671	0.0057	02/02/2018	RS 84,041	-0.0172	05/02/2019	RS 98,311	-0.0028
22/08/2017	Rp5.880	0.0033	21/08/2018	Rp5.944	0.0088	16/08/2019	Rp6.287	0.0046	01/02/2017	RS 64,836	0.0025	05/02/2018	RS 81,861	-0.0263	06/02/2019	RS 94,636	-0.0381
23/08/2017	Rp5.914	0.0057	23/08/2018	Rp5.983	0.0065	19/08/2019	Rp6.297	0.0016	02/02/2017	RS 64,578	-0.0040	06/02/2018	RS 83,894	0.0245	07/02/2019	RS 94,406	-0.0024
24/08/2017	Rp5.894	-0.0034	24/08/2018	Rp5.969	-0.0024	20/08/2019	Rp6.296	-0.0002	03/02/2017	RS 64,954	0.0058	07/02/2018	RS 82,767	-0.0135	08/02/2019	RS 95,343	0.0099
25/08/2017	Rp5.915	0.0036	27/08/2018	Rp6.026	0.0095	21/08/2019	Rp6.253	-0.0068	06/02/2017	RS 63,993	-0.0149	08/02/2018	RS 81,533	-0.0150	11/02/2019	RS 94,413	-0.0098
28/08/2017	Rp5.903	-0.0020	28/08/2018	Rp6.043	0.0028	22/08/2019	Rp6.239	-0.0022	07/02/2017	RS 64,199	0.0032	09/02/2018	RS 80,899	-0.0078	12/02/2019	RS 96,168	0.0184
29/08/2017	Rp5.888	-0.0026	29/08/2018	Rp6.065	0.0037	23/08/2019	Rp6.256	0.0026	08/02/2017	RS 64,835	0.0099	14/02/2018	RS 83,543	0.0322	13/02/2019	RS 95,842	-0.0034
30/08/2017	Rp5.873	-0.0027	30/08/2018	Rp6.019	-0.0076	26/08/2019	Rp6.215	-0.0066	09/02/2017	RS 64,965	0.0020	15/02/2018	RS 84,291	0.0089	14/02/2019	RS 98,015	0.0224
31/08/2017	Rp5.864	-0.0014	31/08/2018	Rp6.018	-0.0001	27/08/2019	Rp6.278	0.0102	10/02/2017	RS 66,125	0.0177	16/02/2018	RS 84,525	0.0028	15/02/2019	RS 97,526	-0.0050
04/09/2017	Rp5.814	-0.0086	03/09/2018	Rp5.968	-0.0085	28/08/2019	Rp6.282	0.0006	13/02/2017	RS 66,968	0.0127	19/02/2018	RS 84,793	0.0032	18/02/2019	RS 96,510	-0.0105
05/09/2017	Rp5.830	0.0028	04/09/2018	Rp5.905	-0.0105	29/08/2019	Rp6.289	0.0012	14/02/2017	RS 66,713	-0.0038	20/02/2018	RS 85,804	0.0119	19/02/2019	RS 97,659	0.0118

Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumpukan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



© Hak Cipta milik Politeknik Negeri Jakarta

06/09/2017	Rp5.824	-0.0010	05/09/2018	Rp5.684	-0.0383	30/08/2019	Rp6.328	0.0062	15/02/2017	RS 67.976	0.0188	21/02/2018	RS 86.052	0.0029	20/02/2019	RS 96.545	-0.0115
07/09/2017	Rp5.832	0.0014	06/09/2018	Rp5.776	0.0162	02/09/2019	Rp6.291	-0.0060	16/02/2017	RS 67.814	-0.0024	22/02/2018	RS 86.686	0.0073	21/02/2019	RS 96.932	0.0040
08/09/2017	Rp5.857	0.0042	07/09/2018	Rp5.851	0.0130	03/09/2019	Rp6.262	-0.0046	17/02/2017	RS 67.748	-0.0010	23/02/2018	RS 87.293	0.0070	22/02/2019	RS 97.886	0.0098
11/09/2017	Rp5.872	0.0025	10/09/2018	Rp5.831	-0.0035	04/09/2019	Rp6.270	0.0013	20/02/2017	RS 68.533	0.0115	26/02/2018	RS 87.653	0.0041	25/02/2019	RS 97.240	-0.0066
12/09/2017	Rp5.872	0.0001	12/09/2018	Rp5.798	-0.0057	05/09/2019	Rp6.307	0.0059	21/02/2017	RS 69.052	0.0075	27/02/2018	RS 86.935	-0.0082	26/02/2019	RS 97.603	0.0037
13/09/2017	Rp5.846	-0.0045	13/09/2018	Rp5.858	0.0103	06/09/2019	Rp6.309	0.0003	22/02/2017	RS 68.590	-0.0067	28/02/2018	RS 85.481	-0.0169	27/02/2019	RS 97.307	-0.0030
14/09/2017	Rp5.852	0.0011	14/09/2018	Rp5.931	0.0124	09/09/2019	Rp6.326	0.0027	23/02/2017	RS 67.461	-0.0166	01/03/2018	RS 85.378	-0.0012	28/02/2019	RS 95.584	-0.0179
15/09/2017	Rp5.872	0.0035	17/09/2018	Rp5.824	-0.0182	10/09/2019	Rp6.337	0.0017	24/02/2017	RS 66.662	-0.0119	02/03/2018	RS 85.761	0.0045	01/03/2019	RS 94.604	-0.0103
18/09/2017	Rp5.885	0.0021	18/09/2018	Rp5.812	-0.0021	11/09/2019	Rp6.382	0.0071	01/03/2017	RS 66.989	0.0049	05/03/2018	RS 86.023	0.0031	06/03/2019	RS 94.217	-0.0041
19/09/2017	Rp5.901	0.0028	19/09/2018	Rp5.874	0.0106	12/09/2019	Rp6.342	-0.0063	02/03/2017	RS 65.855	-0.0171	06/03/2018	RS 85.653	-0.0043	07/03/2019	RS 94.340	0.0013
20/09/2017	Rp5.907	0.0009	20/09/2018	Rp5.931	0.0098	13/09/2019	Rp6.335	-0.0012	03/03/2017	RS 66.786	0.0140	07/03/2018	RS 85.484	-0.0020	08/03/2019	RS 95.365	0.0108
22/09/2017	Rp5.912	0.0009	21/09/2018	Rp5.958	0.0045	16/09/2019	Rp6.219	-0.0184	06/03/2017	RS 66.341	-0.0067	08/03/2018	RS 84.985	-0.0059	11/03/2019	RS 98.027	0.0275
25/09/2017	Rp5.895	-0.0029	24/09/2018	Rp5.882	-0.0128	17/09/2019	Rp6.237	0.0028	07/03/2017	RS 65.742	-0.0091	09/03/2018	RS 86.371	0.0162	12/03/2019	RS 97.828	-0.0020
26/09/2017	Rp5.864	-0.0052	25/09/2018	Rp5.874	-0.0013	18/09/2019	Rp6.277	0.0064	08/03/2017	RS 64.718	-0.0157	12/03/2018	RS 86.900	0.0061	13/03/2019	RS 98.904	0.0109
27/09/2017	Rp5.863	-0.0002	26/09/2018	Rp5.873	-0.0002	19/09/2019	Rp6.244	-0.0051	09/03/2017	RS 64.585	-0.0021	13/03/2018	RS 86.384	-0.0060	14/03/2019	RS 98.605	-0.0030
28/09/2017	Rp5.841	-0.0038	27/09/2018	Rp5.929	0.0095	20/09/2019	Rp6.231	-0.0021	10/03/2017	RS 64.675	0.0014	14/03/2018	RS 86.051	-0.0039	15/03/2019	RS 99.137	0.0054
29/09/2017	Rp5.901	0.0102	28/09/2018	Rp5.977	0.0080	23/09/2019	Rp6.206	-0.0041	13/03/2017	RS 65.534	0.0132	15/03/2018	RS 84.928	-0.0131	18/03/2019	RS 99.994	0.0086
02/10/2017	Rp5.914	0.0022	01/10/2018	Rp5.945	-0.0054	24/09/2019	Rp6.138	-0.0111	14/03/2017	RS 64.699	-0.0128	16/03/2018	RS 84.886	-0.0005	19/03/2019	RS 99.588	-0.0041
03/10/2017	Rp5.939	0.0043	02/10/2018	Rp5.876	-0.0117	25/09/2019	Rp6.146	0.0014	15/03/2017	RS 66.235	0.0235	19/03/2018	RS 83.913	-0.0115	20/03/2019	RS 98.041	-0.0157
04/10/2017	Rp5.951	0.0020	03/10/2018	Rp5.868	-0.0013	26/09/2019	Rp6.230	0.0136	16/03/2017	RS 65.783	-0.0068	20/03/2018	RS 84.164	0.0030	21/03/2019	RS 96.729	-0.0135
05/10/2017	Rp5.902	-0.0084	04/10/2018	Rp5.757	-0.0191	27/09/2019	Rp6.197	-0.0054	17/03/2017	RS 64.210	-0.0242	21/03/2018	RS 84.977	0.0096	22/03/2019	RS 93.735	-0.0314
06/10/2017	Rp5.905	0.0006	05/10/2018	Rp5.732	-0.0043	30/09/2019	Rp6.169	-0.0045	20/03/2017	RS 64.884	0.0104	22/03/2018	RS 84.768	-0.0025	25/03/2019	RS 93.662	-0.0008
09/10/2017	Rp5.915	0.0016	08/10/2018	Rp5.761	0.0051	01/10/2019	Rp6.138	-0.0050	21/03/2017	RS 62.980	-0.0298	23/03/2018	RS 84.377	-0.0046	26/03/2019	RS 95.307	0.0174
10/10/2017	Rp5.906	-0.0016	09/10/2018	Rp5.797	0.0062	02/10/2019	Rp6.055	-0.0136	22/03/2017	RS 63.521	0.0086	26/03/2018	RS 85.088	0.0084	27/03/2019	RS 91.903	-0.0364
11/10/2017	Rp5.883	-0.0039	10/10/2018	Rp5.821	0.0041	03/10/2019	Rp6.039	-0.0028	23/03/2017	RS 63.531	0.0002	27/03/2018	RS 83.808	-0.0152	28/03/2019	RS 94.389	0.0267
12/10/2017	Rp5.926	0.0074	11/10/2018	Rp5.703	-0.0205	04/10/2019	Rp6.061	0.0038	24/03/2017	RS 63.854	0.0051	28/03/2018	RS 83.874	0.0008	29/03/2019	RS 95.415	0.0108
13/10/2017	Rp5.924	-0.0004	12/10/2018	Rp5.756	0.0094	07/10/2019	Rp6.001	-0.0101	27/03/2017	RS 64.308	0.0071	29/03/2018	RS 85.366	0.0176	01/04/2019	RS 96.054	0.0067
16/10/2017	Rp5.950	0.0043	15/10/2018	Rp5.727	-0.0051	08/10/2019	Rp6.040	0.0065	28/03/2017	RS 64.640	0.0051	02/04/2018	RS 84.666	-0.0082	02/04/2019	RS 95.387	-0.0070
17/10/2017	Rp5.947	-0.0004	16/10/2018	Rp5.801	0.0128	09/10/2019	Rp6.029	-0.0017	29/03/2017	RS 65.528	0.0136	03/04/2018	RS 84.623	-0.0005	03/04/2019	RS 94.491	-0.0094
18/10/2017	Rp5.929	-0.0031	17/10/2018	Rp5.869	0.0116	10/10/2019	Rp6.024	-0.0009	30/03/2017	RS 65.266	-0.0040	04/04/2018	RS 84.360	-0.0031	04/04/2019	RS 96.313	0.0191
19/10/2017	Rp5.911	-0.0032	18/10/2018	Rp5.845	-0.0040	11/10/2019	Rp6.106	0.0135	31/03/2017	RS 64.984	-0.0043	05/04/2018	RS 85.210	0.0100	05/04/2019	RS 97.108	0.0082
20/10/2017	Rp5.930	0.0032	19/10/2018	Rp5.837	-0.0014	14/10/2019	Rp6.127	0.0034	03/04/2017	RS 65.211	0.0035	06/04/2018	RS 84.820	-0.0046	08/04/2019	RS 97.369	0.0027
23/10/2017	Rp5.950	0.0034	22/10/2018	Rp5.840	0.0005	15/10/2019	Rp6.158	0.0051	04/04/2017	RS 65.769	0.0085	09/04/2018	RS 83.307	-0.0180	09/04/2019	RS 96.292	-0.0111
24/10/2017	Rp5.952	0.0003	23/10/2018	Rp5.798	-0.0073	16/10/2019	Rp6.170	0.0019	05/04/2017	RS 64.775	-0.0152	10/04/2018	RS 84.510	0.0143	10/04/2019	RS 95.953	-0.0035
25/10/2017	Rp6.025	0.0122	24/10/2018	Rp5.709	-0.0154	17/10/2019	Rp6.181	0.0018	06/04/2017	RS 64.223	-0.0086	11/04/2018	RS 85.246	0.0087	11/04/2019	RS 94.755	-0.0126
26/10/2017	Rp5.996	-0.0049	25/10/2018	Rp5.755	0.0079	18/10/2019	Rp6.192	0.0018	07/04/2017	RS 64.593	0.0057	12/04/2018	RS 85.444	0.0023	12/04/2019	RS 92.875	-0.0200
27/10/2017	Rp5.975	-0.0034	26/10/2018	Rp5.785	0.0052	21/10/2019	Rp6.199	0.0011	10/04/2017	RS 64.650	0.0009	13/04/2018	RS 84.334	-0.0131	15/04/2019	RS 93.083	0.0022
30/10/2017	Rp5.974	-0.0002	29/10/2018	Rp5.755	-0.0053	22/10/2019	Rp6.225	0.0043	11/04/2017	RS 64.360	-0.0045	16/04/2018	RS 82.862	-0.0176	16/04/2019	RS 94.333	0.0133
31/10/2017	Rp6.006	0.0053	30/10/2018	Rp5.789	0.0060	23/10/2019	Rp6.258	0.0052	12/04/2017	RS 63.892	-0.0073	17/04/2018	RS 84.086	0.0147	17/04/2019	RS 93.285	-0.0112
01/11/2017	Rp6.038	0.0054	31/10/2018	Rp5.832	0.0073	24/10/2019	Rp6.340	0.0130	13/04/2017	RS 62.826	-0.0168	18/04/2018	RS 85.776	0.0199	18/04/2019	RS 94.578	0.0138
02/11/2017	Rp6.031	-0.0012	01/11/2018	Rp5.836	0.0007	25/10/2019	Rp6.252	-0.0139	17/04/2017	RS 64.335	0.0237	19/04/2018	RS 85.824	0.0006	22/04/2019	RS 94.588	0.0001
03/11/2017	Rp6.040	0.0014	02/11/2018	Rp5.906	0.0120	28/10/2019	Rp6.265	0.0021	18/04/2017	RS 64.159	-0.0027	20/04/2018	RS 85.550	-0.0032	23/04/2019	RS 95.923	0.0140
06/11/2017	Rp6.051	0.0019	05/11/2018	Rp5.921	0.0024	29/10/2019	Rp6.281	0.0025	19/04/2017	RS 63.407	-0.0118	23/04/2018	RS 85.602	0.0006	24/04/2019	RS 95.045	-0.0092
07/11/2017	Rp6.060	0.0016	06/11/2018	Rp5.924	0.0006	30/10/2019	Rp6.296	0.0023	20/04/2017	RS 63.761	0.0056	24/04/2018	RS 85.469	-0.0016	25/04/2019	RS 96.552	0.0157
08/11/2017	Rp6.049	-0.0018	07/11/2018	Rp5.940	0.0027	31/10/2019	Rp6.228	-0.0108	24/04/2017	RS 64.389	0.0098	25/04/2018	RS 85.044	-0.0050	26/04/2019	RS 96.236	-0.0033
09/11/2017	Rp6.042	-0.0011	08/11/2018	Rp5.977	0.0062	01/11/2019	Rp6.207	-0.0034	25/04/2017	RS 65.148	0.0117	26/04/2018	RS 86.383	0.0156	29/04/2019	RS 96.188	-0.0005

NEGERI  
JAKARTA

Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumpukan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



**© Hak Cipta milik Politeknik Negeri Jakarta**

- Hak Cipta :**
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
  2. Dilarang mengumpukan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

10/11/2017	Rp6,022	-0.0034	09/11/2018	Rp5,874	-0.0173	04/11/2019	Rp6,180	-0.0043	26/04/2017	RS 64,862	-0.0044	27/04/2018	RS 86,445	0.0007	30/04/2019	RS 96,353	0.0017
13/11/2017	Rp6,021	-0.0001	12/11/2018	Rp5,777	-0.0167	05/11/2019	Rp6,264	0.0135	27/04/2017	RS 64,677	-0.0029	30/04/2018	RS 86,115	-0.0038	02/05/2019	RS 95,528	-0.0086
14/11/2017	Rp5,988	-0.0055	13/11/2018	Rp5,835	0.0100	06/11/2019	Rp6,218	-0.0075	28/04/2017	RS 65,403	0.0112	02/05/2018	RS 84,547	-0.0184	03/05/2019	RS 96,008	0.0050
15/11/2017	Rp5,972	-0.0027	14/11/2018	Rp5,858	0.0040	07/11/2019	Rp6,166	-0.0084	02/05/2017	RS 66,722	0.0200	03/05/2018	RS 83,288	-0.0150	06/05/2019	RS 95,009	-0.0105
16/11/2017	Rp6,038	0.0109	15/11/2018	Rp5,956	0.0165	08/11/2019	Rp6,178	0.0020	03/05/2017	RS 66,094	-0.0095	04/05/2018	RS 83,118	-0.0020	07/05/2019	RS 94,389	-0.0065
17/11/2017	Rp6,052	0.0023	16/11/2018	Rp6,012	0.0095	11/11/2019	Rp6,149	-0.0047	04/05/2017	RS 64,863	-0.0188	07/05/2018	RS 82,714	-0.0049	08/05/2019	RS 95,597	0.0127
20/11/2017	Rp6,053	0.0003	19/11/2018	Rp6,005	-0.0012	12/11/2019	Rp6,181	0.0052	05/05/2017	RS 65,710	0.0130	08/05/2018	RS 82,956	0.0029	09/05/2019	RS 94,808	-0.0083
21/11/2017	Rp6,032	-0.0035	21/11/2018	Rp5,948	-0.0096	13/11/2019	Rp6,143	-0.0062	08/05/2017	RS 65,526	-0.0028	09/05/2018	RS 84,265	0.0157	10/05/2019	RS 94,258	-0.0058
22/11/2017	Rp6,070	0.0063	22/11/2018	Rp5,991	0.0072	14/11/2019	Rp6,099	-0.0071	09/05/2017	RS 66,278	0.0114	10/05/2018	RS 85,861	0.0188	13/05/2019	RS 91,727	-0.0272
23/11/2017	Rp6,063	-0.0011	23/11/2018	Rp6,006	0.0026	15/11/2019	Rp6,128	0.0048	10/05/2017	RS 67,350	0.0160	11/05/2018	RS 85,220	-0.0075	14/05/2019	RS 92,092	0.0040
24/11/2017	Rp6,067	0.0006	26/11/2018	Rp6,023	0.0028	18/11/2019	Rp6,123	-0.0009	11/05/2017	RS 67,538	0.0028	14/05/2018	RS 85,232	0.0001	15/05/2019	RS 91,623	-0.0051
27/11/2017	Rp6,065	-0.0004	27/11/2018	Rp6,014	-0.0015	19/11/2019	Rp6,152	0.0048	12/05/2017	RS 68,222	0.0101	15/05/2018	RS 85,130	-0.0012	16/05/2019	RS 90,024	-0.0176
28/11/2017	Rp6,071	0.0010	28/11/2018	Rp5,991	-0.0037	20/11/2019	Rp6,155	0.0005	15/05/2017	RS 68,474	0.0037	16/05/2018	RS 86,537	0.0164	17/05/2019	RS 89,993	-0.0003
29/11/2017	Rp6,061	-0.0015	29/11/2018	Rp6,107	0.0192	21/11/2019	Rp6,117	-0.0062	16/05/2017	RS 68,684	0.0031	17/05/2018	RS 83,622	-0.0343	20/05/2019	RS 91,946	0.0215
30/11/2017	Rp5,952	-0.0182	30/11/2018	Rp6,056	-0.0084	22/11/2019	Rp6,100	-0.0028	17/05/2017	RS 67,540	-0.0168	18/05/2018	RS 83,082	-0.0065	21/05/2019	RS 94,485	0.0272
01/12/2017	Rp5,952	0.0000	03/12/2018	Rp6,118	0.0102	25/11/2019	Rp6,071	-0.0048	18/05/2017	RS 61,597	-0.0921	21/05/2018	RS 81,815	-0.0154	22/05/2019	RS 94,361	-0.0013
04/12/2017	Rp5,998	0.0077	04/12/2018	Rp6,153	0.0056	26/11/2019	Rp6,026	-0.0074	19/05/2017	RS 62,639	0.0168	22/05/2018	RS 82,739	0.0112	23/05/2019	RS 93,910	-0.0048
05/12/2017	Rp6,000	0.0004	05/12/2018	Rp6,133	-0.0032	27/11/2019	Rp6,023	-0.0005	22/05/2017	RS 61,673	-0.0155	23/05/2018	RS 80,867	-0.0229	24/05/2019	RS 93,628	-0.0030
06/12/2017	Rp6,036	0.0058	06/12/2018	Rp6,115	-0.0029	28/11/2019	Rp5,953	-0.0117	23/05/2017	RS 62,662	0.0159	24/05/2018	RS 80,122	-0.0093	27/05/2019	RS 94,864	0.0131
07/12/2017	Rp6,007	-0.0048	07/12/2018	Rp6,126	0.0018	29/11/2019	Rp6,012	0.0098	24/05/2017	RS 63,257	0.0095	25/05/2018	RS 78,898	-0.0154	28/05/2019	RS 96,393	0.0160
08/12/2017	Rp6,031	0.0040	10/12/2018	Rp6,111	-0.0025	02/12/2019	Rp6,130	0.0195	25/05/2017	RS 63,227	-0.0005	28/05/2018	RS 75,356	-0.0459	29/05/2019	RS 96,567	0.0018
11/12/2017	Rp6,027	-0.0007	11/12/2018	Rp6,077	-0.0057	03/12/2019	Rp6,134	0.0006	26/05/2017	RS 64,085	0.0135	29/05/2018	RS 76,072	0.0095	30/05/2019	RS 97,457	0.0092
12/12/2017	Rp6,032	0.0010	12/12/2018	Rp6,116	0.0064	04/12/2019	Rp6,113	-0.0034	29/05/2017	RS 63,761	-0.0051	30/05/2018	RS 76,754	0.0089	31/05/2019	RS 97,030	-0.0044
13/12/2017	Rp6,055	0.0037	13/12/2018	Rp6,178	0.0101	05/12/2019	Rp6,152	0.0064	30/05/2017	RS 63,962	0.0031	01/06/2018	RS 77,240	0.0063	03/06/2019	RS 97,020	-0.0001
14/12/2017	Rp6,114	0.0097	14/12/2018	Rp6,170	-0.0013	06/12/2019	Rp6,187	0.0056	31/05/2017	RS 62,711	-0.0198	04/06/2018	RS 78,596	0.0174	04/06/2019	RS 97,380	0.0037
15/12/2017	Rp6,119	0.0009	17/12/2018	Rp6,089	-0.0131	09/12/2019	Rp6,194	0.0011	01/06/2017	RS 62,289	-0.0068	05/06/2018	RS 76,642	-0.0252	05/06/2019	RS 95,999	-0.0143
18/12/2017	Rp6,134	0.0024	18/12/2018	Rp6,082	-0.0012	10/12/2019	Rp6,184	-0.0017	02/06/2017	RS 62,511	0.0036	06/06/2018	RS 76,117	-0.0069	06/06/2019	RS 97,205	0.0125
19/12/2017	Rp6,168	0.0055	19/12/2018	Rp6,176	0.0154	11/12/2019	Rp6,180	-0.0006	05/06/2017	RS 62,450	-0.0010	07/06/2018	RS 73,851	-0.0302	07/06/2019	RS 97,821	0.0063
20/12/2017	Rp6,109	-0.0095	20/12/2018	Rp6,148	-0.0046	12/12/2019	Rp6,139	-0.0066	06/06/2017	RS 62,955	0.0081	08/06/2018	RS 72,942	-0.0124	10/06/2019	RS 97,467	-0.0036
21/12/2017	Rp6,183	0.0120	21/12/2018	Rp6,164	0.0026	13/12/2019	Rp6,197	0.0094	07/06/2017	RS 63,171	0.0034	11/06/2018	RS 72,308	-0.0087	11/06/2019	RS 98,960	0.0152
22/12/2017	Rp6,221	0.0061	26/12/2018	Rp6,128	-0.0058	16/12/2019	Rp6,212	0.0023	08/06/2017	RS 62,756	-0.0066	12/06/2018	RS 72,754	0.0061	12/06/2019	RS 98,321	-0.0065
27/12/2017	Rp6,277	0.0090	27/12/2018	Rp6,191	0.0102	17/12/2019	Rp6,244	0.0053	09/06/2017	RS 62,211	-0.0087	13/06/2018	RS 72,122	-0.0087	13/06/2019	RS 98,774	0.0046
28/12/2017	Rp6,314	0.0059	28/12/2018	Rp6,194	0.0006	18/12/2019	Rp6,287	0.0068	12/06/2017	RS 61,700	-0.0082	14/06/2018	RS 71,421	-0.0098	14/06/2019	RS 98,040	-0.0075
29/12/2017	Rp6,356	0.0066	02/01/2019	Rp6,181	-0.0022	19/12/2019	Rp6,250	-0.0060	13/06/2017	RS 61,829	0.0021	15/06/2018	RS 70,758	-0.0093	17/06/2019	RS 97,623	-0.0043
02/01/2018	Rp6,339	-0.0026	03/01/2019	Rp6,221	0.0064	20/12/2019	Rp6,284	0.0055	14/06/2017	RS 61,923	0.0015	18/06/2018	RS 69,815	-0.0134	18/06/2019	RS 99,404	0.0181
03/01/2018	Rp6,251	-0.0139	04/01/2019	Rp6,275	0.0086	23/12/2019	Rp6,306	0.0034	16/06/2017	RS 61,626	-0.0048	19/06/2018	RS 71,394	0.0224	19/06/2019	RS 100,303	0.0090
04/01/2018	Rp6,292	0.0065	07/01/2019	Rp6,287	0.0020	26/12/2019	Rp6,319	0.0021	19/06/2017	RS 62,014	0.0063	20/06/2018	RS 72,123	0.0102	21/06/2019	RS 102,013	0.0169
05/01/2018	Rp6,354	0.0097	08/01/2019	Rp6,263	-0.0039	27/12/2019	Rp6,329	0.0016	20/06/2017	RS 60,766	-0.0203	21/06/2018	RS 70,075	-0.0288	24/06/2019	RS 102,062	0.0005
08/01/2018	Rp6,385	0.0050	09/01/2019	Rp6,272	0.0015	30/12/2019	Rp6,300	-0.0047	21/06/2017	RS 60,762	-0.0001	22/06/2018	RS 70,641	0.0080	25/06/2019	RS 100,093	-0.0195
09/01/2018	Rp6,373	-0.0019	10/01/2019	Rp6,329	0.0090	02/01/2020	Rp6,284	-0.0025	22/06/2017	RS 61,272	0.0084	25/06/2018	RS 70,953	0.0044	26/06/2019	RS 100,689	0.0059
10/01/2018	Rp6,371	-0.0003	11/01/2019	Rp6,361	0.0052	03/01/2020	Rp6,323	0.0063	23/06/2017	RS 61,087	-0.0030	26/06/2018	RS 71,405	0.0064	27/06/2019	RS 100,724	0.0003
11/01/2018	Rp6,386	0.0024	14/01/2019	Rp6,336	-0.0040	06/01/2020	Rp6,257	-0.0105	26/06/2017	RS 62,188	0.0179	27/06/2018	RS 70,609	-0.0112	28/06/2019	RS 100,967	0.0024
12/01/2018	Rp6,370	-0.0026	15/01/2019	Rp6,409	0.0114	07/01/2020	Rp6,279	-0.0035	27/06/2017	RS 61,675	-0.0083	28/06/2018	RS 71,767	0.0163	01/07/2019	RS 101,340	0.0037
15/01/2018	Rp6,382	0.0019	16/01/2019	Rp6,413	0.0007	08/01/2020	Rp6,226	-0.0086	28/06/2017	RS 62,018	0.0055	29/06/2018	RS 72,763	0.0138	02/07/2019	RS 100,605	-0.0073
16/01/2018	Rp6,430	0.0074	17/01/2019	Rp6,424	0.0016	09/01/2020	Rp6,274	0.0078	29/06/2017	RS 62,239	0.0036	02/07/2018	RS 72,840	0.0011	03/07/2019	RS 102,043	0.0142
17/01/2018	Rp6,445	0.0023	18/01/2019	Rp6,448	0.0038	10/01/2020	Rp6,275	0.0001	30/06/2017	RS 62,900	0.0106	03/07/2018	RS 73,668	0.0113	04/07/2019	RS 103,636	0.0155

NEGERI  
JAKARTA



**© Hak Cipta milik Politeknik Negeri Jakarta**

18/01/2018	Rp6,473	0.0044	21/01/2019	Rp6,451	0.0004	13/01/2020	Rp6,297	0.0034	03/07/2017	RS 63,280	0.0060	04/07/2018	RS 74,743	0.0145	05/07/2019	RS 104,089	0.0044
19/01/2018	Rp6,491	0.0028	22/01/2019	Rp6,469	0.0027	14/01/2020	Rp6,325	0.0046	04/07/2017	RS 63,232	-0.0008	05/07/2018	RS 74,553	-0.0025	08/07/2019	RS 104,530	0.0042
22/01/2018	Rp6,501	0.0015	23/01/2019	Rp6,451	-0.0027	15/01/2020	Rp6,283	-0.0067	05/07/2017	RS 63,154	-0.0012	06/07/2018	RS 75,010	0.0061	10/07/2019	RS 105,817	0.0122
23/01/2018	Rp6,635	0.0205	24/01/2019	Rp6,467	0.0024	16/01/2020	Rp6,286	0.0004	06/07/2017	RS 62,470	-0.0109	10/07/2018	RS 74,862	-0.0020	11/07/2019	RS 105,146	-0.0064
24/01/2018	Rp6,615	-0.0030	25/01/2019	Rp6,483	0.0025	17/01/2020	Rp6,292	0.0009	07/07/2017	RS 62,322	-0.0024	11/07/2018	RS 74,399	-0.0062	12/07/2019	RS 103,906	-0.0119
25/01/2018	Rp6,615	0.0000	28/01/2019	Rp6,459	-0.0037	20/01/2020	Rp6,245	-0.0074	10/07/2017	RS 63,025	0.0112	12/07/2018	RS 75,856	0.0194	15/07/2019	RS 103,803	-0.0010
26/01/2018	Rp6,661	0.0068	29/01/2019	Rp6,436	-0.0034	21/01/2020	Rp6,238	-0.0011	11/07/2017	RS 63,832	0.0127	13/07/2018	RS 76,594	0.0097	16/07/2019	RS 103,775	-0.0003
29/01/2018	Rp6,681	0.0030	30/01/2019	Rp6,464	0.0043	22/01/2020	Rp6,233	-0.0008	12/07/2017	RS 64,836	0.0156	16/07/2018	RS 76,653	0.0008	17/07/2019	RS 103,856	0.0008
30/01/2018	Rp6,575	-0.0159	31/01/2019	Rp6,533	0.0106	23/01/2020	Rp6,249	0.0025	13/07/2017	RS 65,178	0.0053	17/07/2018	RS 78,130	0.0191	18/07/2019	RS 104,717	0.0083
31/01/2018	Rp6,606	0.0046	01/02/2019	Rp6,539	0.0009	24/01/2020	Rp6,244	-0.0008	14/07/2017	RS 65,436	0.0040	18/07/2018	RS 77,363	-0.0099	19/07/2019	RS 103,452	-0.0122
01/02/2018	Rp6,598	-0.0011	04/02/2019	Rp6,481	-0.0088	27/01/2020	Rp6,133	-0.0179	17/07/2017	RS 65,212	-0.0034	19/07/2018	RS 77,487	0.0016	22/07/2019	RS 103,949	0.0048
02/02/2018	Rp6,629	0.0046	06/02/2019	Rp6,548	0.0102	28/01/2020	Rp6,111	-0.0036	18/07/2017	RS 65,338	0.0019	20/07/2018	RS 78,571	0.0139	23/07/2019	RS 103,704	-0.0024
05/02/2018	Rp6,590	-0.0059	07/02/2019	Rp6,536	-0.0017	29/01/2020	Rp6,113	0.0003	19/07/2017	RS 65,180	-0.0024	23/07/2018	RS 77,996	-0.0073	24/07/2019	RS 104,120	0.0040
06/02/2018	Rp6,479	-0.0170	08/02/2019	Rp6,522	-0.0023	30/01/2020	Rp6,058	-0.0091	20/07/2017	RS 64,938	-0.0037	24/07/2018	RS 79,155	0.0148	25/07/2019	RS 102,655	-0.0142
07/02/2018	Rp6,535	0.0087	11/02/2019	Rp6,495	-0.0041	31/01/2020	Rp5,940	-0.0196	21/07/2017	RS 64,684	-0.0039	25/07/2018	RS 80,218	0.0133	26/07/2019	RS 102,819	0.0016
08/02/2018	Rp6,545	0.0015	12/02/2019	Rp6,426	-0.0106	03/02/2020	Rp5,884	-0.0095	24/07/2017	RS 65,100	0.0064	26/07/2018	RS 79,405	-0.0102	29/07/2019	RS 103,483	0.0064
09/02/2018	Rp6,506	-0.0060	13/02/2019	Rp6,419	-0.0011	04/02/2020	Rp5,922	0.0065	25/07/2017	RS 65,668	0.0087	27/07/2018	RS 79,866	0.0058	30/07/2019	RS 102,933	-0.0053
12/02/2018	Rp6,523	0.0028	14/02/2019	Rp6,420	0.0001	05/02/2020	Rp5,979	0.0094	26/07/2017	RS 65,011	-0.0101	30/07/2018	RS 80,276	0.0051	31/07/2019	RS 101,812	-0.0110
13/02/2018	Rp6,578	0.0084	15/02/2019	Rp6,389	-0.0048	06/02/2020	Rp5,987	0.0014	27/07/2017	RS 65,277	0.0041	31/07/2018	RS 79,220	-0.0132	01/08/2019	RS 102,126	0.0031
14/02/2018	Rp6,594	0.0025	18/02/2019	Rp6,498	0.0169	07/02/2020	Rp6,000	0.0021	28/07/2017	RS 65,497	0.0034	01/08/2018	RS 79,302	0.0010	02/08/2019	RS 102,674	0.0054
15/02/2018	Rp6,592	-0.0004	19/02/2019	Rp6,495	-0.0005	10/02/2020	Rp5,952	-0.0080	31/07/2017	RS 65,920	0.0064	02/08/2018	RS 79,637	0.0042	05/08/2019	RS 100,098	-0.0254
19/02/2018	Rp6,689	0.0147	20/02/2019	Rp6,513	0.0028	11/02/2020	Rp5,954	0.0004	01/08/2017	RS 66,516	0.0090	03/08/2018	RS 81,435	0.0223	06/08/2019	RS 102,164	0.0204
20/02/2018	Rp6,663	-0.0040	21/02/2019	Rp6,538	0.0038	12/02/2020	Rp5,913	-0.0070	02/08/2017	RS 67,136	0.0093	06/08/2018	RS 81,051	-0.0047	07/08/2019	RS 102,782	0.0060
21/02/2018	Rp6,643	-0.0029	22/02/2019	Rp6,501	-0.0056	13/02/2020	Rp5,872	-0.0070	03/08/2017	RS 66,777	-0.0054	07/08/2018	RS 80,347	-0.0087	08/08/2019	RS 104,115	0.0129
22/02/2018	Rp6,593	-0.0076	25/02/2019	Rp6,525	0.0037	14/02/2020	Rp5,867	-0.0009	04/08/2017	RS 66,898	0.0018	08/08/2018	RS 79,152	-0.0150	09/08/2019	RS 103,996	-0.0011
23/02/2018	Rp6,620	0.0040	26/02/2019	Rp6,541	0.0024	17/02/2020	Rp5,868	0.0001	07/08/2017	RS 67,940	0.0155	09/08/2018	RS 78,768	-0.0049	12/08/2019	RS 101,915	-0.0202
26/02/2018	Rp6,555	-0.0099	27/02/2019	Rp6,526	-0.0023	18/02/2020	Rp5,887	0.0033	08/08/2017	RS 67,899	-0.0006	10/08/2018	RS 76,514	-0.0290	13/08/2019	RS 103,299	0.0135
27/02/2018	Rp6,599	0.0067	28/02/2019	Rp6,443	-0.0127	19/02/2020	Rp5,929	0.0071	09/08/2017	RS 67,671	-0.0034	13/08/2018	RS 77,496	0.0128	14/08/2019	RS 100,258	-0.0299
28/02/2018	Rp6,597	-0.0003	01/03/2019	Rp6,500	0.0087	20/02/2020	Rp5,942	0.0023	10/08/2017	RS 66,992	-0.0101	14/08/2018	RS 78,602	0.0142	15/08/2019	RS 99,057	-0.0121
01/03/2018	Rp6,606	0.0013	04/03/2019	Rp6,488	-0.0018	21/02/2020	Rp5,882	-0.0102	11/08/2017	RS 67,359	0.0055	15/08/2018	RS 77,078	-0.0196	16/08/2019	RS 99,806	0.0075
02/03/2018	Rp6,582	-0.0036	05/03/2019	Rp6,441	-0.0073	24/02/2020	Rp5,807	-0.0129	14/08/2017	RS 68,285	0.0137	16/08/2018	RS 76,819	-0.0034	19/08/2019	RS 99,469	-0.0034
05/03/2018	Rp6,551	-0.0048	06/03/2019	Rp6,458	0.0026	25/02/2020	Rp5,787	-0.0034	15/08/2017	RS 68,355	0.0010	17/08/2018	RS 76,029	-0.0103	20/08/2019	RS 99,222	-0.0025
06/03/2018	Rp6,500	-0.0077	08/03/2019	Rp6,383	-0.0117	26/02/2020	Rp5,689	-0.0171	16/08/2017	RS 68,594	0.0035	20/08/2018	RS 76,328	0.0039	21/08/2019	RS 101,202	0.0198
07/03/2018	Rp6,368	-0.0205	11/03/2019	Rp6,366	-0.0026	27/02/2020	Rp5,536	-0.0273	17/08/2017	RS 67,977	-0.0090	21/08/2018	RS 75,180	-0.0152	22/08/2019	RS 100,011	-0.0118
08/03/2018	Rp6,443	0.0117	12/03/2019	Rp6,354	-0.0020	28/02/2020	Rp5,453	-0.0151	18/08/2017	RS 68,715	0.0108	22/08/2018	RS 76,902	0.0226	23/08/2019	RS 97,667	-0.0237
09/03/2018	Rp6,433	-0.0015	13/03/2019	Rp6,378	0.0037	02/03/2020	Rp5,361	-0.0169	21/08/2017	RS 68,635	-0.0012	23/08/2018	RS 75,634	-0.0166	26/08/2019	RS 96,430	-0.0127
12/03/2018	Rp6,501	0.0104	14/03/2019	Rp6,413	0.0056	03/03/2020	Rp5,519	0.0289	22/08/2017	RS 70,011	0.0198	24/08/2018	RS 76,262	0.0083	27/08/2019	RS 97,276	0.0087
13/03/2018	Rp6,413	-0.0136	15/03/2019	Rp6,461	0.0074	04/03/2020	Rp5,650	0.0236	23/08/2017	RS 70,478	0.0066	27/08/2018	RS 77,930	0.0216	28/08/2019	RS 98,194	0.0094
14/03/2018	Rp6,383	-0.0047	18/03/2019	Rp6,509	0.0074	05/03/2020	Rp5,638	-0.0021	24/08/2017	RS 71,133	0.0093	28/08/2018	RS 77,473	-0.0059	29/08/2019	RS 100,524	0.0235
15/03/2018	Rp6,322	-0.0096	19/03/2019	Rp6,480	-0.0045	06/03/2020	Rp5,499	-0.0251	25/08/2017	RS 71,074	-0.0008	29/08/2018	RS 78,389	0.0118	30/08/2019	RS 101,135	0.0061
16/03/2018	Rp6,305	-0.0027	20/03/2019	Rp6,483	0.0004	09/03/2020	Rp5,137	-0.0681	28/08/2017	RS 71,017	-0.0008	30/08/2018	RS 76,404	-0.0256	02/09/2019	RS 100,626	-0.0050
19/03/2018	Rp6,290	-0.0024	21/03/2019	Rp6,502	0.0029	10/03/2020	Rp5,221	0.0162	29/08/2017	RS 71,330	0.0044	31/08/2018	RS 76,678	0.0036	03/09/2019	RS 99,681	-0.0094
20/03/2018	Rp6,244	-0.0073	22/03/2019	Rp6,525	0.0036	11/03/2020	Rp5,154	-0.0129	30/08/2017	RS 70,886	-0.0062	03/09/2018	RS 76,193	-0.0063	04/09/2019	RS 101,201	0.0151
21/03/2018	Rp6,313	0.0110	25/03/2019	Rp6,411	-0.0176	12/03/2020	Rp4,896	-0.0514	31/08/2017	RS 70,835	-0.0007	04/09/2018	RS 74,712	-0.0196	05/09/2019	RS 102,243	0.0102
22/03/2018	Rp6,254	-0.0094	26/03/2019	Rp6,470	0.0091	13/03/2020	Rp4,908	0.0024	01/09/2017	RS 71,923	0.0152	05/09/2018	RS 75,092	0.0051	06/09/2019	RS 102,935	0.0067
23/03/2018	Rp6,211	-0.0070	27/03/2019	Rp6,445	-0.0039	16/03/2020	Rp4,691	-0.0452	04/09/2017	RS 72,129	0.0029	06/09/2018	RS 76,416	0.0175	09/09/2019	RS 103,181	0.0024

NEGERI  
JAKARTA

**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



26/03/2018	Rp6.200	-0.0017	28/03/2019	Rp6.481	0.0056	17/03/2020	Rp4.457	-0.0512	05/09/2017	RS 72.151	0.0003	10/09/2018	RS 76.436	0.0003	10/09/2019	RS 103.032	-0.0014
27/03/2018	Rp6.209	0.0015	29/03/2019	Rp6.469	-0.0019	18/03/2020	Rp4.331	-0.0287	06/09/2017	RS 73.412	0.0173	11/09/2018	RS 74.657	-0.0235	11/09/2019	RS 103.446	0.0040
28/03/2018	Rp6.141	-0.0111	01/04/2019	Rp6.453	-0.0025	19/03/2020	Rp4.105	-0.0534	08/09/2017	RS 73.079	-0.0045	12/09/2018	RS 75.125	0.0062	12/09/2019	RS 104.371	0.0089
29/03/2018	Rp6.189	0.0078	02/04/2019	Rp6.476	0.0036	20/03/2020	Rp4.195	0.0216	11/09/2017	RS 74.319	0.0168	13/09/2018	RS 74.687	-0.0058	13/09/2019	RS 103.501	-0.0084
02/04/2018	Rp6.241	0.0083	04/04/2019	Rp6.495	0.0029	23/03/2020	Rp3.990	-0.0502	12/09/2017	RS 74.539	0.0030	14/09/2018	RS 75.429	0.0099	16/09/2019	RS 103.680	0.0017
03/04/2018	Rp6.229	-0.0019	05/04/2019	Rp6.474	-0.0032	24/03/2020	Rp3.938	-0.0131	13/09/2017	RS 74.788	0.0033	17/09/2018	RS 76.789	0.0179	17/09/2019	RS 104.617	0.0090
04/04/2018	Rp6.157	-0.0116	08/04/2019	Rp6.426	-0.0075	26/03/2020	Rp4.339	0.0970	14/09/2017	RS 74.657	-0.0018	18/09/2018	RS 78.314	0.0197	18/09/2019	RS 104.532	-0.0008
05/04/2018	Rp6.183	0.0042	09/04/2019	Rp6.484	0.0091	27/03/2020	Rp4.546	0.0465	15/09/2017	RS 75.757	0.0146	19/09/2018	RS 78.169	-0.0019	19/09/2019	RS 104.339	-0.0018
06/04/2018	Rp6.175	-0.0013	10/04/2019	Rp6.478	-0.0009	30/03/2020	Rp4.415	-0.0293	18/09/2017	RS 75.990	0.0031	20/09/2018	RS 78.116	-0.0007	20/09/2019	RS 104.817	0.0046
09/04/2018	Rp6.246	0.0114	11/04/2019	Rp6.410	-0.0106	31/03/2020	Rp4.539	0.0278	19/09/2017	RS 75.974	-0.0002	21/09/2018	RS 79.444	0.0169	23/09/2019	RS 104.638	-0.0017
10/04/2018	Rp6.326	0.0127	12/04/2019	Rp6.406	-0.0007	01/04/2020	Rp4.466	-0.0162	20/09/2017	RS 76.004	0.0004	24/09/2018	RS 77.984	-0.0185	24/09/2019	RS 103.876	-0.0073
11/04/2018	Rp6.361	0.0055	15/04/2019	Rp6.435	0.0046	02/04/2020	Rp4.532	0.0146	21/09/2017	RS 75.604	-0.0053	25/09/2018	RS 78.630	0.0082	25/09/2019	RS 104.481	0.0058
12/04/2018	Rp6.311	-0.0079				03/04/2020	Rp4.623	0.0200	22/09/2017	RS 75.390	-0.0028	26/09/2018	RS 78.656	0.0003	26/09/2019	RS 105.319	0.0080
13/04/2018	Rp6.270	-0.0064				06/04/2020	Rp4.812	0.0399	25/09/2017	RS 74.443	-0.0126	27/09/2018	RS 80.000	0.0169	27/09/2019	RS 105.078	-0.0023
						07/04/2020	Rp4.779	-0.0069	26/09/2017	RS 74.319	-0.0017	28/09/2018	RS 79.342	-0.0083	30/09/2019	RS 104.745	-0.0032
						08/04/2020	Rp4.627	-0.0323	27/09/2017	RS 73.797	-0.0070	01/10/2018	RS 78.624	-0.0091	01/10/2019	RS 104.053	-0.0066
						09/04/2020	Rp4.649	0.0048	28/09/2017	RS 73.567	-0.0031	02/10/2018	RS 81.612	0.0373	02/10/2019	RS 101.031	-0.0295
						13/04/2020	Rp4.624	-0.0054	29/09/2017	RS 74.294	0.0098	03/10/2018	RS 83.273	0.0201	03/10/2019	RS 101.516	0.0048
						14/04/2020	Rp4.706	0.0177	02/10/2017	RS 74.360	0.0009	04/10/2018	RS 82.953	-0.0039	04/10/2019	RS 102.551	0.0101
						15/04/2020	Rp4.626	-0.0173	03/10/2017	RS 76.763	0.0318	05/10/2018	RS 82.322	-0.0076			
						16/04/2020	Rp4.481	-0.0319	04/10/2017	RS 76.591	-0.0022						
									05/10/2017	RS 76.618	0.0004						

## © Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkannya dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



POLITEKNIK  
NEGERI  
JAKARTA



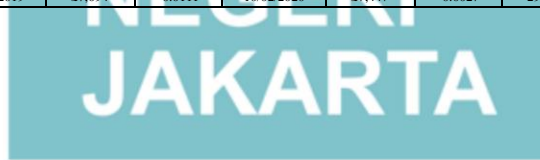
**Hak Cipta Negeri Jakarta**

KONDISI PRA			KONDISI SAAT			KONDISI PASCA			KONDISI PRA			KONDISI SAAT			KONDISI PASCA		
TANGGAL	FTSE 100	RETURN	TANGGAL	FTSE 100	RETURN	TANGGAL	FTSE 100	RETURN	TANGGAL	CAC 40	RETURN	TANGGAL	CAC 40	RETURN	TANGGAL	CAC 40	RETURN
12/12/2017	€7,500		12/12/2018	€6,880		13/12/2019	€7,353		03/07/2018	€ 5,317		03/07/2019	€ 5,619		06/07/2020	€ 5,082	
12/12/2017	€7,497	-0.0005	13/12/2018	€6,878	-0.0004	16/12/2019	€7,519	0.0223	04/07/2018	€ 5,321	0.0007	04/07/2019	€ 5,621	0.0003	07/07/2020	€ 5,044	-0.0075
14/12/2017	€7,448	-0.0065	14/12/2018	€6,845	-0.0047	17/12/2019	€7,525	0.0008	05/07/2018	€ 5,366	0.0086	05/07/2019	€ 5,594	-0.0048	08/07/2020	€ 4,981	-0.0125
17/12/2017	€7,491	0.0057	17/12/2018	€6,773	-0.0106	18/12/2019	€7,541	0.0021	06/07/2018	€ 5,376	0.0018	08/07/2019	€ 5,589	-0.0008	09/07/2020	€ 4,921	-0.0121
18/12/2017	€7,537	0.0062	18/12/2018	€6,702	-0.0106	19/12/2019	€7,574	0.0044	09/07/2018	€ 5,398	0.0041	09/07/2019	€ 5,572	-0.0031	10/07/2020	€ 4,970	0.0100
19/12/2017	€7,544	0.0009	19/12/2018	€6,766	0.0096	20/12/2019	€7,582	0.0011	10/07/2018	€ 5,434	0.0067	10/07/2019	€ 5,568	-0.0008	13/07/2020	€ 5,056	0.0171
20/12/2017	€7,525	-0.0025	20/12/2018	€6,712	-0.0080	23/12/2019	€7,624	0.0054	11/07/2018	€ 5,354	-0.0149	11/07/2019	€ 5,552	-0.0028	14/07/2020	€ 5,007	-0.0097
21/12/2017	€7,604	0.0104	21/12/2018	€6,721	0.0014	24/12/2019	€7,632	0.0011	12/07/2018	€ 5,406	0.0097	12/07/2019	€ 5,573	0.0038	15/07/2020	€ 5,109	0.0201
22/12/2017	€7,593	-0.0015	24/12/2018	€6,686	-0.0052	25/12/2019	€7,632	0.0000	13/07/2018	€ 5,429	0.0043	15/07/2019	€ 5,578	0.0010	16/07/2020	€ 5,085	-0.0046
23/12/2017	€7,593	0.0000	25/12/2018	€6,686	0.0000	26/12/2019	€7,632	0.0000	16/07/2018	€ 5,409	-0.0036	16/07/2019	€ 5,614	0.0065	17/07/2020	€ 5,069	-0.0031
26/12/2017	€7,593	0.0000	26/12/2018	€6,686	0.0000	27/12/2019	€7,645	0.0017	17/07/2018	€ 5,423	0.0024	17/07/2019	€ 5,572	-0.0076	20/07/2020	€ 5,093	0.0047
27/12/2017	€7,621	0.0037	27/12/2018	€6,585	-0.0153	30/12/2019	€7,587	-0.0076	18/07/2018	€ 5,447	0.0046	18/07/2019	€ 5,551	-0.0038	21/07/2020	€ 5,104	0.0022
28/12/2017	€7,623	0.0003	28/12/2018	€6,734	0.0224	31/12/2019	€7,542	-0.0059	19/07/2018	€ 5,417	-0.0056	19/07/2019	€ 5,552	0.0003	22/07/2020	€ 5,037	-0.0132
29/12/2017	€7,688	0.0085	31/12/2018	€6,728	-0.0009	01/01/2020	€7,542	0.0000	20/07/2018	€ 5,398	-0.0035	22/07/2019	€ 5,567	0.0026	23/07/2020	€ 5,034	-0.0007
30/12/2017	€7,688	0.0000	01/01/2019	€6,728	0.0000	02/01/2020	€7,604	0.0082	23/07/2018	€ 5,378	-0.0037	23/07/2019	€ 5,618	0.0091	24/07/2020	€ 4,956	-0.0155
31/12/2017	€7,648	-0.0052	02/01/2019	€6,734	0.0009	03/01/2020	€7,622	0.0024	24/07/2018	€ 5,434	0.0103	24/07/2019	€ 5,606	-0.0022	27/07/2020	€ 4,940	-0.0034
01/01/2018	€7,671	0.0030	03/01/2019	€6,693	-0.0062	06/01/2020	€7,575	-0.0062	25/07/2018	€ 5,426	-0.0014	25/07/2019	€ 5,578	-0.0050	28/07/2020	€ 4,929	-0.0022
04/01/2018	€7,696	0.0032	04/01/2019	€6,837	0.0214	07/01/2020	€7,574	-0.0002	26/07/2018	€ 5,481	0.0099	26/07/2019	€ 5,610	0.0057	29/07/2020	€ 4,959	0.0060
05/01/2018	€7,724	0.0037	07/01/2019	€6,811	-0.0039	08/01/2020	€7,575	0.0001	27/07/2018	€ 5,512	0.0057	29/07/2019	€ 5,601	-0.0016	30/07/2020	€ 4,853	-0.0216
08/01/2018	€7,697	-0.0036	08/01/2019	€6,862	0.0074	09/01/2020	€7,598	0.0031	30/07/2018	€ 5,491	-0.0037	30/07/2019	€ 5,511	-0.0162	31/07/2020	€ 4,784	-0.0144
09/01/2018	€7,731	0.0045	09/01/2019	€6,907	0.0065	10/01/2020	€7,588	-0.0014	31/07/2018	€ 5,511	0.0037	31/07/2019	€ 5,519	0.0014	03/08/2020	€ 4,876	0.0191
10/01/2018	€7,749	0.0023	10/01/2019	€6,943	0.0052	13/01/2020	€7,618	0.0039	01/08/2018	€ 5,498	-0.0023	01/08/2019	€ 5,557	0.0070	04/08/2020	€ 4,890	0.0028
11/01/2018	€7,763	0.0019	11/01/2019	€6,918	-0.0036	14/01/2020	€7,622	0.0006	02/08/2018	€ 5,461	-0.0068	02/08/2019	€ 5,359	-0.0364	05/08/2020	€ 4,933	0.0089
12/01/2018	€7,779	0.0020	14/01/2019	€6,855	-0.0092	15/01/2020	€7,643	0.0027	03/08/2018	€ 5,479	0.0033	05/08/2019	€ 5,242	-0.0222	06/08/2020	€ 4,885	-0.0098
15/01/2018	€7,769	-0.0012	15/01/2019	€6,895	0.0058	16/01/2020	€7,610	-0.0043	06/08/2018	€ 5,477	-0.0003	06/08/2019	€ 5,235	-0.0013	07/08/2020	€ 4,890	0.0009
16/01/2018	€7,756	-0.0017	16/01/2019	€6,863	-0.0047	17/01/2020	€7,675	0.0085	07/08/2018	€ 5,521	0.0080	07/08/2019	€ 5,267	0.0061	10/08/2020	€ 4,910	0.0041
17/01/2018	€7,725	-0.0039	17/01/2019	€6,835	-0.0041	20/01/2020	€7,651	-0.0030	08/08/2018	€ 5,502	-0.0035	08/08/2019	€ 5,388	0.0228	11/08/2020	€ 5,028	0.0238
18/01/2018	€7,701	-0.0032	18/01/2019	€6,968	0.0193	21/01/2020	€7,611	-0.0053	09/08/2018	€ 5,502	0.0001	09/08/2019	€ 5,328	-0.0112	12/08/2020	€ 5,073	0.0090
19/01/2018	€7,731	0.0039	21/01/2019	€6,971	0.0003	22/01/2020	€7,572	-0.0051	10/08/2018	€ 5,415	-0.0160	12/08/2019	€ 5,310	-0.0033	13/08/2020	€ 5,042	-0.0061
22/01/2018	€7,715	-0.0020	22/01/2019	€6,901	-0.0100	23/01/2020	€7,508	-0.0085	13/08/2018	€ 5,412	-0.0004	13/08/2019	€ 5,363	0.0099	14/08/2020	€ 4,963	-0.0159
23/01/2018	€7,732	0.0021	23/01/2019	€6,843	-0.0085	24/01/2020	€7,586	0.0104	14/08/2018	€ 5,403	-0.0016	14/08/2019	€ 5,251	-0.0211	17/08/2020	€ 4,972	0.0018
24/01/2018	€7,643	-0.0115	24/01/2019	€6,819	-0.0035	27/01/2020	€7,412	-0.0232	15/08/2018	€ 5,305	-0.0183	15/08/2019	€ 5,237	-0.0027	18/08/2020	€ 4,938	-0.0068
25/01/2018	€7,616	-0.0036	25/01/2019	€6,809	-0.0014	28/01/2020	€7,481	0.0092	16/08/2018	€ 5,349	0.0082	16/08/2019	€ 5,301	0.0121	19/08/2020	€ 4,977	0.0079
26/01/2018	€7,666	0.0065	28/01/2019	€6,747	-0.0092	29/01/2020	€7,484	0.0004	17/08/2018	€ 5,345	-0.0008	19/08/2019	€ 5,372	0.0133	20/08/2020	€ 4,911	-0.0133
29/01/2018	€7,672	0.0008	29/01/2019	€6,834	0.0128	30/01/2020	€7,382	-0.0137	20/08/2018	€ 5,380	0.0065	20/08/2019	€ 5,345	-0.0050	21/08/2020	€ 4,896	-0.0030
30/01/2018	€7,588	-0.0110	30/01/2019	€6,942	0.0156	31/01/2020	€7,286	-0.0131	21/08/2018	€ 5,409	0.0054	21/08/2019	€ 5,435	0.0169	24/08/2020	€ 5,008	0.0225
31/01/2018	€7,534	-0.0072	31/01/2019	€6,969	0.0039	03/02/2020	€7,326	0.0055	22/08/2018	€ 5,421	0.0022	22/08/2019	€ 5,388	-0.0087	25/08/2020	€ 5,008	0.0001
01/02/2018	€7,490	-0.0057	01/02/2019	€7,020	0.0073	04/02/2020	€7,440	0.0154	23/08/2018	€ 5,419	-0.0002	23/08/2019	€ 5,327	-0.0115	26/08/2020	€ 5,048	0.0080
02/02/2018	€7,443	-0.0063	04/02/2019	€7,034	0.0020	05/02/2020	€7,482	0.0057	24/08/2018	€ 5,433	0.0024	26/08/2019	€ 5,351	0.0045	27/08/2020	€ 5,016	-0.0065
05/02/2018	€7,335	-0.0147	05/02/2019	€7,177	0.0202	06/02/2020	€7,505	0.0030	27/08/2018	€ 5,479	0.0085	27/08/2019	€ 5,387	0.0067	28/08/2020	€ 5,003	-0.0026
06/02/2018	€7,141	-0.0267	06/02/2019	€7,173	-0.0006	07/02/2020	€7,467	-0.0051	28/08/2018	€ 5,485	0.0011	28/08/2019	€ 5,369	-0.0034	31/08/2020	€ 4,947	-0.0112
07/02/2018	€7,279	0.0191	07/02/2019	€7,094	-0.0111	10/02/2020	€7,447	-0.0027	29/08/2018	€ 5,501	0.0030	29/08/2019	€ 5,450	0.0150	01/09/2020	€ 4,938	-0.0018

**Lanjutan**

**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumunkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta





02/02/2018	€7,171	-0,0150	08/02/2019	€7,071	-0,0032	11/02/2020	€7,499	0,0070	30/08/2018	€ 5,478	-0,0042	30/08/2019	€ 5,480	0,0056	02/09/2020	€ 5,032	0,0188
02/02/2018	€7,092	-0,0110	11/02/2019	€7,129	0,0082	12/02/2020	€7,534	0,0046	31/08/2018	€ 5,407	-0,0131	02/09/2019	€ 5,493	0,0023	03/09/2020	€ 5,010	-0,0044
02/02/2018	€7,177	0,0119	12/02/2019	€7,133	0,0006	13/02/2020	€7,452	-0,0110	03/09/2018	€ 5,414	0,0013	03/09/2019	€ 5,466	-0,0049	04/09/2020	€ 4,965	-0,0089
03/02/2018	€7,168	-0,0013	13/02/2019	€7,191	0,0081	14/02/2020	€7,409	-0,0058	04/09/2018	€ 5,343	-0,0132	04/09/2019	€ 5,532	0,0120	07/09/2020	€ 5,054	0,0177
04/02/2018	€7,214	0,0064	14/02/2019	€7,197	0,0009	17/02/2020	€7,433	0,0033	05/09/2018	€ 5,260	-0,0156	05/09/2019	€ 5,593	0,0110	08/09/2020	€ 4,974	-0,0160
05/02/2018	€7,235	0,0029	15/02/2019	€7,237	0,0055	18/02/2020	€7,382	-0,0069	06/09/2018	€ 5,244	-0,0031	06/09/2019	€ 5,604	0,0019	09/09/2020	€ 5,043	0,0139
07/02/2018	€7,295	0,0082	18/02/2019	€7,219	-0,0024	19/02/2020	€7,457	0,0101	07/09/2018	€ 5,252	0,0016	09/09/2019	€ 5,589	-0,0027	10/09/2020	€ 5,024	-0,0038
09/02/2018	€7,248	-0,0065	19/02/2019	€7,179	-0,0056	20/02/2020	€7,437	-0,0027	10/09/2018	€ 5,270	0,0033	10/09/2019	€ 5,593	0,0008	11/09/2020	€ 5,034	0,0020
10/02/2018	€7,247	-0,0001	20/02/2019	€7,229	0,0069	21/02/2020	€7,404	-0,0044	11/09/2018	€ 5,284	0,0027	11/09/2019	€ 5,618	0,0044	14/09/2020	€ 5,052	0,0035
10/02/2018	€7,282	0,0048	21/02/2019	€7,167	-0,0085	24/02/2020	€7,157	-0,0339	12/09/2018	€ 5,332	0,0091	12/09/2019	€ 5,643	0,0044	15/09/2020	€ 5,068	0,0032
11/02/2018	€7,252	-0,0040	22/02/2019	€7,179	0,0016	25/02/2020	€7,018	-0,0196	13/09/2018	€ 5,328	-0,0008	13/09/2019	€ 5,655	0,0022	16/09/2020	€ 5,074	0,0013
13/02/2018	€7,244	-0,0011	25/02/2019	€7,184	0,0007	26/02/2020	€7,042	0,0035	14/09/2018	€ 5,353	0,0046	16/09/2019	€ 5,602	-0,0095	17/09/2020	€ 5,040	-0,0069
13/02/2018	€7,290	0,0062	26/02/2019	€7,151	-0,0046	27/02/2020	€6,796	-0,0356	17/09/2018	€ 5,349	-0,0007	17/09/2019	€ 5,616	0,0024	18/09/2020	€ 4,978	-0,0122
17/02/2018	€7,282	-0,0010	27/02/2019	€7,107	-0,0062	28/02/2020	€6,581	-0,0323	18/09/2018	€ 5,364	0,0028	18/09/2019	€ 5,621	0,0009	21/09/2020	€ 4,792	-0,0381
19/02/2018	€7,232	-0,0070	28/02/2019	€7,075	-0,0046	02/03/2020	€6,655	0,0112	19/09/2018	€ 5,394	0,0056	19/09/2019	€ 5,659	0,0068	22/09/2020	€ 4,773	-0,0040
21/03/2018	€7,176	-0,0078	01/03/2019	€7,107	0,0045	03/03/2020	€6,718	0,0095	20/09/2018	€ 5,452	0,0107	20/09/2019	€ 5,691	0,0056	23/09/2020	€ 4,802	0,0061
23/03/2018	€7,070	-0,0148	04/03/2019	€7,134	0,0039	04/03/2020	€6,816	0,0144	21/09/2018	€ 5,494	0,0078	23/09/2019	€ 5,631	-0,0106	24/09/2020	€ 4,763	-0,0083
25/03/2018	€7,116	0,0065	05/03/2019	€7,183	0,0069	05/03/2020	€6,705	-0,0163	24/09/2018	€ 5,476	-0,0033	24/09/2019	€ 5,628	-0,0004	25/09/2020	€ 4,730	-0,0069
26/03/2018	€7,147	0,0043	06/03/2019	€7,196	0,0017	06/03/2020	€6,463	-0,0369	25/09/2018	€ 5,479	0,0005	25/09/2019	€ 5,584	-0,0079	28/09/2020	€ 4,843	0,0237
27/03/2018	€7,158	0,0016	07/03/2019	€7,158	-0,0054	09/03/2020	€5,966	-0,0800	26/09/2018	€ 5,513	0,0061	26/09/2019	€ 5,621	0,0066	29/09/2020	€ 4,832	-0,0023
08/03/2018	€7,203	0,0063	08/03/2019	€7,104	-0,0075	10/03/2020	€5,960	-0,0009	27/09/2018	€ 5,540	0,0050	27/09/2019	€ 5,641	0,0036	30/09/2020	€ 4,803	-0,0059
09/03/2018	€7,225	0,0029	11/03/2019	€7,131	-0,0037	11/03/2020	€5,877	-0,0141	28/09/2018	€ 5,493	-0,0085	30/09/2019	€ 5,678	0,0066	01/10/2020	€ 4,824	0,0043
10/03/2018	€7,215	-0,0014	12/03/2019	€7,151	-0,0029	12/03/2020	€5,237	-0,1151	01/10/2018	€ 5,507	0,0024	01/10/2019	€ 5,598	-0,0142	02/10/2020	€ 4,825	0,0002
13/03/2018	€7,139	-0,0106	13/03/2019	€7,159	0,0011	13/03/2020	€5,366	0,0243	02/10/2018	€ 5,468	-0,0071	02/10/2019	€ 5,423	-0,0317	05/10/2020	€ 4,872	0,0097
14/03/2018	€7,133	-0,0009	14/03/2019	€7,185	0,0037	16/03/2020	€5,151	-0,0409	03/10/2018	€ 5,491	0,0043	03/10/2019	€ 5,439	0,0029	06/10/2020	€ 4,895	0,0048
15/03/2018	€7,140	0,0010	15/03/2019	€7,228	0,0059	17/03/2020	€5,295	0,0275	04/10/2018	€ 5,411	-0,0148	04/10/2019	€ 5,488	0,0091	07/10/2020	€ 4,882	-0,0028
16/03/2018	€7,164	0,0034	18/03/2019	€7,299	0,0098	18/03/2020	€5,081	-0,0413	05/10/2018	€ 5,359	-0,0096	07/10/2019	€ 5,522	0,0060	08/10/2020	€ 4,912	0,0061
19/03/2018	€7,043	-0,0171	19/03/2019	€7,324	0,0034	19/03/2020	€5,152	0,0139	08/10/2018	€ 5,300	-0,0111	08/10/2019	€ 5,457	-0,0118	09/10/2020	€ 4,947	0,0071
20/03/2018	€7,061	0,0026	20/03/2019	€7,291	-0,0045	20/03/2020	€5,191	0,0076	09/10/2018	€ 5,319	0,0034	09/10/2019	€ 5,499	0,0078	12/10/2020	€ 4,979	0,0065
21/03/2018	€7,039	-0,0032	21/03/2019	€7,355	0,0088	23/03/2020	€4,994	-0,0387	10/10/2018	€ 5,206	-0,0213	10/10/2019	€ 5,569	0,0126	13/10/2020	€ 4,948	-0,0064
22/03/2018	€6,953	-0,0123	22/03/2019	€7,208	-0,0203	24/03/2020	€5,446	0,0867	11/10/2018	€ 5,106	-0,0194	11/10/2019	€ 5,665	0,0172	14/10/2020	€ 4,942	-0,0012
23/03/2018	€6,922	-0,0044	25/03/2019	€7,178	-0,0042	25/03/2020	€5,688	0,0435	12/10/2018	€ 5,096	-0,0020	14/10/2019	€ 5,643	-0,0040	15/10/2020	€ 4,837	-0,0213
26/03/2018	€6,889	-0,0048	26/03/2019	€7,196	0,0026	26/03/2020	€5,816	0,0222	15/10/2018	€ 5,095	-0,0002	15/10/2019	€ 5,702	0,0104	16/10/2020	€ 4,936	0,0201
27/03/2018	€7,000	0,0160	27/03/2019	€7,194	-0,0003	27/03/2020	€5,510	-0,0539	16/10/2018	€ 5,173	0,0152	16/10/2019	€ 5,697	-0,0009	19/10/2020	€ 4,943	0,0014
28/03/2018	€7,045	0,0064	28/03/2019	€7,234	0,0056	30/03/2020	€5,564	0,0096	17/10/2018	€ 5,145	-0,0054	17/10/2019	€ 5,673	-0,0042	20/10/2020	€ 4,929	-0,0027
29/03/2018	€7,057	0,0017	29/03/2019	€7,279	0,0062	31/03/2020	€5,672	0,0193	18/10/2018	€ 5,117	-0,0055	18/10/2019	€ 5,636	-0,0065	21/10/2020	€ 4,854	-0,0154
30/03/2018	€7,057	0,0000	01/04/2019	€7,317	0,0052	01/04/2020	€5,455	-0,0391	19/10/2018	€ 5,085	-0,0063	21/10/2019	€ 5,648	0,0021	22/10/2020	€ 4,851	-0,0005
02/04/2018	€7,057	0,0000	02/04/2019	€7,391	0,0100	02/04/2020	€5,480	0,0047	22/10/2018	€ 5,053	-0,0062	22/10/2019	€ 5,658	0,0017	23/10/2020	€ 4,910	0,0119
03/04/2018	€7,030	-0,0037	03/04/2019	€7,418	0,0037	03/04/2020	€5,416	-0,0119	23/10/2018	€ 4,968	-0,0171	23/10/2019	€ 5,653	-0,0008	26/10/2020	€ 4,816	-0,0192
04/04/2018	€7,034	0,0005	04/04/2019	€7,402	-0,0022	06/04/2020	€5,582	0,0304	24/10/2018	€ 4,953	-0,0029	24/10/2019	€ 5,684	0,0054	27/10/2020	€ 4,731	-0,0179
05/04/2018	€7,200	0,0233	05/04/2019	€7,447	0,0061	07/04/2020	€5,704	0,0216	25/10/2018	€ 5,032	0,0159	25/10/2019	€ 5,722	0,0066	28/10/2020	€ 4,571	-0,0343
06/04/2018	€7,184	-0,0022	08/04/2019	€7,452	0,0007	08/04/2020	€5,678	-0,0047	26/10/2018	€ 4,967	-0,0130	28/10/2019	€ 5,731	0,0015	29/10/2020	€ 4,570	-0,0003
09/04/2018	€7,195	0,0015	09/04/2019	€7,426	-0,0035	09/04/2020	€5,843	0,0286	29/10/2018	€ 4,989	0,0044	29/10/2019	€ 5,740	0,0017	30/10/2020	€ 4,594	0,0054
10/04/2018	€7,267	0,0100	10/04/2019	€7,422	-0,0005	10/04/2020	€5,843	0,0000	30/10/2018	€ 4,979	-0,0022	30/10/2019	€ 5,766	0,0045	02/11/2020	€ 4,691	0,0209
11/04/2018	€7,257	-0,0013	11/04/2019	€7,418	-0,0005	13/04/2020	€5,843	0,0000	31/10/2018	€ 5,093	0,0228	31/10/2019	€ 5,730	-0,0063	03/11/2020	€ 4,806	0,0241
12/04/2018	€7,258	0,0002	12/04/2019	€7,437	0,0026	14/04/2020	€5,791	-0,0088	01/11/2018	€ 5,086	-0,0015	01/11/2019	€ 5,762	0,0056	04/11/2020	€ 4,923	0,0241

Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



© Hak Cipta Politeknik Negeri Jakarta

04/04/2018	€7,265	0,0009	15/04/2019	€7,437	0,0000	15/04/2020	€5,598	-0,0340	02/11/2018	€ 5,102	0,0032	04/11/2019	€ 5,824	0,0108	05/11/2020	€ 4,984	0,0123
04/04/2018	€7,198	-0,0092	16/04/2019	€7,470	0,0044	16/04/2020	€5,628	0,0055	05/11/2018	€ 5,101	-0,0001	05/11/2019	€ 5,847	0,0039	06/11/2020	€ 4,961	-0,0046
07/04/2018	€7,226	0,0039	17/04/2019	€7,471	0,0002	17/04/2020	€5,787	0,0278	06/11/2018	€ 5,075	-0,0051	06/11/2019	€ 5,867	0,0034	09/11/2020	€ 5,336	0,0730
08/04/2018	€7,317	0,0126	18/04/2019	€7,460	-0,0015	20/04/2020	€5,813	0,0045	07/11/2018	€ 5,138	0,0123	07/11/2019	€ 5,891	0,0041	10/11/2020	€ 5,419	0,0154
09/04/2018	€7,329	0,0016	19/04/2019	€7,460	0,0000	21/04/2020	€5,641	-0,0300	08/11/2018	€ 5,131	-0,0013	08/11/2019	€ 5,890	-0,0002	11/11/2020	€ 5,445	0,0048
10/04/2018	€7,368	0,0053	22/04/2019	€7,460	0,0000	22/04/2020	€5,771	0,0227	09/11/2018	€ 5,107	-0,0048	11/11/2019	€ 5,894	0,0007	12/11/2020	€ 5,363	-0,0153
11/04/2018	€7,399	0,0042	23/04/2019	€7,523	0,0084	23/04/2020	€5,827	0,0097	12/11/2018	€ 5,059	-0,0094	12/11/2019	€ 5,920	0,0044	13/11/2020	€ 5,380	0,0033
14/04/2018	€7,425	0,0036	24/04/2019	€7,472	-0,0068	24/04/2020	€5,752	-0,0128	13/11/2018	€ 5,102	0,0084	13/11/2019	€ 5,907	-0,0021	16/11/2020	€ 5,471	0,0168
15/04/2018	€7,379	-0,0062	25/04/2019	€7,434	-0,0050	27/04/2020	€5,847	0,0163	14/11/2018	€ 5,069	-0,0065	14/11/2019	€ 5,901	-0,0010	17/11/2020	€ 5,483	0,0021
16/04/2018	€7,421	0,0057	26/04/2019	€7,428	-0,0008	28/04/2020	€5,959	0,0189	15/11/2018	€ 5,034	-0,0070	15/11/2019	€ 5,939	0,0065	18/11/2020	€ 5,511	0,0052
17/04/2018	€7,502	0,0108	29/04/2019	€7,441	0,0017	29/04/2020	€6,115	0,0260	16/11/2018	€ 5,025	-0,0017	18/11/2019	€ 5,930	-0,0016	19/11/2020	€ 5,475	-0,0067
18/04/2018	€7,509	0,0009	30/04/2019	€7,418	-0,0030	30/04/2020	€5,901	-0,0356	19/11/2018	€ 4,985	-0,0079	19/11/2019	€ 5,909	-0,0035	20/11/2020	€ 5,496	0,0039
19/05/2018	€7,520	0,0015	01/05/2019	€7,385	-0,0045	01/05/2020	€5,763	-0,0237	20/11/2018	€ 4,925	-0,0122	20/11/2019	€ 5,894	-0,0025	23/11/2020	€ 5,492	-0,0007
20/05/2018	€7,543	0,0030	02/05/2019	€7,351	-0,0046	04/05/2020	€5,754	-0,0016	21/11/2018	€ 4,976	0,0102	21/11/2019	€ 5,881	-0,0022	24/11/2020	€ 5,558	0,0120
21/05/2018	€7,503	-0,0054	03/05/2019	€7,381	0,0040	05/05/2020	€5,849	0,0165	22/11/2018	€ 4,938	-0,0075	22/11/2019	€ 5,893	0,0020	25/11/2020	€ 5,571	0,0023
22/05/2018	€7,567	0,0086	07/05/2019	€7,260	-0,0164	06/05/2020	€5,854	0,0007	23/11/2018	€ 4,947	0,0018	25/11/2019	€ 5,925	0,0054	26/11/2020	€ 5,567	-0,0008
23/05/2018	€7,567	0,0000	08/05/2019	€7,271	0,0014	07/05/2020	€5,936	0,0139	26/11/2018	€ 4,995	0,0097	26/11/2019	€ 5,930	0,0008	27/11/2020	€ 5,598	0,0056
28/05/2018	€7,566	-0,0002	09/05/2019	€7,207	-0,0088	11/05/2020	€5,940	0,0006	27/11/2018	€ 4,983	-0,0024	27/11/2019	€ 5,927	-0,0005	30/11/2020	€ 5,519	-0,0143
29/05/2018	€7,663	0,0127	10/05/2019	€7,203	-0,0006	12/05/2020	€5,995	0,0092	28/11/2018	€ 4,983	0,0000	28/11/2019	€ 5,913	-0,0024	01/12/2020	€ 5,582	0,0114
30/05/2018	€7,701	0,0050	13/05/2019	€7,164	-0,0055	13/05/2020	€5,904	-0,0152	29/11/2018	€ 5,006	0,0046	29/11/2019	€ 5,905	-0,0013	02/12/2020	€ 5,583	0,0002
11/05/2018	€7,725	0,0031	14/05/2019	€7,242	0,0108	14/05/2020	€5,742	-0,0279	30/11/2018	€ 5,004	-0,0005	02/12/2019	€ 5,787	-0,0203	03/12/2020	€ 5,574	-0,0016
12/05/2018	€7,711	-0,0018	15/05/2019	€7,297	0,0076	15/05/2020	€5,800	0,0101	03/12/2018	€ 5,054	0,0100	03/12/2019	€ 5,727	-0,0103	04/12/2020	€ 5,609	0,0062
13/05/2018	€7,723	0,0016	16/05/2019	€7,354	0,0077	18/05/2020	€6,049	0,0420	04/12/2018	€ 5,013	-0,0082	04/12/2019	€ 5,800	0,0126	07/12/2020	€ 5,573	-0,0064
14/05/2018	€7,734	0,0015	17/05/2019	€7,349	-0,0007	19/05/2020	€6,002	-0,0077	05/12/2018	€ 4,944	-0,0137	05/12/2019	€ 5,802	0,0003	08/12/2020	€ 5,561	-0,0023
15/05/2018	€7,788	0,0069	20/05/2019	€7,311	-0,0051	20/05/2020	€6,067	0,0108	06/12/2018	€ 4,780	-0,0337	06/12/2019	€ 5,872	0,0121	09/12/2020	€ 5,547	-0,0025
18/05/2018	€7,779	-0,0012	21/05/2019	€7,329	0,0025	21/05/2020	€6,015	-0,0086	07/12/2018	€ 4,813	0,0068	09/12/2019	€ 5,837	-0,0059	10/12/2020	€ 5,550	0,0005
21/05/2018	€7,859	0,0103	22/05/2019	€7,334	0,0007	22/05/2020	€5,993	-0,0037	10/12/2018	€ 4,742	-0,0148	10/12/2019	€ 5,848	0,0018	11/12/2020	€ 5,508	-0,0076
22/05/2018	€7,877	0,0023	23/05/2019	€7,231	-0,0142	26/05/2020	€6,068	0,0124	11/12/2018	€ 4,806	0,0134	11/12/2019	€ 5,861	0,0022	14/12/2020	€ 5,528	0,0037
23/05/2018	€7,788	-0,0114	24/05/2019	€7,278	0,0064	27/05/2020	€6,144	0,0125	12/12/2018	€ 4,909	0,0213	12/12/2019	€ 5,884	0,0040	15/12/2020	€ 5,530	0,0004
24/05/2018	€7,717	-0,0092	28/05/2019	€7,269	-0,0012	28/05/2020	€6,219	0,0121	13/12/2018	€ 4,897	-0,0026	13/12/2019	€ 5,919	0,0059	16/12/2020	€ 5,548	0,0031
25/05/2018	€7,730	0,0018	29/05/2019	€7,185	-0,0116	29/05/2020	€6,077	-0,0231	14/12/2018	€ 4,854	-0,0089	16/12/2019	€ 5,992	0,0122	17/12/2020	€ 5,549	0,0003
28/05/2018	€7,730	0,0000	30/05/2019	€7,218	0,0046	01/06/2020	€6,166	0,0147	17/12/2018	€ 4,800	-0,0112	17/12/2019	€ 5,968	-0,0039	18/12/2020	€ 5,528	-0,0039
29/05/2018	€7,633	-0,0127	31/05/2019	€7,162	-0,0079	02/06/2020	€6,220	0,0087	18/12/2018	€ 4,754	-0,0096	18/12/2019	€ 5,960	-0,0015	21/12/2020	€ 5,393	-0,0246
30/05/2018	€7,690	0,0074	03/06/2019	€7,185	0,0032	03/06/2020	€6,382	0,0258	19/12/2018	€ 4,777	0,0049	19/12/2019	€ 5,972	0,0021	22/12/2020	€ 5,467	0,0135
31/05/2018	€7,678	-0,0015	04/06/2019	€7,214	0,0041	04/06/2020	€6,341	-0,0064	20/12/2018	€ 4,692	-0,0180	20/12/2019	€ 6,022	0,0082	23/12/2020	€ 5,528	0,0110
01/06/2018	€7,702	0,0031	05/06/2019	€7,220	0,0008	05/06/2020	€6,484	0,0223	21/12/2018	€ 4,694	0,0004	23/12/2019	€ 6,029	0,0013	24/12/2020	€ 5,522	-0,0010
04/06/2018	€7,741	0,0051	06/06/2019	€7,260	0,0055	08/06/2020	€6,473	-0,0018	24/12/2018	€ 4,626	-0,0146	24/12/2019	€ 6,030	0,0000	28/12/2020	€ 5,588	0,0119
05/06/2018	€7,687	-0,0071	07/06/2019	€7,332	0,0099	09/06/2020	€6,336	-0,0214	27/12/2018	€ 4,599	-0,0060	27/12/2019	€ 6,037	0,0013	29/12/2020	€ 5,612	0,0042
06/06/2018	€7,712	0,0033	10/06/2019	€7,376	0,0059	10/06/2020	€6,329	-0,0010	28/12/2018	€ 4,679	0,0173	30/12/2019	€ 5,982	-0,0092	30/12/2020	€ 5,599	-0,0022
07/06/2018	€7,704	-0,0010	11/06/2019	€7,398	0,0031	11/06/2020	€6,077	-0,0407	31/12/2018	€ 4,731	0,0110	31/12/2019	€ 5,978	-0,0007	31/12/2020	€ 5,551	-0,0086
08/06/2018	€7,681	-0,0030	12/06/2019	€7,368	-0,0042	12/06/2020	€6,105	0,0047	02/01/2019	€ 4,689	-0,0088	02/01/2020	€ 6,042	0,0106	04/01/2021	€ 5,589	0,0067
11/06/2018	€7,737	0,0073	13/06/2019	€7,369	0,0001	15/06/2020	€6,065	-0,0067	03/01/2019	€ 4,611	-0,0168	03/01/2020	€ 6,044	0,0004	05/01/2021	€ 5,565	-0,0044
12/06/2018	€7,704	-0,0044	14/06/2019	€7,346	-0,0031	16/06/2020	€6,243	0,0289	04/01/2019	€ 4,737	0,0269	06/01/2020	€ 6,014	-0,0051	06/01/2021	€ 5,631	0,0118
13/06/2018	€7,704	0,0000	17/06/2019	€7,357	0,0016	17/06/2020	€6,253	0,0017	07/01/2019	€ 4,719	-0,0038	07/01/2020	€ 6,012	-0,0002	07/01/2021	€ 5,670	0,0069
14/06/2018	€7,766	0,0080	18/06/2019	€7,443	0,0116	18/06/2020	€6,224	-0,0047	08/01/2019	€ 4,773	0,0114	08/01/2020	€ 6,031	0,0031	08/01/2021	€ 5,707	0,0065
15/06/2018	€7,634	-0,0171	19/06/2019	€7,404	-0,0053	19/06/2020	€6,293	0,0110	09/01/2019	€ 4,814	0,0084	09/01/2020	€ 6,043	0,0019	11/01/2021	€ 5,662	-0,0078

Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



## © Hak Cipta Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkannya dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

20/06/2018	€7,631	-0,0003	20/06/2019	€7,424	0,0028	22/06/2020	€6,245	-0,0077	10/01/2019	€ 4,806	-0,0016	10/01/2020	€ 6,037	-0,0009	12/01/2021	€ 5,651	-0,0020
21/06/2018	€7,604	-0,0036	21/06/2019	€7,408	-0,0023	23/06/2020	€6,320	0,0120	11/01/2019	€ 4,781	-0,0051	13/01/2020	€ 6,036	-0,0002	13/01/2021	€ 5,663	0,0021
22/06/2018	€7,627	0,0031	24/06/2019	€7,417	0,0012	24/06/2020	€6,124	-0,0316	14/01/2019	€ 4,763	-0,0039	14/01/2020	€ 6,041	0,0008	14/01/2021	€ 5,681	0,0033
23/06/2018	€7,556	-0,0093	25/06/2019	€7,422	0,0008	25/06/2020	€6,147	0,0038	15/01/2019	€ 4,786	0,0049	15/01/2020	€ 6,033	-0,0014	15/01/2021	€ 5,612	-0,0123
24/06/2018	€7,682	0,0165	26/06/2019	€7,416	-0,0008	26/06/2020	€6,159	0,0020	16/01/2019	€ 4,811	0,0051	16/01/2020	€ 6,039	0,0011	18/01/2021	€ 5,617	0,0010
25/06/2018	€7,510	-0,0227	27/06/2019	€7,402	-0,0019	29/06/2020	€6,226	0,0107	17/01/2019	€ 4,794	-0,0034	17/01/2020	€ 6,101	0,0102	19/01/2021	€ 5,599	-0,0033
26/06/2018	€7,538	0,0037	28/06/2019	€7,426	0,0031	30/06/2020	€6,170	-0,0090	18/01/2019	€ 4,876	0,0169	20/01/2020	€ 6,079	-0,0036	20/01/2021	€ 5,628	0,0053
27/06/2018	€7,622	0,0111	01/07/2019	€7,498	0,0096	01/07/2020	€6,158	-0,0019	21/01/2019	€ 4,868	-0,0017	21/01/2020	€ 6,046	-0,0054	21/01/2021	€ 5,591	-0,0067
28/06/2018	€7,616	-0,0008	02/07/2019	€7,559	0,0082	02/07/2020	€6,240	0,0133	22/01/2019	€ 4,848	-0,0042	22/01/2020	€ 6,011	-0,0058	22/01/2021	€ 5,560	-0,0056
29/06/2018	€7,637	0,0028	03/07/2019	€7,609	0,0066	03/07/2020	€6,157	-0,0134	23/01/2019	€ 4,840	-0,0015	23/01/2020	€ 5,972	-0,0065	25/01/2021	€ 5,472	-0,0158
30/07/2018	€7,548	-0,0117	04/07/2019	€7,604	-0,0008	06/07/2020	€6,286	0,0207	24/01/2019	€ 4,872	0,0065	24/01/2020	€ 6,024	0,0087	26/01/2021	€ 5,524	0,0093
31/07/2018	€7,593	0,0060	05/07/2019	€7,553	0,0067	07/07/2020	€6,190	-0,0154	25/01/2019	€ 4,926	0,0110	27/01/2020	€ 5,863	-0,0271	27/01/2021	€ 5,460	-0,0116
01/08/2018	€7,573	-0,0027	08/07/2019	€7,549	-0,0005	08/07/2020	€6,156	-0,0055	28/01/2019	€ 4,889	-0,0076	28/01/2020	€ 5,926	0,0107	28/01/2021	€ 5,511	0,0093
02/08/2018	€7,603	0,0040	09/07/2019	€7,536	-0,0017	09/07/2020	€6,050	-0,0175	29/01/2019	€ 4,928	0,0081	29/01/2020	€ 5,955	0,0049	29/01/2021	€ 5,399	-0,0204
03/08/2018	€7,618	0,0019	10/07/2019	€7,531	-0,0008	10/07/2020	€6,095	0,0075	30/01/2019	€ 4,975	0,0094	30/01/2020	€ 5,872	-0,0141	01/02/2021	€ 5,462	0,0115
04/08/2018	€7,688	0,0092	11/07/2019	€7,510	-0,0028	13/07/2020	€6,176	0,0132	31/01/2019	€ 4,993	0,0036	31/01/2020	€ 5,806	-0,0112	02/02/2021	€ 5,563	0,0184
05/08/2018	€7,692	0,0005	12/07/2019	€7,506	-0,0005	14/07/2020	€6,180	0,0006	01/02/2019	€ 5,019	0,0053	03/02/2020	€ 5,833	0,0045	03/02/2021	€ 5,563	0,0000
06/08/2018	€7,592	-0,0131	15/07/2019	€7,532	0,0034	15/07/2020	€6,293	0,0181	04/02/2019	€ 5,000	-0,0038	04/02/2020	€ 5,935	0,0174	04/02/2021	€ 5,609	0,0081
07/08/2018	€7,651	0,0078	16/07/2019	€7,577	0,0060	16/07/2020	€6,251	-0,0067	05/02/2019	€ 5,083	0,0165	05/02/2020	€ 5,985	0,0084	05/02/2021	€ 5,659	0,0090
08/08/2018	€7,662	0,0014	17/07/2019	€7,535	-0,0055	17/07/2020	€6,290	0,0063	06/02/2019	€ 5,079	-0,0008	06/02/2020	€ 6,038	0,0088	08/02/2021	€ 5,686	0,0047
09/08/2018	€7,600	-0,0080	18/07/2019	€7,493	-0,0056	20/07/2020	€6,262	-0,0046	07/02/2019	€ 4,986	-0,0186	07/02/2020	€ 6,030	-0,0014	09/02/2021	€ 5,692	0,0010
10/08/2018	€7,626	0,0034	19/07/2019	€7,509	0,0021	21/07/2020	€6,270	0,0013	08/02/2019	€ 4,962	-0,0048	10/02/2020	€ 6,016	-0,0023	10/02/2021	€ 5,671	-0,0037
11/08/2018	€7,676	0,0065	22/07/2019	€7,515	0,0008	22/07/2020	€6,207	-0,0100	11/02/2019	€ 5,014	0,0106	11/02/2020	€ 6,055	0,0065	11/02/2021	€ 5,670	-0,0002
12/08/2018	€7,684	0,0010	23/07/2019	€7,557	0,0056	23/07/2020	€6,211	0,0007	12/02/2019	€ 5,056	0,0083	12/02/2020	€ 6,105	0,0082	12/02/2021	€ 5,704	0,0060
13/08/2018	€7,679	-0,0007	24/07/2019	€7,501	-0,0074	24/07/2020	€6,124	-0,0142	13/02/2019	€ 5,074	0,0035	13/02/2020	€ 6,093	-0,0019	15/02/2021	€ 5,786	0,0144
14/08/2018	€7,656	-0,0030	25/07/2019	€7,489	-0,0017	27/07/2020	€6,105	-0,0031	14/02/2019	€ 5,063	-0,0023	14/02/2020	€ 6,069	-0,0039	16/02/2021	€ 5,787	0,0000
15/08/2018	€7,709	0,0069	26/07/2019	€7,549	0,0080	28/07/2020	€6,129	0,0040	15/02/2019	€ 5,153	0,0178	17/02/2020	€ 6,086	0,0027	17/02/2021	€ 5,766	-0,0036
16/08/2018	€7,658	-0,0066	29/07/2019	€7,687	0,0181	29/07/2020	€6,131	0,0004	18/02/2019	€ 5,169	0,0030	18/02/2020	€ 6,057	-0,0048	18/02/2021	€ 5,728	-0,0065
17/08/2018	€7,663	0,0006	30/07/2019	€7,647	-0,0052	30/07/2020	€5,990	-0,0233	19/02/2019	€ 5,161	-0,0016	19/02/2020	€ 6,111	0,0089	19/02/2021	€ 5,774	0,0079
18/08/2018	€7,701	0,0050	31/07/2019	€7,587	-0,0079	31/07/2020	€5,898	-0,0155	20/02/2019	€ 5,196	0,0068	20/02/2020	€ 6,062	-0,0080	22/02/2021	€ 5,767	-0,0011
19/08/2018	€7,701	-0,0001	01/08/2019	€7,585	-0,0003	03/08/2020	€6,033	0,0226	21/02/2019	€ 5,196	0,0000	21/02/2020	€ 6,030	-0,0054	23/02/2021	€ 5,780	0,0021
20/08/2018	€7,749	0,0062	02/08/2019	€7,407	-0,0237	04/08/2020	€6,036	0,0005	22/02/2019	€ 5,216	0,0038	24/02/2020	€ 5,792	-0,0402	24/02/2021	€ 5,798	0,0031
01/08/2018	€7,653	-0,0124	05/08/2019	€7,224	-0,0250	05/08/2020	€6,105	0,0113	25/02/2019	€ 5,232	0,0031	25/02/2020	€ 5,680	-0,0196	25/02/2021	€ 5,784	-0,0024
02/08/2018	€7,576	-0,0101	06/08/2019	€7,172	-0,0072	06/08/2020	€6,027	-0,0128	26/02/2019	€ 5,239	0,0013	26/02/2020	€ 5,685	0,0009	26/02/2021	€ 5,703	-0,0140
03/08/2018	€7,659	0,0109	07/08/2019	€7,199	0,0038	07/08/2020	€6,032	0,0009	27/02/2019	€ 5,225	-0,0026	27/02/2020	€ 5,496	-0,0338	01/03/2021	€ 5,793	0,0156
06/08/2018	€7,664	0,0006	08/08/2019	€7,286	0,0120	10/08/2020	€6,051	0,0030	28/02/2019	€ 5,241	0,0029	28/02/2020	€ 5,310	-0,0344	02/03/2021	€ 5,810	0,0029
07/08/2018	€7,718	0,0071	09/08/2019	€7,254	-0,0044	11/08/2020	€6,154	0,0170	01/03/2019	€ 5,265	0,0047	02/03/2020	€ 5,334	0,0044	03/03/2021	€ 5,830	0,0035
08/08/2018	€7,777	0,0075	12/08/2019	€7,227	-0,0037	12/08/2020	€6,280	0,0202	04/03/2019	€ 5,287	0,0041	03/03/2020	€ 5,393	0,0111	04/03/2021	€ 5,831	0,0001
09/08/2018	€7,742	-0,0045	13/08/2019	€7,251	0,0033	13/08/2020	€6,186	-0,0152	05/03/2019	€ 5,298	0,0021	04/03/2020	€ 5,465	0,0132	05/03/2021	€ 5,783	-0,0083
10/08/2018	€7,667	-0,0097	14/08/2019	€7,148	-0,0143	14/08/2020	€6,090	-0,0156	06/03/2019	€ 5,289	-0,0016	05/03/2020	€ 5,361	-0,0192	08/03/2021	€ 5,903	0,0206
13/08/2018	€7,642	-0,0032	15/08/2019	€7,067	-0,0114	17/08/2020	€6,127	0,0061	07/03/2019	€ 5,268	-0,0040	06/03/2020	€ 5,139	-0,0423	09/03/2021	€ 5,925	0,0037
14/08/2018	€7,612	-0,0040	16/08/2019	€7,117	0,0071	18/08/2020	€6,077	-0,0083	08/03/2019	€ 5,231	-0,0070	09/03/2020	€ 4,708	-0,0876	10/03/2021	€ 5,991	0,0110
15/08/2018	€7,498	-0,0151	19/08/2019	€7,190	0,0101	19/08/2020	€6,112	0,0058	11/03/2019	€ 5,266	0,0066	10/03/2020	€ 4,637	-0,0153	11/03/2021	€ 6,034	0,0072
16/08/2018	€7,556	0,0078	20/08/2019	€7,125	-0,0090	20/08/2020	€6,013	-0,0163	12/03/2019	€ 5,270	0,0008	11/03/2020	€ 4,610	-0,0057	12/03/2021	€ 6,047	0,0021
17/08/2018	€7,559	0,0003	21/08/2019	€7,204	0,0110	21/08/2020	€6,002	-0,0019	13/03/2019	€ 5,306	0,0068	12/03/2020	€ 4,044	-0,1310	15/03/2021	€ 6,036	-0,0018
20/08/2018	€7,591	0,0043	22/08/2019	€7,128	-0,0106	24/08/2020	€6,105	0,0170	14/03/2019	€ 5,350	0,0081	13/03/2020	€ 4,118	0,0182	16/03/2021	€ 6,055	0,0032



Hak Cipta Politeknik Negeri Jakarta

Table with 17 columns containing numerical data points, likely representing copyright or financial records for Politeknik Negeri Jakarta.

- Hak Cipta:
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber...
2. Dilarang menggunakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

01/10/2018	€6,963	0,0011	29/10/2019	€7,306	-0,0034	29/10/2020	€5,582	-0,0002	23/05/2019	€ 5,281	-0,0183	22/05/2020	€ 4,445	-0,0002	24/05/2021	€ 6,408	0,0035
01/10/2018	€7,004	0,0059	30/10/2019	€7,331	0,0034	30/10/2020	€5,577	-0,0008	24/05/2019	€ 5,317	0,0066	25/05/2020	€ 4,540	0,0212	25/05/2021	€ 6,390	-0,0028
05/10/2018	€6,940	-0,0093	31/10/2019	€7,248	-0,0113	02/11/2020	€5,655	0,0138	27/05/2019	€ 5,336	0,0037	26/05/2020	€ 4,606	0,0145	26/05/2021	€ 6,392	0,0002
09/10/2018	€7,026	0,0124	01/11/2019	€7,302	0,0074	03/11/2020	€5,787	0,0230	28/05/2019	€ 5,313	-0,0044	27/05/2020	€ 4,689	0,0178	27/05/2021	€ 6,436	0,0069
10/10/2018	€7,036	0,0014	04/11/2019	€7,370	0,0092	04/11/2020	€5,883	0,0165	29/05/2019	€ 5,222	-0,0172	28/05/2020	€ 4,771	0,0175	28/05/2021	€ 6,484	0,0075
10/10/2018	€7,128	0,0130	05/11/2019	€7,388	0,0025	05/11/2020	€5,906	0,0039	30/05/2019	€ 5,249	0,0051	29/05/2020	€ 4,695	-0,0160	31/05/2021	€ 6,447	-0,0057
11/10/2018	€7,115	-0,0019	06/11/2019	€7,397	0,0012	06/11/2020	€5,910	0,0006	31/05/2019	€ 5,208	-0,0079	01/06/2020	€ 4,763	0,0142	01/06/2021	€ 6,489	0,0065
02/11/2018	€7,094	-0,0029	07/11/2019	€7,406	0,0013	09/11/2020	€6,186	0,0457	03/06/2019	€ 5,241	0,0065	02/06/2020	€ 4,859	0,0200	02/06/2021	€ 6,522	0,0049
05/11/2018	€7,104	0,0014	08/11/2019	€7,359	-0,0064	10/11/2020	€6,297	0,0177	04/06/2019	€ 5,268	0,0051	03/06/2020	€ 5,022	0,0331	03/06/2021	€ 6,508	-0,0021
07/11/2018	€7,041	-0,0089	11/11/2019	€7,329	-0,0042	11/11/2020	€6,382	0,0134	05/06/2019	€ 5,292	0,0045	04/06/2020	€ 5,012	-0,0021	04/06/2021	€ 6,516	0,0012
11/11/2018	€7,117	0,0108	12/11/2019	€7,365	0,0050	12/11/2020	€6,339	-0,0068	06/06/2019	€ 5,278	-0,0026	05/06/2020	€ 5,198	0,0364	07/06/2021	€ 6,544	0,0043
18/11/2018	€7,141	0,0033	13/11/2019	€7,351	-0,0019	13/11/2020	€6,316	-0,0036	07/06/2019	€ 5,364	0,0161	08/06/2020	€ 5,176	-0,0043	08/06/2021	€ 6,551	0,0011
09/11/2018	€7,105	-0,0050	14/11/2019	€7,293	-0,0080	16/11/2020	€6,421	0,0165	10/06/2019	€ 5,383	0,0034	09/06/2020	€ 5,095	-0,0157	09/06/2021	€ 6,563	0,0019
21/11/2018	€7,053	-0,0074	15/11/2019	€7,303	0,0014	17/11/2020	€6,365	-0,0088	11/06/2019	€ 5,408	0,0048	10/06/2020	€ 5,053	-0,0082	10/06/2021	€ 6,546	-0,0026
23/11/2018	€7,054	0,0001	18/11/2019	€7,308	0,0007	18/11/2020	€6,385	0,0031	12/06/2019	€ 5,375	-0,0062	11/06/2020	€ 4,816	-0,0482	11/06/2021	€ 6,601	0,0082
24/11/2018	€7,034	-0,0028	19/11/2019	€7,324	0,0022	19/11/2020	€6,334	-0,0080	13/06/2019	€ 5,376	0,0001	12/06/2020	€ 4,839	0,0049	14/06/2021	€ 6,616	0,0024
28/11/2018	€7,038	0,0006	20/11/2019	€7,262	-0,0084	20/11/2020	€6,351	0,0027	14/06/2019	€ 5,368	-0,0015	15/06/2020	€ 4,816	-0,0049	15/06/2021	€ 6,640	0,0035
06/11/2018	€7,014	-0,0034	21/11/2019	€7,239	-0,0033	23/11/2020	€6,334	-0,0028	17/06/2019	€ 5,391	0,0043	16/06/2020	€ 4,952	0,0280	16/06/2021	€ 6,653	0,0020
09/11/2018	€7,001	-0,0019	22/11/2019	€7,327	0,0121	24/11/2020	€6,432	0,0154	18/06/2019	€ 5,510	0,0218	17/06/2020	€ 4,996	0,0087	17/06/2021	€ 6,666	0,0020
10/11/2018	€6,948	-0,0076	25/11/2019	€7,396	0,0094	25/11/2020	€6,391	-0,0064	19/06/2019	€ 5,518	0,0016	18/06/2020	€ 4,959	-0,0075	18/06/2021	€ 6,569	-0,0147
21/11/2018	€7,050	0,0146	26/11/2019	€7,403	0,0009	26/11/2020	€6,363	-0,0044	20/06/2019	€ 5,536	0,0031	19/06/2020	€ 4,979	0,0042	21/06/2021	€ 6,603	0,0051
27/11/2018	€6,960	-0,0128	27/11/2019	€7,430	0,0036	27/11/2020	€6,368	0,0007	21/06/2019	€ 5,528	-0,0013	22/06/2020	€ 4,949	-0,0062	22/06/2021	€ 6,612	0,0014
11/11/2018	€6,953	-0,0011	28/11/2019	€7,416	-0,0018	30/11/2020	€6,266	-0,0161	24/06/2019	€ 5,522	-0,0012	23/06/2020	€ 5,018	0,0138	23/06/2021	€ 6,551	-0,0092
16/11/2018	€7,036	0,0119	29/11/2019	€7,347	-0,0095	01/12/2020	€6,385	0,0187	25/06/2019	€ 5,515	-0,0013	24/06/2020	€ 4,871	-0,0296	24/06/2021	€ 6,631	0,0121
17/11/2018	€7,017	-0,0027	02/12/2019	€7,286	-0,0083	02/12/2020	€6,463	0,0122	26/06/2019	€ 5,501	-0,0025	25/06/2020	€ 4,919	0,0096	25/06/2021	€ 6,623	-0,0012
18/11/2018	€7,005	-0,0018	03/12/2019	€7,159	-0,0176	03/12/2020	€6,490	0,0042	27/06/2019	€ 5,494	-0,0013	26/06/2020	€ 4,910	-0,0018	28/06/2021	€ 6,558	-0,0098
29/11/2018	€7,039	0,0049	04/12/2019	€7,189	0,0041	04/12/2020	€6,550	0,0092	28/06/2019	€ 5,539	0,0082	29/06/2020	€ 4,945	0,0073	29/06/2021	€ 6,567	0,0014
30/11/2018	€6,980	-0,0084	05/12/2019	€7,138	-0,0071	07/12/2020	€6,555	0,0008	01/07/2019	€ 5,568	0,0052	30/06/2020	€ 4,936	-0,0019	30/06/2021	€ 6,508	-0,0091
03/12/2018	€7,062	0,0117	06/12/2019	€7,240	0,0142	08/12/2020	€6,559	0,0005				01/07/2020	€ 4,927	-0,0018	01/07/2021	€ 6,554	0,0070
04/12/2018	€7,023	-0,0056	09/12/2019	€7,234	-0,0008	09/12/2020	€6,564	0,0008							02/07/2021	€ 6,553	-0,0001
05/12/2018	€6,922	-0,0145	10/12/2019	€7,214	-0,0028	10/12/2020	€6,600	0,0054									
06/12/2018	€6,704	-0,0320	11/12/2019	€7,216	0,0003	11/12/2020	€6,547	-0,0081									
07/12/2018	€6,778	0,0110															
10/12/2018	€6,722	-0,0084															
11/12/2018	€6,807	0,0126															

**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumpukan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



**© Hak Cipta milik Politeknik Negeri Jakarta**

KONDISI PRA			KONDISI SAAT			KONDISI PASCA			KONDISI PRA			KONDISI SAAT			KONDISI PASCA		
TANGGAL	BIST 100	RETURN	TANGGAL	BIST 100	RETURN	TANGGAL	BIST 100	RETURN	TANGGAL	FSTE MIB	RETURN	TANGGAL	FSTE MIB	RETURN	TANGGAL	FSTE MIB	RETURN
6/24/2016	€75,366		6/28/2017	€100,618		6/25/2018	€94,008		2/13/2019	€ 19,990		2/13/2020	€ 24,892		2/15/2021	€ 23,604	
6/27/2016	€75,161	-0.0027	6/29/2017	€100,190	-0.0043	6/26/2018	€94,408	0.0042	2/14/2019	€ 19,835	-0.0078	2/14/2020	€ 24,867	-0.0010	2/16/2021	€ 23,441	-0.0070
6/28/2016	€76,929	0.0233	6/30/2017	€100,440	0.0025	6/27/2018	€95,955	0.0162	2/15/2019	€ 20,212	0.0188	2/17/2020	€ 25,121	0.0101	2/17/2021	€ 23,179	-0.0113
6/29/2016	€76,712	-0.0028	7/3/2017	€100,522	0.0008	6/28/2018	€96,227	0.0028	2/18/2019	€ 20,330	0.0058	2/18/2020	€ 25,224	0.0041	2/18/2021	€ 22,922	-0.0111
6/30/2016	€76,817	0.0014	7/4/2017	€101,208	0.0068	6/29/2018	€96,520	0.0030	2/19/2019	€ 20,228	-0.0050	2/19/2020	€ 25,478	0.0100	2/19/2021	€ 23,136	0.0093
7/1/2016	€77,952	0.0147	7/5/2017	€100,745	-0.0046	7/2/2018	€96,774	-0.0026	2/20/2019	€ 20,304	0.0038	2/20/2020	€ 25,080	-0.0157	2/22/2021	€ 23,009	-0.0055
7/4/2016	€78,388	0.0056	7/6/2017	€100,627	-0.0012	7/3/2018	€96,588	-0.0019	2/21/2019	€ 20,210	-0.0047	2/21/2020	€ 24,773	-0.0123	2/23/2021	€ 22,939	-0.0030
7/8/2016	€78,020	-0.0047	7/7/2017	€100,084	-0.0054	7/4/2018	€97,230	0.0066	2/22/2019	€ 20,263	0.0026	2/24/2020	€ 23,427	-0.0559	2/24/2021	€ 23,098	0.0069
7/11/2016	€79,235	0.0155	7/10/2017	€101,097	0.0101	7/5/2018	€99,097	0.0190	2/25/2019	€ 20,437	0.0086	2/25/2020	€ 23,090	-0.0145	2/25/2021	€ 23,064	-0.0015
7/12/2016	€81,142	0.0238	7/11/2017	€103,183	0.0204	7/6/2018	€98,734	-0.0037	2/26/2019	€ 20,460	0.0011	2/26/2020	€ 23,423	0.0143	2/26/2021	€ 22,849	-0.0094
7/13/2016	€81,322	0.0022	7/12/2017	€103,810	0.0061	7/9/2018	€99,253	0.0052	2/27/2019	€ 20,499	0.0019	2/27/2020	€ 22,799	-0.0270	3/1/2021	€ 23,265	0.0181
7/14/2016	€82,590	0.0155	7/13/2017	€104,210	0.0038	7/10/2018	€96,275	-0.0305	2/28/2019	€ 20,659	0.0078	2/28/2020	€ 21,984	-0.0364	3/2/2021	€ 23,084	-0.0078
7/15/2016	€82,825	0.0028	7/14/2017	€105,176	0.0092	7/11/2018	€91,290	-0.0532	3/1/2019	€ 20,695	0.0017	3/2/2020	€ 21,655	-0.0151	3/3/2021	€ 23,047	-0.0016
7/18/2016	€76,958	-0.0735	7/17/2017	€106,217	0.0099	7/12/2018	€89,571	-0.0190	3/4/2019	€ 20,718	0.0011	3/3/2020	€ 21,748	0.0043	3/4/2021	€ 23,093	0.0020
7/19/2016	€76,178	-0.0102	7/18/2017	€105,718	-0.0047	7/13/2018	€89,898	0.0036	3/5/2019	€ 20,716	-0.0001	3/4/2020	€ 21,946	0.0091	3/5/2021	€ 22,966	-0.0055
7/20/2016	€74,903	-0.0169	7/19/2017	€107,418	-0.0159	7/16/2018	€89,744	-0.0017	3/6/2019	€ 20,852	0.0065	3/5/2020	€ 21,555	-0.0180	3/8/2021	€ 23,682	0.0307
7/21/2016	€71,595	-0.0452	7/20/2017	€106,736	-0.0064	7/17/2018	€91,620	0.0208	3/7/2019	€ 20,698	-0.0074	3/6/2020	€ 20,800	-0.0357	3/9/2021	€ 23,817	0.0057
7/22/2016	€71,738	0.0020	7/21/2017	€106,843	0.0010	7/18/2018	€92,322	0.0075	3/8/2019	€ 20,484	-0.0104	3/9/2020	€ 18,476	-0.1185	3/10/2021	€ 23,926	0.0046
7/25/2016	€74,174	0.0334	7/24/2017	€106,711	-0.0012	7/19/2018	€93,003	0.0073	3/11/2019	€ 20,638	0.0075	3/10/2020	€ 17,870	-0.0333	3/11/2021	€ 24,121	0.0081
7/26/2016	€73,689	-0.0066	7/25/2017	€107,041	0.0031	7/20/2018	€94,082	0.0115	3/12/2019	€ 20,631	-0.0003	3/11/2020	€ 17,929	0.0033	3/12/2021	€ 24,113	-0.0003
7/27/2016	€75,076	0.0186	7/26/2017	€107,206	0.0015	7/23/2018	€95,305	0.0129	3/13/2019	€ 20,749	0.0057	3/12/2020	€ 14,894	-0.1854	3/15/2021	€ 24,139	0.0011
7/28/2016	€75,244	0.0022	7/27/2017	€108,392	0.0110	7/24/2018	€92,134	-0.0338	3/14/2019	€ 20,877	0.0062	3/13/2020	€ 15,954	0.0687	3/16/2021	€ 24,261	0.0050
7/29/2016	€75,406	0.0021	7/28/2017	€107,700	-0.0064	7/25/2018	€95,369	0.0345	3/15/2019	€ 21,045	0.0080	3/16/2020	€ 14,980	-0.0630	3/17/2021	€ 24,281	0.0008
8/1/2016	€76,712	0.0172	7/31/2017	€107,531	-0.0016	7/26/2018	€94,817	-0.0058	3/18/2019	€ 21,235	0.0089	3/17/2020	€ 15,315	0.0221	3/18/2021	€ 24,360	0.0033
8/2/2016	€75,804	-0.0119	8/1/2017	€106,147	-0.0130	7/27/2018	€95,585	0.0081	3/19/2019	€ 21,430	0.0092	3/18/2020	€ 15,120	-0.0128	3/19/2021	€ 24,199	-0.0066
8/3/2016	€74,552	-0.0167	8/2/2017	€106,525	0.0036	7/30/2018	€96,158	0.0060	3/20/2019	€ 21,330	-0.0047	3/19/2020	€ 15,467	0.0227	3/22/2021	€ 24,263	0.0026
8/4/2016	€76,126	0.0209	8/3/2017	€107,154	0.0059	7/31/2018	€96,952	0.0082	3/21/2019	€ 21,373	0.0020	3/20/2020	€ 15,732	0.0170	3/23/2021	€ 24,114	-0.0062
8/5/2016	€76,066	-0.0008	8/4/2017	€108,545	0.0129	8/1/2018	€97,211	0.0027	3/22/2019	€ 21,079	-0.0139	3/23/2020	€ 15,560	-0.0110	3/24/2021	€ 24,209	0.0039
8/8/2016	€77,779	0.0223	8/7/2017	€109,781	0.0113	8/2/2018	€94,543	-0.0278	3/25/2019	€ 21,060	-0.0009	3/24/2020	€ 16,949	0.0855	3/25/2021	€ 24,219	0.0004
8/9/2016	€78,525	0.0095	8/8/2017	€109,639	-0.0013	8/3/2018	€95,611	0.0112	3/26/2019	€ 21,139	0.0038	3/25/2020	€ 17,244	0.0173	3/26/2021	€ 24,393	0.0072
8/10/2016	€77,956	-0.0073	8/9/2017	€108,715	-0.0085	8/6/2018	€94,174	-0.0151	3/27/2019	€ 21,194	0.0026	3/26/2020	€ 17,369	0.0073	3/29/2021	€ 24,421	0.0012
8/11/2016	€79,034	0.0137	8/10/2017	€107,800	-0.0084	8/7/2018	€96,161	0.0209	3/28/2019	€ 21,081	-0.0054	3/27/2020	€ 16,823	-0.0320	3/30/2021	€ 24,636	0.0088
8/12/2016	€78,229	-0.0102	8/11/2017	€106,963	-0.0078	8/8/2018	€96,974	0.0084	3/29/2019	€ 21,286	0.0097	3/30/2020	€ 16,872	0.0030	3/31/2021	€ 24,649	0.0005
8/15/2016	€78,473	0.0031	8/14/2017	€109,537	0.0238	8/9/2018	€97,185	0.0022	4/1/2019	€ 21,520	0.0109	3/31/2020	€ 17,051	0.0105	4/1/2021	€ 24,710	0.0025
8/16/2016	€77,707	-0.0098	8/15/2017	€106,913	-0.0242	8/10/2018	€94,940	-0.0234	4/2/2019	€ 21,523	0.0001	4/1/2020	€ 16,545	-0.0301	4/6/2021	€ 24,761	0.0021
8/17/2016	€78,148	0.0057	8/16/2017	€106,862	-0.0005	8/13/2018	€92,685	-0.0240	4/3/2019	€ 21,756	0.0108	4/2/2020	€ 16,834	0.0173	4/7/2021	€ 24,741	-0.0008
8/18/2016	€77,971	-0.0023	8/17/2017	€106,825	-0.0003	8/14/2018	€93,419	0.0079	4/4/2019	€ 21,706	-0.0023	4/3/2020	€ 16,384	-0.0271	4/8/2021	€ 24,577	-0.0067
8/19/2016	€78,146	0.0022	8/18/2017	€107,202	0.0035	8/15/2018	€90,263	-0.0344	4/5/2019	€ 21,759	0.0024	4/6/2020	€ 17,039	0.0392	4/9/2021	€ 24,429	-0.0060
8/22/2016	€77,953	-0.0025	8/21/2017	€108,615	0.0131	8/16/2018	€87,143	-0.0352	4/8/2019	€ 21,772	0.0006	4/7/2020	€ 17,412	0.0216	4/12/2021	€ 24,457	0.0011
8/23/2016	€77,334	-0.0080	8/22/2017	€108,595	-0.0002	8/17/2018	€88,735	0.0181	4/9/2019	€ 21,672	-0.0046	4/8/2020	€ 17,381	-0.0018	4/13/2021	€ 24,600	0.0058
8/24/2016	€76,116	-0.0159	8/23/2017	€108,953	0.0033	8/20/2018	€90,186	0.0162	4/10/2019	€ 21,672	0.0000	4/9/2020	€ 17,622	0.0138	4/14/2021	€ 24,575	-0.0010



- Hak Cipta :**
- Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
  - Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta





**© Hak Cipta milik Politeknik Negeri Jakarta**

**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumpukan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

8/25/2016	€76,790	0.0088	8/24/2017	€109,154	0.0018	8/27/2018	€91,284	0.0121	4/11/2019	€ 21,685	0.0006	4/14/2020	€ 17,558	-0.0036	4/15/2021	€ 24,529	-0.0019
8/26/2016	€77,120	0.0043	8/25/2017	€109,755	0.0055	8/28/2018	€93,867	0.0279	4/12/2019	€ 21,858	0.0080	4/15/2020	€ 16,719	-0.0490	4/16/2021	€ 24,744	0.0088
8/29/2016	€76,119	-0.0131	8/28/2017	€110,340	0.0053	8/29/2018	€93,281	-0.0063	4/15/2019	€ 21,892	0.0016	4/16/2020	€ 16,768	0.0029	4/19/2021	€ 24,691	-0.0021
8/31/2016	€75,968	-0.0020	8/29/2017	€110,423	0.0008	8/31/2018	€92,723	-0.0060	4/16/2019	€ 21,919	0.0012	4/17/2020	€ 17,055	0.0170	4/20/2021	€ 24,089	-0.0247
9/1/2016	€75,853	-0.0015	8/31/2017	€110,011	-0.0037	9/3/2018	€93,916	0.0128	4/17/2019	€ 22,001	0.0037	4/20/2020	€ 17,064	0.0005	4/21/2021	€ 24,161	0.0030
9/2/2016	€76,884	0.0135	9/5/2017	€108,873	-0.0104	9/4/2018	€93,189	-0.0078	4/18/2019	€ 21,957	-0.0020	4/21/2020	€ 16,451	-0.0366	4/22/2021	€ 24,398	0.0098
9/5/2016	€77,792	0.0117	9/6/2017	€109,612	0.0068	9/5/2018	€92,791	-0.0043	4/23/2019	€ 21,897	-0.0027	4/22/2020	€ 16,765	0.0189	4/23/2021	€ 24,386	-0.0005
9/6/2016	€77,995	0.0026	9/7/2017	€109,743	0.0012	9/6/2018	€92,763	-0.0003	4/24/2019	€ 21,724	-0.0079	4/23/2020	€ 17,011	0.0146	4/26/2021	€ 24,514	0.0052
9/7/2016	€77,643	-0.0045	9/8/2017	€108,452	-0.0118	9/7/2018	€93,274	0.0055	4/25/2019	€ 21,720	-0.0002	4/24/2020	€ 16,859	-0.0090	4/27/2021	€ 24,473	-0.0017
9/8/2016	€77,844	0.0026	9/11/2017	€109,458	0.0092	9/10/2018	€91,698	-0.0170	4/26/2019	€ 21,738	0.0008	4/27/2020	€ 17,380	0.0305	4/28/2021	€ 24,460	-0.0006
9/9/2016	€77,054	-0.0102	9/12/2017	€109,130	-0.0030	9/11/2018	€92,389	0.0075	4/29/2019	€ 21,789	0.0023	4/28/2020	€ 17,677	0.0169	4/29/2021	€ 24,278	-0.0074
9/16/2016	€76,020	-0.0135	9/13/2017	€108,156	-0.0090	9/12/2018	€92,227	-0.0018	4/30/2019	€ 21,881	0.0042	4/29/2020	€ 18,067	0.0218	4/30/2021	€ 24,141	-0.0057
9/19/2016	€77,671	0.0215	9/14/2017	€108,244	0.0008	9/13/2018	€94,419	0.0235	5/2/2019	€ 21,710	-0.0078	4/30/2020	€ 17,690	-0.0211	5/3/2021	€ 24,420	0.0115
9/20/2016	€77,314	-0.0046	9/15/2017	€107,742	-0.0047	9/14/2018	€94,760	0.0036	5/3/2019	€ 21,763	0.0024	5/4/2020	€ 17,036	-0.0377	5/4/2021	€ 23,978	-0.0183
9/21/2016	€77,916	0.0078	9/18/2017	€106,535	-0.0113	9/17/2018	€94,348	-0.0044	5/6/2019	€ 21,409	-0.0164	5/5/2020	€ 17,387	0.0204	5/5/2021	€ 24,464	0.0201
9/22/2016	€79,796	0.0238	9/19/2017	€104,918	-0.0153	9/18/2018	€94,887	0.0057	5/7/2019	€ 21,219	-0.0089	5/6/2020	€ 17,159	-0.0132	5/6/2021	€ 24,495	0.0013
9/23/2016	€79,756	-0.0005	9/20/2017	€105,324	0.0039	9/19/2018	€96,604	0.0179	5/8/2019	€ 21,204	-0.0007	5/7/2020	€ 17,245	0.0050	5/7/2021	€ 24,612	0.0048
9/26/2016	€76,726	-0.0387	9/21/2017	€104,001	-0.0126	9/20/2018	€96,121	-0.0050	5/9/2019	€ 20,817	-0.0184	5/8/2020	€ 17,439	0.0112	5/10/2021	€ 24,803	0.0077
9/27/2016	€77,161	0.0057	9/22/2017	€104,123	0.0012	9/21/2018	€97,988	0.0192	5/10/2019	€ 20,875	0.0028	5/11/2020	€ 17,381	-0.0033	5/11/2021	€ 24,396	-0.0165
9/28/2016	€77,678	0.0067	9/25/2017	€102,270	-0.0180	9/24/2018	€99,547	0.0158	5/13/2019	€ 20,594	-0.0136	5/12/2020	€ 17,559	0.0102	5/12/2021	€ 24,453	0.0023
9/29/2016	€77,077	-0.0078	9/26/2017	€103,929	0.0161	9/25/2018	€99,293	-0.0026	5/14/2019	€ 20,893	0.0144	5/13/2020	€ 17,183	-0.0216	5/13/2021	€ 24,486	0.0014
9/30/2016	€76,488	-0.0077	9/27/2017	€101,218	-0.0264	9/26/2018	€99,149	-0.0014	5/15/2019	€ 20,863	-0.0014	5/14/2020	€ 16,868	-0.0185	5/14/2021	€ 24,766	0.0114
10/3/2016	€77,225	0.0096	9/28/2017	€102,651	0.0141	9/27/2018	€100,299	0.0115	5/16/2019	€ 21,152	0.0137	5/15/2020	€ 16,852	-0.0009	5/17/2021	€ 24,863	0.0039
10/4/2016	€77,058	-0.0022	9/29/2017	€102,908	0.0025	9/28/2018	€99,957	-0.0034	5/17/2019	€ 21,105	-0.0022	5/18/2020	€ 17,401	0.0321	5/18/2021	€ 24,880	0.0007
10/5/2016	€77,854	0.0103	10/2/2017	€103,931	0.0099	10/1/2018	€98,537	-0.0143	5/20/2019	€ 20,540	-0.0272	5/19/2020	€ 17,035	-0.0213	5/19/2021	€ 24,487	-0.0160
10/6/2016	€77,895	0.0005	10/3/2017	€103,908	-0.0002	10/2/2018	€98,161	-0.0038	5/21/2019	€ 20,699	0.0077	5/20/2020	€ 17,213	0.0104	5/20/2021	€ 24,702	0.0088
10/7/2016	€77,976	0.0010	10/4/2017	€104,548	0.0061	10/3/2018	€97,188	-0.0100	5/22/2019	€ 20,573	-0.0061	5/21/2020	€ 17,087	-0.0073	5/21/2021	€ 24,975	0.0110
10/10/2016	€77,835	-0.0018	10/5/2017	€104,334	-0.0020	10/4/2018	€94,497	-0.0281	5/23/2019	€ 20,136	-0.0215	5/22/2020	€ 17,316	0.0133	5/24/2021	€ 24,891	-0.0034
10/11/2016	€77,644	-0.0025	10/6/2017	€104,138	-0.0019	10/5/2018	€94,884	0.0041	5/24/2019	€ 20,376	0.0118	5/25/2020	€ 17,596	0.0160	5/25/2021	€ 24,893	0.0001
10/12/2016	€77,461	-0.0024	10/9/2017	€101,298	-0.0276	10/8/2018	€96,087	0.0126	5/27/2019	€ 20,363	-0.0006	5/26/2020	€ 17,860	0.0149	5/26/2021	€ 24,778	-0.0046
10/13/2016	€76,810	-0.0084	10/10/2017	€103,394	0.0205	10/9/2018	€96,732	0.0067	5/28/2019	€ 20,261	-0.0050	5/27/2020	€ 17,910	0.0028	5/27/2021	€ 25,056	0.0112
10/14/2016	€77,554	0.0096	10/11/2017	€103,816	0.0041	10/10/2018	€94,441	-0.0240	5/29/2019	€ 20,000	-0.0130	5/28/2020	€ 18,351	0.0243	5/28/2021	€ 25,169	0.0045
10/17/2016	€77,438	-0.0015	10/12/2017	€105,932	0.0202	10/11/2018	€94,748	0.0032	5/30/2019	€ 19,948	-0.0026	5/29/2020	€ 18,198	-0.0084	5/31/2021	€ 25,171	0.0000
10/18/2016	€78,340	0.0116	10/13/2017	€106,226	0.0028	10/12/2018	€96,657	0.0200	5/31/2019	€ 19,802	-0.0073	6/1/2020	€ 18,524	0.0178	6/1/2021	€ 25,322	0.0060
10/19/2016	€79,210	0.0110	10/16/2017	€106,475	0.0023	10/15/2018	€98,631	0.0202	6/3/2019	€ 19,874	0.0036	6/2/2020	€ 18,971	0.0239	6/2/2021	€ 25,380	0.0023
10/20/2016	€79,252	0.0005	10/17/2017	€106,991	0.0048	10/16/2018	€98,466	-0.0017	6/4/2019	€ 20,229	0.0177	6/3/2020	€ 19,642	0.0347	6/3/2021	€ 25,452	0.0029
10/21/2016	€78,844	-0.0052	10/18/2017	€106,926	-0.0006	10/17/2018	€98,991	0.0053	6/5/2019	€ 20,156	-0.0036	6/4/2020	€ 19,634	-0.0004	6/4/2021	€ 25,570	0.0046
10/24/2016	€79,933	0.0137	10/19/2017	€108,434	0.0140	10/18/2018	€97,454	-0.0156	6/6/2019	€ 20,178	0.0011	6/5/2020	€ 20,188	0.0278	6/7/2021	€ 25,825	0.0099
10/25/2016	€79,433	-0.0063	10/20/2017	€108,489	0.0005	10/19/2018	€96,455	-0.0103	6/7/2019	€ 20,361	0.0090	6/8/2020	€ 20,231	0.0022	6/8/2021	€ 25,809	-0.0006
10/26/2016	€79,398	-0.0004	10/23/2017	€107,303	-0.0110	10/22/2018	€94,682	-0.0186	6/10/2019	€ 20,485	0.0061	6/9/2020	€ 19,930	-0.0150	6/9/2021	€ 25,742	-0.0026
10/27/2016	€78,739	-0.0083	10/24/2017	€107,206	-0.0009	10/23/2018	€93,469	-0.0129	6/11/2019	€ 20,610	0.0061	6/10/2020	€ 19,758	-0.0087	6/10/2021	€ 25,638	-0.0040
10/28/2016	€78,333	-0.0052	10/25/2017	€108,355	0.0107	10/24/2018	€92,692	-0.0083	6/12/2019	€ 20,463	-0.0071	6/11/2020	€ 18,807	-0.0493	6/11/2021	€ 25,717	0.0031
10/31/2016	€78,536	0.0026	10/26/2017	€107,335	-0.0095	10/25/2018	€93,748	0.0113	6/13/2019	€ 20,631	0.0082	6/12/2020	€ 18,888	0.0043	6/14/2021	€ 25,758	0.0016
11/1/2016	€77,429	-0.0142	10/27/2017	€107,884	0.0051	10/26/2018	€90,542	-0.0348	6/14/2019	€ 20,612	-0.0009	6/15/2020	€ 18,969	0.0043	6/15/2021	€ 25,737	-0.0008
11/2/2016	€77,172	-0.0033	10/30/2017	€108,467	0.0054	10/30/2018	€90,000	-0.0060	6/17/2019	€ 20,626	0.0007	6/16/2020	€ 19,626	0.0340	6/16/2021	€ 25,768	0.0012
11/3/2016	€76,681	-0.0064	10/31/2017	€110,143	0.0153	10/31/2018	€90,201	0.0022	6/18/2019	€ 21,134	0.0243	6/17/2020	€ 19,586	-0.0020	6/17/2021	€ 25,714	-0.0021

NEGERI  
JAKARTA



## © Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumpukan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

11/4/2016	€74,267	-0.0320	11/1/2017	€113,024	0.0258	11/1/2018	€92,387	0.0240	6/19/2019	€ 21,221	0.0041	6/18/2020	€ 19,486	-0.0051	6/18/2021	€ 25,218	-0.0195
11/7/2016	€75,682	0.0189	11/2/2017	€112,995	-0.0003	11/2/2018	€94,123	0.0186	6/20/2019	€ 21,361	0.0066	6/19/2020	€ 19,619	0.0068	6/21/2021	€ 25,398	0.0071
11/8/2016	€76,368	0.0090	11/3/2017	€111,293	-0.0152	11/5/2018	€95,948	0.0192	6/21/2019	€ 21,389	0.0013	6/22/2020	€ 19,479	-0.0072	6/22/2021	€ 25,316	-0.0032
11/9/2016	€76,209	-0.0021	11/6/2017	€114,166	0.0255	11/6/2018	€94,728	-0.0128	6/24/2019	€ 21,284	-0.0049	6/23/2020	€ 19,842	0.0185	6/23/2021	€ 25,077	-0.0095
11/10/2016	€76,360	0.0020	11/7/2017	€112,272	-0.0167	11/7/2018	€95,493	0.0080	6/25/2019	€ 21,128	-0.0073	6/24/2020	€ 19,163	-0.0348	6/24/2021	€ 25,422	0.0137
11/11/2016	€75,174	-0.0157	11/8/2017	€111,895	-0.0034	11/8/2018	€93,506	-0.0210	6/26/2019	€ 21,057	-0.0034	6/25/2020	€ 19,235	0.0037	6/25/2021	€ 25,511	0.0035
11/14/2016	€74,419	-0.0101	11/9/2017	€110,247	-0.0148	11/9/2018	€92,839	-0.0072	6/27/2019	€ 21,111	0.0025	6/26/2020	€ 19,124	-0.0058	6/28/2021	€ 25,227	-0.0112
11/15/2016	€75,151	0.0098	11/10/2017	€108,949	-0.0118	11/12/2018	€91,445	-0.0151	6/28/2019	€ 21,235	0.0059	6/29/2020	€ 19,447	0.0167	6/29/2021	€ 25,357	0.0052
11/16/2016	€74,759	-0.0052	11/13/2017	€108,860	-0.0008	11/13/2018	€92,709	0.0137	7/1/2019	€ 21,254	0.0009	6/30/2020	€ 19,376	-0.0037	6/30/2021	€ 25,102	-0.0101
11/17/2016	€75,136	0.0050	11/14/2017	€110,149	0.0118	11/14/2018	€93,287	0.0062	7/2/2019	€ 21,393	0.0065	7/1/2020	€ 19,331	-0.0023	7/1/2021	€ 25,286	0.0073
11/18/2016	€75,639	0.0067	11/15/2017	€107,717	-0.0223	11/15/2018	€93,297	0.0001	7/3/2019	€ 21,905	0.0237	7/2/2020	€ 19,887	0.0284	7/2/2021	€ 25,282	-0.0001
11/21/2016	€75,544	-0.0013	11/16/2017	€106,977	-0.0069	11/16/2018	€93,617	0.0034	7/4/2019	€ 22,121	0.0098	7/3/2020	€ 19,727	-0.0081	7/5/2021	€ 25,441	0.0063
11/22/2016	€75,812	0.0035	11/17/2017	€106,240	-0.0069	11/19/2018	€94,571	0.0101	7/5/2019	€ 21,986	-0.0061	7/6/2020	€ 20,032	0.0154	7/6/2021	€ 25,228	-0.0084
11/23/2016	€75,037	-0.0103	11/20/2017	€103,912	-0.0222	11/20/2018	€91,686	-0.0310	7/8/2019	€ 21,976	-0.0004	7/7/2020	€ 20,013	-0.0010	7/7/2021	€ 25,285	0.0023
11/24/2016	€74,193	-0.0113	11/21/2017	€105,268	0.0130	11/21/2018	€92,708	0.0111	7/9/2019	€ 21,886	-0.0041	7/8/2020	€ 19,900	-0.0057	7/8/2021	€ 24,641	-0.0258
11/25/2016	€74,364	0.0023	11/22/2017	€105,964	0.0066	11/22/2018	€92,629	-0.0009	7/10/2019	€ 22,045	0.0072	7/9/2020	€ 19,506	-0.0200	7/9/2021	€ 25,052	0.0165
11/28/2016	€74,990	0.0084	11/23/2017	€105,026	-0.0089	11/23/2018	€93,003	0.0040	7/11/2019	€ 22,169	0.0056	7/10/2020	€ 19,768	0.0133	7/12/2021	€ 25,283	0.0092
11/29/2016	€74,206	-0.0105	11/24/2017	€104,539	-0.0046	11/26/2018	€93,962	0.0103	7/12/2019	€ 22,183	0.0006	7/13/2020	€ 20,003	0.0119	7/13/2021	€ 25,157	-0.0050
11/30/2016	€73,995	-0.0028	11/27/2017	€104,760	0.0021	11/27/2018	€93,517	-0.0048	7/15/2019	€ 22,178	-0.0002	7/14/2020	€ 19,880	-0.0062	7/14/2021	€ 25,194	0.0015
12/1/2016	€72,520	-0.0201	11/28/2017	€102,068	-0.0260	11/28/2018	€94,071	0.0059	7/16/2019	€ 22,204	0.0012	7/15/2020	€ 20,281	0.0200	7/15/2021	€ 24,876	-0.0127
12/2/2016	€73,391	0.0119	11/29/2017	€102,342	0.0027	11/29/2018	€95,126	0.0111	7/17/2019	€ 22,079	-0.0056	7/16/2020	€ 20,356	0.0037	7/16/2021	€ 24,793	-0.0033
12/5/2016	€73,600	0.0028	11/30/2017	€103,984	0.0159	11/30/2018	€95,416	0.0030	7/18/2019	€ 22,091	0.0005	7/17/2020	€ 20,419	0.0031	7/19/2021	€ 23,966	-0.0339
12/6/2016	€75,433	0.0246	12/1/2017	€103,559	-0.0041	12/3/2018	€94,975	-0.0046	7/19/2019	€ 21,641	-0.0206	7/20/2020	€ 20,621	0.0098	7/20/2021	€ 24,107	0.0059
12/7/2016	€76,031	0.0079	12/4/2017	€105,215	0.0159	12/4/2018	€93,881	-0.0116	7/22/2019	€ 21,736	0.0043	7/21/2020	€ 20,723	0.0049	7/21/2021	€ 24,676	0.0233
12/8/2016	€75,929	-0.0013	12/5/2017	€106,260	0.0099	12/5/2018	€93,970	0.0010	7/23/2019	€ 21,955	0.0100	7/22/2020	€ 20,599	-0.0060	7/22/2021	€ 24,805	0.0052
12/9/2016	€75,727	-0.0027	12/6/2017	€105,304	-0.0090	12/6/2018	€92,827	-0.0122	7/24/2019	€ 22,080	0.0057	7/23/2020	€ 20,454	-0.0070	7/23/2021	€ 25,125	0.0128
12/12/2016	€76,240	0.0067	12/7/2017	€106,448	0.0108	12/7/2018	€93,700	0.0094	7/25/2019	€ 21,903	-0.0080	7/24/2020	€ 20,075	-0.0187	7/26/2021	€ 25,296	0.0068
12/13/2016	€76,995	0.0099	12/8/2017	€107,921	0.0138	12/10/2018	€92,227	-0.0158	7/26/2019	€ 21,838	-0.0030	7/27/2020	€ 20,020	-0.0028	7/27/2021	€ 25,087	-0.0083
12/14/2016	€76,881	-0.0015	12/11/2017	€109,157	0.0114	12/11/2018	€91,801	-0.0046	7/29/2019	€ 21,709	-0.0059	7/28/2020	€ 19,903	-0.0059	7/28/2021	€ 25,262	0.0070
12/15/2016	€77,679	0.0103	12/12/2017	€109,050	-0.0010	12/12/2018	€90,051	-0.0192	7/30/2019	€ 21,278	-0.0201	7/29/2020	€ 19,881	-0.0011	7/29/2021	€ 25,516	0.0100
12/16/2016	€77,590	-0.0011	12/13/2017	€108,153	-0.0083	12/13/2018	€91,387	0.0147	7/31/2019	€ 21,398	0.0056	7/30/2020	€ 19,228	-0.0334	7/30/2021	€ 25,363	-0.0060
12/19/2016	€77,158	-0.0056	12/14/2017	€109,666	0.0139	12/14/2018	€90,529	-0.0094	8/1/2019	€ 21,567	0.0079	7/31/2020	€ 19,092	-0.0071	8/2/2021	€ 25,352	-0.0005
12/20/2016	€77,808	0.0084	12/15/2017	€109,330	-0.0031	12/17/2018	€89,962	-0.0063	8/2/2019	€ 21,047	-0.0244	8/3/2020	€ 19,380	0.0150	8/3/2021	€ 25,356	0.0002
12/21/2016	€77,620	-0.0024	12/18/2017	€110,248	0.0084	12/18/2018	€91,074	0.0123	8/5/2019	€ 20,773	-0.0131	8/4/2020	€ 19,614	0.0120	8/4/2021	€ 25,490	0.0053
12/22/2016	€77,405	-0.0028	12/19/2017	€110,177	-0.0006	12/19/2018	€92,553	0.0161	8/6/2019	€ 20,632	-0.0068	8/5/2020	€ 19,740	0.0064	8/5/2021	€ 25,666	0.0069
12/23/2016	€76,972	-0.0056	12/20/2017	€110,455	0.0025	12/20/2018	€91,854	-0.0076	8/7/2019	€ 20,539	-0.0045	8/6/2020	€ 19,475	-0.0135	8/6/2021	€ 26,000	0.0130
12/26/2016	€77,029	0.0007	12/21/2017	€111,272	0.0074	12/21/2018	€91,861	0.0001	8/8/2019	€ 20,841	0.0146	8/7/2020	€ 19,516	0.0021	8/9/2021	€ 26,139	0.0053
12/27/2016	€76,699	-0.0043	12/22/2017	€111,100	-0.0016	12/24/2018	€91,527	-0.0036	8/9/2019	€ 20,324	-0.0251	8/10/2020	€ 19,652	0.0069	8/10/2021	€ 26,201	0.0024
12/28/2016	€77,548	0.0110	12/26/2017	€112,007	0.0081	12/26/2018	€91,002	-0.0057	8/12/2019	€ 20,264	-0.0030	8/11/2020	€ 20,209	0.0280	8/11/2021	€ 26,457	0.0097
12/29/2016	€77,836	0.0037	12/27/2017	€112,150	0.0013	12/27/2018	€90,975	-0.0003	8/13/2019	€ 20,539	0.0135	8/12/2020	€ 20,437	0.0112	8/12/2021	€ 26,558	0.0038
12/30/2016	€78,139	0.0039	12/28/2017	€114,481	0.0206	12/28/2018	€90,435	-0.0059	8/14/2019	€ 20,020	-0.0256	8/13/2020	€ 20,257	-0.0088	8/13/2021	€ 26,653	0.0036
1/2/2017	€77,755	-0.0049	12/29/2017	€115,333	0.0074	12/31/2018	€91,271	0.0092	8/16/2019	€ 20,323	0.0150	8/14/2020	€ 20,028	-0.0114	8/16/2021	€ 26,449	-0.0077
1/3/2017	€76,618	-0.0147	1/2/2018	€117,524	0.0188	1/2/2019	€88,865	-0.0267	8/19/2019	€ 20,715	0.0191	8/17/2020	€ 19,950	-0.0039	8/17/2021	€ 26,225	-0.0085
1/4/2017	€76,144	-0.0062	1/3/2018	€116,052	-0.0126	1/3/2019	€87,399	-0.0166	8/20/2019	€ 20,485	-0.0112	8/18/2020	€ 19,846	-0.0053	8/18/2021	€ 26,357	0.0050
1/5/2017	€76,386	0.0032	1/4/2018	€115,491	-0.0048	1/4/2019	€88,831	0.0162	8/21/2019	€ 20,847	0.0175	8/19/2020	€ 20,055	0.0105	8/19/2021	€ 25,929	-0.0164
1/6/2017	€77,107	0.0094	1/5/2018	€116,638	0.0099	1/7/2019	€89,951	0.0125	8/22/2019	€ 20,817	-0.0014	8/20/2020	€ 19,767	-0.0145	8/20/2021	€ 25,918	-0.0004

NEGERI  
JAKARTA



© Hak Cipta milik Politeknik Negeri Jakarta

Hak Cipta :

- 1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
- 2. Dilarang mengumpulkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

1/9/2017	€77,394	0.0037	1/8/2018	€116,305	-0.0029	1/8/2019	€90,697	0.0083	8/23/2019	€20,474	-0.0166	8/21/2020	€19,695	-0.0036	8/23/2021	€26,046	0.0049
1/10/2017	€77,394	0.0000	1/9/2018	€115,023	-0.0111	1/9/2019	€91,157	0.0051	8/26/2019	€20,677	0.0099	8/24/2020	€20,113	0.0210	8/24/2021	€26,028	-0.0007
1/11/2017	€77,667	0.0035	1/10/2018	€113,590	-0.0125	1/10/2019	€91,196	0.0004	8/27/2019	€20,991	0.0151	8/25/2020	€20,030	-0.0042	8/25/2021	€26,060	0.0012
1/12/2017	€80,891	0.0407	1/11/2018	€114,719	0.0099	1/11/2019	€91,687	0.0054	8/28/2019	€20,991	0.0000	8/26/2020	€20,137	0.0053	8/26/2021	€25,862	-0.0077
1/13/2017	€81,524	0.0078	1/12/2018	€114,645	-0.0006	1/14/2019	€92,054	0.0040	8/29/2019	€21,398	0.0192	8/27/2020	€19,847	-0.0145	8/27/2021	€26,007	0.0056
1/16/2017	€81,712	0.0023	1/15/2018	€112,159	-0.0219	1/15/2019	€93,173	0.0121	8/30/2019	€21,323	-0.0035	8/28/2020	€19,841	-0.0003	8/30/2021	€26,024	0.0007
1/17/2017	€82,363	0.0079	1/16/2018	€114,418	0.0199	1/16/2019	€95,412	0.0237	9/2/2019	€21,452	0.0060	8/31/2020	€19,634	-0.0105	8/31/2021	€26,009	-0.0006
1/18/2017	€82,779	0.0050	1/17/2018	€116,593	0.0188	1/17/2019	€96,817	0.0146	9/3/2019	€21,399	-0.0025	9/1/2020	€19,595	-0.0020	9/1/2021	€26,182	0.0066
1/19/2017	€82,300	-0.0058	1/18/2018	€116,856	0.0023	1/18/2019	€98,455	0.0168	9/4/2019	€21,738	0.0157	9/2/2020	€19,858	0.0133	9/2/2021	€26,233	0.0020
1/20/2017	€83,067	0.0093	1/19/2018	€115,147	-0.0147	1/21/2019	€97,955	-0.0051	9/5/2019	€21,955	0.0099	9/3/2020	€19,551	-0.0156	9/3/2021	€26,065	-0.0064
1/23/2017	€83,048	-0.0002	1/22/2018	€117,236	0.0180	1/22/2019	€99,677	0.0174	9/6/2019	€21,947	-0.0004	9/4/2020	€19,391	-0.0082	9/6/2021	€26,263	0.0076
1/24/2017	€84,208	0.0139	1/23/2018	€118,400	0.0099	1/23/2019	€100,141	0.0046	9/9/2019	€21,990	0.0019	9/7/2020	€19,738	0.0177	9/7/2021	€26,074	-0.0072
1/25/2017	€83,128	-0.0129	1/24/2018	€119,648	0.0105	1/24/2019	€101,774	0.0162	9/10/2019	€21,869	-0.0055	9/8/2020	€19,380	-0.0183	9/8/2021	€25,877	-0.0076
1/26/2017	€83,827	0.0084	1/25/2018	€118,604	-0.0088	1/25/2019	€101,801	0.0003	9/11/2019	€21,892	0.0010	9/9/2020	€19,771	0.0200	9/9/2021	€25,910	0.0013
1/27/2017	€83,827	0.0000	1/26/2018	€120,702	0.0175	1/28/2019	€101,290	-0.0050	9/12/2019	€22,083	0.0087	9/10/2020	€19,820	0.0025	9/10/2021	€25,686	-0.0087
1/30/2017	€86,238	0.0283	1/29/2018	€120,845	0.0012	1/29/2019	€104,098	0.0274	9/13/2019	€22,181	0.0044	9/11/2020	€19,821	0.0000	9/13/2021	€25,926	0.0093
1/31/2017	€86,296	0.0007	1/30/2018	€119,303	-0.0128	1/30/2019	€104,190	0.0009	9/16/2019	€21,969	-0.0096	9/14/2020	€19,794	-0.0014	9/14/2021	€26,027	0.0039
2/1/2017	€86,848	0.0064	1/31/2018	€119,529	0.0019	1/31/2019	€104,074	-0.0011	9/17/2019	€21,802	-0.0076	9/15/2020	€19,957	0.0082	9/15/2021	€25,762	-0.0102
2/2/2017	€87,394	0.0063	2/1/2018	€119,044	-0.0041	2/1/2019	€102,937	-0.0110	9/18/2019	€21,948	0.0067	9/16/2020	€19,964	0.0004	9/16/2021	€25,964	0.0078
2/3/2017	€88,390	0.0113	2/2/2018	€118,119	-0.0078	2/4/2019	€102,255	-0.0066	9/19/2019	€22,128	0.0082	9/17/2020	€19,740	-0.0113	9/17/2021	€25,710	-0.0098
2/6/2017	€87,358	-0.0117	2/5/2018	€116,853	-0.0108	2/5/2019	€102,448	0.0019	9/20/2019	€22,123	-0.0002	9/18/2020	€19,525	-0.0109	9/20/2021	€25,048	-0.0261
2/7/2017	€87,477	0.0014	2/6/2018	€115,457	-0.0120	2/6/2019	€102,584	0.0013	9/23/2019	€21,900	-0.0101	9/21/2020	€18,793	-0.0382	9/21/2021	€25,353	0.0121
2/8/2017	€88,249	0.0088	2/7/2018	€115,570	0.0010	2/7/2019	€102,784	0.0019	9/24/2019	€21,901	0.0001	9/22/2020	€18,896	0.0054	9/22/2021	€25,717	0.0143
2/9/2017	€88,830	0.0066	2/8/2018	€114,264	-0.0114	2/8/2019	€102,452	-0.0032	9/25/2019	€21,788	-0.0052	9/23/2020	€18,930	0.0018	9/23/2021	€26,081	0.0140
2/10/2017	€87,473	-0.0154	2/9/2018	€113,590	-0.0059	2/11/2019	€104,395	0.0188	9/26/2019	€21,948	0.0073	9/24/2020	€18,907	-0.0012	9/24/2021	€25,969	-0.0043
2/13/2017	€88,578	0.0126	2/12/2018	€114,822	0.0108	2/12/2019	€103,763	-0.0061	9/27/2019	€22,017	0.0032	9/25/2020	€18,698	-0.0111	9/27/2021	€26,132	0.0063
2/14/2017	€88,082	-0.0056	2/13/2018	€114,495	-0.0029	2/13/2019	€101,646	-0.0206	9/30/2019	€22,108	0.0041	9/28/2020	€19,160	0.0244	9/28/2021	€25,573	-0.0216
2/15/2017	€87,882	-0.0023	2/14/2018	€113,455	-0.0091	2/14/2019	€102,130	0.0048	10/1/2019	€21,928	-0.0082	9/29/2020	€19,061	-0.0052	9/29/2021	€25,737	0.0064
2/16/2017	€88,187	0.0035	2/15/2018	€116,226	0.0241	2/15/2019	€102,715	0.0057	10/2/2019	€21,298	-0.0291	9/30/2020	€19,015	-0.0024	9/30/2021	€25,684	-0.0021
2/17/2017	€88,830	0.0073	2/16/2018	€116,511	0.0025	2/18/2019	€101,729	-0.0097	10/3/2019	€21,312	0.0006	10/1/2020	€19,062	0.0024	10/1/2021	€25,615	-0.0027
2/20/2017	€88,588	-0.0027	2/19/2018	€115,882	-0.0054	2/19/2019	€101,742	0.0001	10/4/2019	€21,470	0.0074	10/2/2020	€19,064	0.0001	10/4/2021	€25,461	-0.0061
2/21/2017	€88,965	0.0043	2/20/2018	€113,433	-0.0214	2/20/2019	€101,971	0.0023	10/7/2019	€21,652	0.0084	10/5/2020	€19,266	0.0105	10/5/2021	€25,956	0.0193
2/22/2017	€88,531	-0.0049	2/21/2018	€116,316	0.0251	2/21/2019	€102,494	0.0051	10/8/2019	€21,406	-0.0114	10/6/2020	€19,430	0.0085	10/6/2021	€25,606	-0.0136
2/23/2017	€89,138	0.0068	2/22/2018	€116,841	0.0045	2/22/2019	€103,186	0.0067	10/9/2019	€21,534	0.0060	10/7/2020	€19,435	0.0003	10/7/2021	€25,992	0.0150
2/24/2017	€88,259	-0.0099	2/23/2018	€117,522	0.0058	2/25/2019	€104,330	0.0110	10/10/2019	€21,756	0.0103	10/8/2020	€19,582	0.0076	10/8/2021	€26,051	0.0023
2/27/2017	€87,765	-0.0056	2/26/2018	€118,792	0.0108	2/26/2019	€105,082	0.0072	10/11/2019	€22,165	0.0186	10/9/2020	€19,595	0.0007	10/11/2021	€25,930	-0.0046
2/28/2017	€87,478	-0.0033	2/27/2018	€118,832	0.0003	2/27/2019	€104,141	-0.0090	10/14/2019	€22,098	-0.0030	10/12/2020	€19,719	0.0063	10/12/2021	€25,990	0.0023
3/1/2017	€89,320	0.0208	2/28/2018	€118,951	0.0010	2/28/2019	€104,530	0.0037	10/15/2019	€22,365	0.0120	10/13/2020	€19,559	-0.0082	10/13/2021	€25,959	-0.0012
3/2/2017	€89,934	0.0068	3/1/2018	€117,632	-0.0111	3/1/2019	€103,267	-0.0122	10/16/2019	€22,428	0.0028	10/14/2020	€19,608	0.0025	10/14/2021	€26,278	0.0122
3/3/2017	€89,722	-0.0024	3/2/2018	€116,859	-0.0066	3/4/2019	€104,193	0.0089	10/17/2019	€22,376	-0.0023	10/15/2020	€19,065	-0.0280	10/15/2021	€26,489	0.0080
3/6/2017	€91,045	0.0146	3/5/2018	€116,946	0.0007	3/5/2019	€103,731	-0.0045	10/18/2019	€22,322	-0.0024	10/16/2020	€19,390	0.0169	10/18/2021	€26,269	-0.0084
3/7/2017	€90,814	-0.0025	3/6/2018	€116,710	-0.0020	3/6/2019	€103,453	-0.0027	10/21/2019	€22,478	0.0070	10/19/2020	€19,374	-0.0008	10/19/2021	€26,333	0.0024
3/8/2017	€89,485	-0.0147	3/7/2018	€116,842	0.0011	3/7/2019	€102,283	-0.0114	10/22/2019	€22,487	0.0004	10/20/2020	€19,482	0.0056	10/20/2021	€26,582	0.0094
3/9/2017	€89,003	-0.0054	3/8/2018	€116,567	-0.0024	3/8/2019	€101,538	-0.0073	10/23/2019	€22,351	-0.0061	10/21/2020	€19,086	-0.0205	10/21/2021	€26,525	-0.0021
3/10/2017	€89,611	0.0068	3/9/2018	€116,915	0.0030	3/11/2019	€100,850	-0.0068	10/24/2019	€22,527	0.0079	10/22/2020	€19,077	-0.0005	10/22/2021	€26,572	0.0018
3/13/2017	€89,430	-0.0020	3/12/2018	€118,411	0.0127	3/12/2019	€101,721	0.0086	10/25/2019	€22,609	0.0036	10/23/2020	€19,285	0.0109	10/25/2021	€26,816	0.0091

NEGERI  
JAKARTA



## © Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkannya dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

3/14/2017	€89,137	-0.0033	3/13/2018	€118,267	-0.0012	3/13/2019	€102,197	0.0047	10/28/2019	€ 22,696	0.0038	10/26/2020	€ 18,945	-0.0178	10/26/2021	€ 26,971	0.0058
3/15/2017	€89,446	0.0035	3/14/2018	€117,593	-0.0057	3/14/2019	€102,432	0.0023	10/29/2019	€ 22,681	-0.0007	10/27/2020	€ 18,655	-0.0154	10/27/2021	€ 26,806	-0.0061
3/16/2017	€90,268	0.0092	3/15/2018	€117,202	-0.0033	3/15/2019	€103,304	0.0085	10/30/2019	€ 22,646	-0.0015	10/28/2020	€ 17,898	-0.0414	10/28/2021	€ 26,890	0.0031
3/17/2017	€90,491	0.0025	3/16/2018	€117,216	0.0001	3/18/2019	€104,595	0.0124	10/31/2019	€ 22,694	0.0021	10/29/2020	€ 17,872	-0.0014	10/29/2021	€ 26,876	-0.0005
3/20/2017	€90,902	0.0045	3/19/2018	€115,450	-0.0152	3/19/2019	€104,862	0.0025	11/1/2019	€ 22,934	0.0105	10/30/2020	€ 17,943	0.0040	11/1/2021	€ 27,206	0.0122
3/21/2017	€90,607	-0.0033	3/20/2018	€116,432	0.0085	3/20/2019	€103,310	-0.0149	11/4/2019	€ 23,311	0.0163	11/2/2020	€ 18,400	0.0251	11/2/2021	€ 27,190	-0.0006
3/22/2017	€89,809	-0.0088	3/21/2018	€117,651	0.0104	3/21/2019	€103,408	0.0009	11/5/2019	€ 23,365	0.0023	11/3/2020	€ 18,986	0.0314	11/3/2021	€ 27,378	0.0069
3/23/2017	€89,764	-0.0005	3/22/2018	€117,110	-0.0046	3/22/2019	€99,835	-0.0352	11/6/2019	€ 23,373	0.0004	11/4/2020	€ 19,358	0.0194	11/4/2021	€ 27,522	0.0053
3/24/2017	€90,383	0.0069	3/23/2018	€116,603	-0.0043	3/25/2019	€99,326	-0.0051	11/7/2019	€ 23,503	0.0055	11/5/2020	€ 19,731	0.0191	11/5/2021	€ 27,796	0.0099
3/27/2017	€89,695	-0.0076	3/26/2018	€116,420	-0.0016	3/26/2019	€97,379	-0.0198	11/8/2019	€ 23,534	0.0013	11/6/2020	€ 19,682	-0.0025	11/8/2021	€ 27,711	-0.0031
3/28/2017	€90,182	0.0054	3/27/2018	€116,197	-0.0019	3/27/2019	€91,855	-0.0584	11/11/2019	€ 23,490	-0.0019	11/9/2020	€ 20,750	0.0529	11/9/2021	€ 27,441	-0.0098
3/29/2017	€89,270	-0.0102	3/28/2018	€114,129	-0.0180	3/28/2019	€92,120	0.0029	11/12/2019	€ 23,782	0.0124	11/10/2020	€ 20,852	0.0049	11/10/2021	€ 27,561	0.0044
3/30/2017	€89,282	0.0001	3/29/2018	€114,845	0.0062	3/29/2019	€93,784	0.0179	11/13/2019	€ 23,578	-0.0086	11/11/2020	€ 20,993	0.0068	11/11/2021	€ 27,633	0.0026
3/31/2017	€88,947	-0.0038	3/30/2018	€114,930	0.0007	4/1/2019	€94,101	0.0034	11/14/2019	€ 23,481	-0.0041	11/12/2020	€ 20,818	-0.0084	11/12/2021	€ 27,732	0.0036
4/3/2017	€88,670	-0.0031	4/2/2018	€114,442	-0.0043	4/2/2019	€93,533	-0.0061	11/15/2019	€ 23,589	0.0046	11/13/2020	€ 20,904	0.0041	11/15/2021	€ 27,868	0.0049
4/4/2017	€88,613	-0.0006	4/3/2018	€114,594	0.0013	4/3/2019	€94,441	0.0097	11/18/2019	€ 23,464	-0.0053	11/16/2020	€ 21,317	0.0196	11/16/2021	€ 27,805	-0.0023
4/5/2017	€89,038	0.0048	4/4/2018	€113,976	-0.0054	4/4/2019	€98,337	0.0404	11/19/2019	€ 23,329	-0.0058	11/17/2020	€ 21,435	0.0055	11/17/2021	€ 27,825	0.0007
4/6/2017	€88,679	-0.0040	4/5/2018	€114,948	0.0085	4/5/2019	€98,783	0.0045	11/20/2019	€ 23,352	0.0010	11/18/2020	€ 21,623	0.0087	11/18/2021	€ 27,662	-0.0059
4/7/2017	€88,497	-0.0021	4/6/2018	€114,738	-0.0018	4/8/2019	€96,978	-0.0184	11/21/2019	€ 23,280	-0.0031	11/19/2020	€ 21,536	-0.0040	11/19/2021	€ 27,337	-0.0118
4/10/2017	€91,241	0.0305	4/9/2018	€113,156	-0.0139	4/9/2019	€98,135	0.0119	11/22/2019	€ 23,260	-0.0009	11/20/2020	€ 21,707	0.0079	11/22/2021	€ 27,383	0.0017
4/11/2017	€90,905	-0.0037	4/10/2018	€110,713	-0.0218	4/10/2019	€97,015	-0.0115	11/25/2019	€ 23,467	0.0089	11/23/2020	€ 21,702	-0.0002	11/23/2021	€ 26,939	-0.0163
4/12/2017	€90,952	0.0005	4/11/2018	€109,253	-0.0133	4/11/2019	€96,073	-0.0098	11/26/2019	€ 23,547	0.0034	11/24/2020	€ 22,145	0.0202	11/24/2021	€ 27,109	0.0063
4/13/2017	€89,871	-0.0120	4/12/2018	€110,235	0.0089	4/12/2019	€95,977	-0.0010	11/27/2019	€ 23,485	-0.0026	11/25/2020	€ 22,304	0.0071	11/25/2021	€ 27,099	-0.0004
4/14/2017	€90,064	0.0021	4/13/2018	€109,604	-0.0057	4/15/2019	€95,192	-0.0082	11/28/2019	€ 23,342	-0.0061	11/26/2020	€ 22,201	-0.0046	11/26/2021	€ 25,853	-0.0471
4/17/2017	€90,654	0.0065	4/16/2018	€110,688	0.0098	4/16/2019	€96,809	0.0168	11/29/2019	€ 23,259	-0.0036	11/27/2020	€ 22,352	0.0068	11/29/2021	€ 26,042	0.0073
4/18/2017	€91,374	0.0079	4/17/2018	€108,745	-0.0177	4/17/2019	€98,203	0.0143	12/2/2019	€ 22,729	-0.0231	11/30/2020	€ 22,061	-0.0131	11/30/2021	€ 25,814	-0.0088
4/19/2017	€90,804	-0.0063	4/18/2018	€112,099	0.0304	4/18/2019	€96,887	-0.0135	12/3/2019	€ 22,737	0.0003	12/1/2020	€ 22,100	0.0018	12/1/2021	€ 26,372	0.0214
4/20/2017	€92,039	0.0135	4/19/2018	€112,122	0.0002	4/19/2019	€96,861	-0.0003	12/4/2019	€ 23,034	0.0130	12/2/2020	€ 21,972	-0.0058	12/2/2021	€ 26,005	-0.0140
4/21/2017	€92,424	0.0042	4/20/2018	€110,933	-0.0107	4/22/2019	€95,953	-0.0094	12/5/2019	€ 22,969	-0.0028	12/3/2020	€ 22,007	0.0016	12/3/2021	€ 25,939	-0.0026
4/24/2017	€93,803	0.0148	4/24/2018	€110,059	-0.0079	4/24/2019	€96,142	0.0020	12/6/2019	€ 23,183	0.0092	12/4/2020	€ 22,179	0.0078	12/6/2021	€ 26,498	0.0213
4/25/2017	€94,635	0.0088	4/25/2018	€107,401	-0.0244	4/25/2019	€94,499	-0.0172	12/9/2019	€ 22,957	-0.0098	12/7/2020	€ 22,107	-0.0032	12/7/2021	€ 27,138	0.0239
4/26/2017	€94,522	-0.0012	4/26/2018	€107,015	-0.0036	4/26/2019	€94,783	0.0030	12/10/2019	€ 23,123	0.0072	12/8/2020	€ 22,053	-0.0024	12/8/2021	€ 26,752	-0.0143
4/27/2017	€94,283	-0.0025	4/27/2018	€107,614	0.0056	4/29/2019	€94,535	-0.0026	12/11/2019	€ 23,156	0.0014	12/9/2020	€ 21,970	-0.0038	12/9/2021	€ 26,817	0.0024
4/28/2017	€94,655	0.0039	4/30/2018	€104,283	-0.0314	4/30/2019	€95,416	0.0093	12/12/2019	€ 23,391	0.0101	12/10/2020	€ 21,916	-0.0025	12/10/2021	€ 26,722	-0.0036
5/2/2017	€94,356	-0.0032	5/2/2018	€104,726	0.0042	5/2/2019	€94,179	-0.0130	12/13/2019	€ 23,329	-0.0026	12/11/2020	€ 21,702	-0.0098	12/13/2021	€ 26,551	-0.0064
5/3/2017	€93,863	-0.0052	5/3/2018	€102,909	-0.0175	5/3/2019	€93,946	-0.0025	12/16/2019	€ 23,525	0.0083	12/14/2020	€ 21,760	0.0026	12/14/2021	€ 26,557	0.0002
5/4/2017	€93,039	-0.0088	5/4/2018	€102,599	-0.0030	5/6/2019	€92,982	-0.0103	12/17/2019	€ 23,631	0.0045	12/15/2020	€ 21,935	0.0080	12/15/2021	€ 26,666	0.0041
5/5/2017	€93,928	0.0095	5/7/2018	€100,866	-0.0170	5/7/2019	€91,483	-0.0163	12/18/2019	€ 23,629	-0.0001	12/16/2020	€ 21,987	0.0023	12/16/2021	€ 26,782	0.0044
5/8/2017	€93,833	-0.0010	5/8/2018	€99,364	-0.0150	5/8/2019	€90,272	-0.0133	12/19/2019	€ 23,709	0.0034	12/17/2020	€ 22,012	0.0012	12/17/2021	€ 26,611	-0.0064
5/9/2017	€95,323	0.0158	5/9/2018	€100,781	0.0142	5/9/2019	€88,686	-0.0177	12/20/2019	€ 24,004	0.0124	12/18/2020	€ 21,976	-0.0016	12/20/2021	€ 26,178	-0.0164
5/10/2017	€96,194	0.0091	5/10/2018	€102,381	0.0158	5/10/2019	€88,533	-0.0017	12/23/2019	€ 23,898	-0.0044	12/21/2020	€ 21,411	-0.0261	12/21/2021	€ 26,653	0.0180
5/11/2017	€95,114	-0.0113	5/11/2018	€101,853	-0.0052	5/13/2019	€86,283	-0.0258	12/27/2019	€ 23,758	-0.0059	12/22/2020	€ 21,844	0.0201	12/22/2021	€ 26,828	0.0065
5/12/2017	€94,996	-0.0012	5/14/2018	€103,370	0.0148	5/14/2019	€88,023	0.0200	12/30/2019	€ 23,506	-0.0106	12/23/2020	€ 22,130	0.0130	12/23/2021	€ 27,016	0.0070
5/15/2017	€95,588	0.0062	5/15/2018	€101,540	-0.0179	5/15/2019	€87,380	-0.0073	1/2/2020	€ 23,836	0.0139	12/28/2020	€ 22,289	0.0071	12/27/2021	€ 27,231	0.0079
5/16/2017	€96,162	0.0060	5/16/2018	€102,158	0.0061	5/16/2019	€87,204	-0.0020	1/3/2020	€ 23,702	-0.0056	12/29/2020	€ 22,259	-0.0013	12/28/2021	€ 27,445	0.0078
5/17/2017	€95,725	-0.0045	5/17/2018	€101,869	-0.0028	5/17/2019	€86,796	-0.0047	1/6/2020	€ 23,581	-0.0051	12/30/2020	€ 22,233	-0.0012	12/29/2021	€ 27,344	-0.0037



© Hak Cipta milik Politeknik Negeri Jakarta

5/18/2017	€95,147	-0.0061	5/18/2018	€102,410	0.0053	5/20/2019	€86,772	-0.0003	1/7/2020	€ 23,723	0.0060	1/4/2021	€ 22,316	0.0037	12/30/2021	€ 27,347	0.0001
5/22/2017	€96,400	0.0131	5/21/2018	€102,258	-0.0015	5/21/2019	€85,310	-0.0170	1/8/2020	€ 23,832	0.0046	1/5/2021	€ 22,201	-0.0052	1/3/2022	€ 27,730	0.0139
5/23/2017	€97,718	0.0136	5/22/2018	€103,328	0.0104	5/22/2019	€83,675	-0.0193	1/9/2020	€ 24,017	0.0077	1/6/2021	€ 22,734	0.0238	1/4/2022	€ 27,955	0.0081
5/24/2017	€98,314	0.0061	5/23/2018	€101,892	-0.0140	5/23/2019	€84,596	0.0109	1/10/2020	€ 24,021	0.0002	1/7/2021	€ 22,746	0.0005	1/5/2022	€ 28,163	0.0074
5/25/2017	€97,713	-0.0061	5/24/2018	€101,138	-0.0074	5/24/2019	€86,072	0.0173	1/13/2020	€ 23,897	-0.0052	1/8/2021	€ 22,794	0.0021	1/6/2022	€ 27,656	-0.0182
5/26/2017	€97,533	-0.0018	5/25/2018	€103,200	0.0202	5/27/2019	€85,545	-0.0061	1/14/2020	€ 23,928	0.0013	1/11/2021	€ 22,722	-0.0032	1/7/2022	€ 27,618	-0.0013
5/29/2017	€97,726	0.0020	5/28/2018	€106,525	0.0317	5/28/2019	€86,778	0.0143	1/15/2020	€ 23,764	-0.0069	1/12/2021	€ 22,646	-0.0033	1/10/2022	€ 27,354	-0.0096
5/30/2017	€97,348	-0.0039	5/29/2018	€105,113	-0.0133	5/29/2019	€87,186	0.0047	1/16/2020	€ 23,940	0.0074	1/13/2021	€ 22,744	0.0043	1/11/2022	€ 27,535	0.0066
5/31/2017	€97,542	0.0020	5/30/2018	€103,869	-0.0119	5/30/2019	€90,012	0.0319	1/17/2020	€ 24,141	0.0083	1/14/2021	€ 22,638	-0.0047	1/12/2022	€ 27,714	0.0065
6/1/2017	€97,366	-0.0018	5/31/2018	€100,652	-0.0315	5/31/2019	€90,590	0.0064	1/20/2020	€ 24,002	-0.0058	1/15/2021	€ 22,381	-0.0114	1/13/2022	€ 27,844	0.0047
6/2/2017	€98,868	0.0153	6/1/2018	€99,171	-0.0148	6/3/2019	€90,346	-0.0027	1/21/2020	€ 23,845	-0.0066	1/18/2021	€ 22,499	0.0052	1/14/2022	€ 27,544	-0.0109
6/5/2017	€98,192	-0.0069	6/4/2018	€99,250	0.0008	6/7/2019	€93,809	0.0376	1/22/2020	€ 23,706	-0.0058	1/19/2021	€ 22,442	-0.0025	1/17/2022	€ 27,689	0.0052
6/6/2017	€98,332	0.0014	6/5/2018	€97,823	-0.0145	6/10/2019	€94,103	0.0031	1/23/2020	€ 23,707	0.0000	1/20/2021	€ 22,651	0.0093	1/18/2022	€ 27,483	-0.0074
6/7/2017	€97,617	-0.0073	6/6/2018	€96,658	-0.0120	6/11/2019	€92,826	-0.0137	1/24/2020	€ 23,969	0.0110	1/21/2021	€ 22,429	-0.0098	1/19/2022	€ 27,371	-0.0041
6/8/2017	€97,978	0.0037	6/7/2018	€98,624	0.0201	6/12/2019	€92,606	-0.0024	1/27/2020	€ 23,416	-0.0233	1/22/2021	€ 22,088	-0.0153	1/20/2022	€ 27,570	0.0072
6/9/2017	€98,943	0.0098	6/8/2018	€95,876	-0.0283	6/13/2019	€90,502	-0.0230	1/28/2020	€ 24,028	0.0258	1/25/2021	€ 21,736	-0.0161	1/21/2022	€ 27,061	-0.0186
6/12/2017	€99,442	0.0050	6/11/2018	€96,661	0.0082	6/14/2019	€90,787	0.0031	1/29/2020	€ 24,165	0.0057	1/26/2021	€ 21,987	0.0115	1/24/2022	€ 25,973	-0.0411
6/13/2017	€99,300	-0.0014	6/12/2018	€95,307	-0.0141	6/17/2019	€92,250	0.0160	1/30/2020	€ 23,781	-0.0160	1/27/2021	€ 21,663	-0.0149	1/25/2022	€ 26,029	0.0022
6/14/2017	€99,636	0.0034	6/13/2018	€93,505	-0.0191	6/18/2019	€94,219	0.0211	1/31/2020	€ 23,237	-0.0231	1/28/2021	€ 21,917	0.0116	1/26/2022	€ 26,619	0.0224
6/15/2017	€98,737	-0.0091	6/14/2018	€94,541	0.0110	6/19/2019	€94,244	0.0003	2/3/2020	€ 23,460	0.0096	1/29/2021	€ 21,573	-0.0158	1/27/2022	€ 26,882	0.0098
6/16/2017	€98,193	-0.0055	6/18/2018	€93,043	-0.0160	6/20/2019	€94,188	-0.0009	2/4/2020	€ 23,845	0.0163	2/1/2021	€ 21,826	0.0117	1/28/2022	€ 26,565	-0.0119
6/19/2017	€99,332	0.0115	6/19/2018	€94,437	0.0149	6/21/2019	€94,022	-0.0014	2/5/2020	€ 24,237	0.0163	2/2/2021	€ 22,067	0.0110	1/31/2022	€ 26,814	0.0093
6/20/2017	€99,269	-0.0006	6/20/2018	€94,552	0.0012				2/6/2020	€ 24,490	0.0104	2/3/2021	€ 22,528	0.0207	2/1/2022	€ 27,225	0.0152
6/21/2017	€99,390	0.0012	6/21/2018	€95,057	0.0053				2/7/2020	€ 24,478	-0.0005	2/4/2021	€ 22,901	0.0164	2/2/2022	€ 27,389	0.0060
6/22/2017	€100,072	0.0068	6/22/2018	€95,852	0.0083				2/10/2020	€ 24,508	0.0012	2/5/2021	€ 23,083	0.0080	2/3/2022	€ 27,089	-0.0110
6/23/2017	€99,639	-0.0043							2/11/2020	€ 24,689	0.0074	2/8/2021	€ 23,426	0.0147	2/4/2022	€ 26,604	-0.0181
									2/12/2020	€ 24,861	0.0070	2/9/2021	€ 23,300	-0.0054	2/7/2022	€ 26,329	-0.0104
												2/10/2021	€ 23,265	-0.0015	2/8/2022	€ 26,412	0.0031
												2/11/2021	€ 23,307	0.0018	2/9/2022	€ 27,129	0.0268
												2/12/2021	€ 23,411	0.0044	2/10/2022	€ 27,190	0.0023
															2/11/2022	€ 26,966	-0.0083

POLITEKNIK  
NEGERI  
JAKARTA

Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber
- a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan
- b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

**Lampiran 2. Hasil Analisis Statistik Deskriptif**

**S&P 500**

Date: 07/17/22  
Time: 14:14  
Sample: 11/05/2019 10/30  
/2020

	SP500
Mean	0.000242
Median	0.002020
Maximum	0.089683
Minimum	-0.127652
Std. Dev.	0.021766
Skewness	-0.849949
Kurtosis	11.76223
Jarque-Bera Probability	829.8581 0.000000
Sum	0.060411
Sum Sq. Dev.	0.117961
Observations	250

**Nikkei 225**

Date: 07/17/22  
Time: 15:24  
Sample: 11/04/2020 10/29  
/2021

	N225
Mean	0.000886
Median	0.000899
Maximum	0.030698
Minimum	-0.040668
Std. Dev.	0.011514
Skewness	-0.233295
Kurtosis	3.512481
Jarque-Bera Probability	4.863477 0.087884
Sum	0.215329
Sum Sq. Dev.	0.032084
Observations	243

**DAX**

Date: 07/17/22  
Time: 15:25  
Sample: 9/29/2020 9/24/2021

	DAX
Mean	0.000746
Median	0.001077
Maximum	0.048176
Minimum	-0.042595
Std. Dev.	0.010078
Skewness	-0.270506
Kurtosis	6.812369
Jarque-Bera Probability	155.6819 0.000000
Sum	0.187920
Sum Sq. Dev.	0.025495
Observations	252

**MOEX**

Date: 07/17/22  
Time: 15:26  
Sample: 1/17/2019 1/14/2020

	MOEX
Mean	0.001013
Median	0.001008
Maximum	0.023948
Minimum	-0.020177
Std. Dev.	0.007040
Skewness	0.045198
Kurtosis	3.311513
Jarque-Bera Probability	1.087189 0.580657
Sum	0.251177
Sum Sq. Dev.	0.012241
Observations	248

**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



**JKSE**

Date: 07/17/22  
Time: 15:28  
Sample: 4/18/2018 4/15/2019

JKSE	
Mean	9.91E-05
Median	0.000587
Maximum	0.026331
Minimum	-0.038283
Std. Dev.	0.009882
Skewness	-0.615055
Kurtosis	4.392141
Jarque-Bera Probability	34.08084 0.000000
Sum	0.023488
Sum Sq. Dev.	0.023047
Observations	237

**IBOVESPA**

Date: 07/17/22  
Time: 15:29  
Sample: 10/10/2017 10/05/2018

IBOVESPA	
Mean	0.000341
Median	0.000718
Maximum	0.037299
Minimum	-0.045932
Std. Dev.	0.012967
Skewness	-0.147210
Kurtosis	3.380607
Jarque-Bera Probability	2.363681 0.306714
Sum	0.083504
Sum Sq. Dev.	0.041026
Observations	245

**FTSE 100**

Date: 07/17/22  
Time: 15:30  
Sample: 12/13/2018 12/11/2019

FTSE100	
Mean	0.000186
Median	0.000187
Maximum	0.022419
Minimum	-0.032839
Std. Dev.	0.007440
Skewness	-0.389823
Kurtosis	5.022857
Jarque-Bera Probability	50.32702 0.000000
Sum	0.047688
Sum Sq. Dev.	0.014169
Observations	257

**CAC 40**

Date: 07/17/22  
Time: 15:31  
Sample: 7/04/2019 7/01/2020

CAC40	
Mean	-0.000517
Median	0.000937
Maximum	0.080561
Minimum	-0.130984
Std. Dev.	0.019385
Skewness	-1.565715
Kurtosis	13.54201
Jarque-Bera Probability	1279.945 0.000000
Sum	-0.131402
Sum Sq. Dev.	0.095074
Observations	254

**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



### BIST 100

Date: 07/17/22  
Time: 15:32  
Sample: 6/29/2017 6/22/2018

BIST100	
Mean	-0.000195
Median	0.000126
Maximum	0.031713
Minimum	-0.031459
Std. Dev.	0.011851
Skewness	-0.064591
Kurtosis	2.946291
Jarque-Bera Probability	0.203067 0.903451
Sum	-0.048522
Sum Sq. Dev.	0.034829
Observations	249

### FTSE MIB

Date: 07/24/22  
Time: 15:55  
Sample: 2/14/2020 2/15/2021

FTSEMIB	
Mean	-0.000242
Median	0.001381
Maximum	0.085495
Minimum	-0.185411
Std. Dev.	0.022645
Skewness	-2.595131
Kurtosis	23.10316
Jarque-Bera Probability	4562.220 0.000000
Sum	-0.061364
Sum Sq. Dev.	0.129741
Observations	254

### Lampiran 3. Volume Rata-Rata Pada Kondisi Pra, Saat, dan Pasca Masa Pemilihan Umum

No.	Indeks Harga Saham Gabungan	Rata-Rata Volume Perdagangan		
		Pra	Saat	Pasca
1	S&P 500	3,626,571,600	4,732,785,259	4,072,688,406
2	Nikkei 225	76,926,337	69,740,574	73,919,643
3	DAX	102,128,928	67,294,183	82,922,632
4	MOEX	-	-	-
5	JKSE	65,356,415	74,216,055	81,487,464
6	IBOVESPA	3,254,207	3,504,164	4,618,220
7	FTSE 100	-	-	-
8	CAC 40	83,565,284	100,973,342	67,005,819
9	BIST 100	723,130,618	999,049,430	1,236,379,894
10	FTSE MIB	-	-	-

#### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta





Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

Lampiran 4. Hasil Analisis ARCH (1) dan GARCH (1,1)

S&P 500

ARCH 1

Dependent Variable: D(SP500)  
 Method: ML - ARCH  
 Date: 07/17/22 Time: 09:57  
 Sample (adjusted): 11/06/2019 10/19/2020  
 Included observations: 249 after adjustments  
 Convergence achieved after 28 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 11/05/2019  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	7.97E-05	2.68E-05	2.976362	0.0029
MA(1)	-0.971903	0.006025	-161.3202	0.0000
Variance Equation				
C	0.000108	1.14E-05	9.461729	0.0000
RESID(-1)^2	1.494928	0.179765	8.316023	0.0000
R-squared	0.618707	Mean dependent var	-4.42E-05	
Adjusted R-squared	0.617163	S.D. dependent var	0.035926	
S.E. of regression	0.022229	Akaike info criterion	-5.285301	
Sum squared resid	0.122046	Schwarz criterion	-5.228796	
Log likelihood	662.0200	Hannan-Quinn criter.	-5.262557	
Durbin-Watson stat	2.697618			
Inverted MA Roots	.97			

GARCH 1,1

Dependent Variable: D(SP500)  
 Method: ML - ARCH  
 Date: 07/17/22 Time: 09:58  
 Sample (adjusted): 11/06/2019 10/19/2020  
 Included observations: 249 after adjustments  
 Convergence achieved after 37 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 11/05/2019  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.77E-05	2.39E-05	-0.741910	0.4581
MA(1)	-0.982851	0.012883	-76.28794	0.0000
Variance Equation				



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

C	3.02E-06	1.68E-06	1.795439	0.0726
RESID(-1)^2	0.334836	0.074771	4.478132	0.0000
GARCH(-1)	0.735931	0.046928	15.68215	0.0000
R-squared	0.626037	Mean dependent var	-4.42E-05	
Adjusted R-squared	0.624523	S.D. dependent var	0.035926	
S.E. of regression	0.022014	Akaike info criterion	-5.770699	
Sum squared resid	0.119699	Schwarz criterion	-5.700068	
Log likelihood	723.4521	Hannan-Quinn criter.	-5.742269	
Durbin-Watson stat	2.720368			
Inverted MA Roots	.98			

NIKKEI 225

ARCH 1

Dependent Variable: D(N225)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 10:14  
 Sample (adjusted): 11/05/2020 10/08/2021  
 Included observations: 242 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 171 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 11/04/2020  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.51E-05	1.98E-05	-0.762938	0.4455
MA(1)	-0.993385	0.010784	-92.11310	0.0000
Variance Equation				
C	0.000180	2.98E-05	6.028670	0.0000
RESID(-1)^2	0.171429	0.192950	0.888459	0.3743
R-squared	0.519934	Mean dependent var	-5.99E-05	
Adjusted R-squared	0.517933	S.D. dependent var	0.016563	
S.E. of regression	0.011500	Akaike info criterion	-6.004197	
Sum squared resid	0.031740	Schwarz criterion	-5.946528	
Log likelihood	730.5078	Hannan-Quinn criter.	-5.980966	
Durbin-Watson stat	2.096922			
Inverted MA Roots	.99			



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

### GARCH 1,1

Dependent Variable: D(N225)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 10:14  
 Sample (adjusted): 11/05/2020 10/08/2021  
 Included observations: 242 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 16 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 11/04/2020  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-3.73E-05	0.000542	-0.068828	0.9451
MA(1)	-0.809433	0.149933	-5.398640	0.0000
Variance Equation				
C	0.000178	0.000285	0.622173	0.5338
RESID(-1)^2	0.150000	0.299437	0.500939	0.6164
GARCH(-1)	0.599629	0.612532	0.978936	0.3276
R-squared	0.470357	Mean dependent var	-5.99E-05	
Adjusted R-squared	0.468150	S.D. dependent var	0.016563	
S.E. of regression	0.012079	Akaike info criterion	-5.449801	
Sum squared resid	0.035018	Schwarz criterion	-5.377716	
Log likelihood	664.4260	Hannan-Quinn criter.	-5.420763	
Durbin-Watson stat	2.287795			
Inverted MA Roots	.81			

POLITEKNIK  
NEGERI  
DAX  
JAKARTA

### ARCH 1

Dependent Variable: D(DAX)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 10:40  
 Sample (adjusted): 9/30/2020 9/15/2021  
 Included observations: 251 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 157 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 9/29/2020  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-5.73E-06	1.05E-05	-0.543505	0.5868
MA(1)	-0.991532	0.005133	-193.1525	0.0000



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

Variance Equation

	C	RESID(-1)^2		
	9.00E-05	0.171377	8.34E-06	0.115205
	10.78779	1.487584	0.0000	0.1369
R-squared	0.525662		Mean dependent var	-1.47E-05
Adjusted R-squared	0.523757		S.D. dependent var	0.014721
S.E. of regression	0.010159		Akaike info criterion	-6.332360
Sum squared resid	0.025698		Schwarz criterion	-6.276178
Log likelihood	798.7112		Hannan-Quinn criter.	-6.309751
Durbin-Watson stat	2.126029			
Inverted MA Roots	.99			

GARCH 1,1

Dependent Variable: D(DAX)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 10:40  
 Sample (adjusted): 9/30/2020 9/15/2021  
 Included observations: 251 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 16 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 9/29/2020  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.96E-05	0.000210	-0.093040	0.9259
MA(1)	-0.926241	0.134749	-6.873825	0.0000

Variance Equation

	C	RESID(-1)^2	GARCH(-1)	
	0.000140	0.150000	0.599616	0.000186
	0.752894	0.554107	1.151186	0.4515
	0.4515	0.5795	0.2497	
R-squared	0.503721		Mean dependent var	-1.47E-05
Adjusted R-squared	0.501728		S.D. dependent var	0.014721
S.E. of regression	0.010391		Akaike info criterion	-5.721789
Sum squared resid	0.026886		Schwarz criterion	-5.651561
Log likelihood	723.0845		Hannan-Quinn criter.	-5.693527
Durbin-Watson stat	2.169414			
Inverted MA Roots	.93			



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

MOEX

ARCH 1

Dependent Variable: D(MOEX)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 11:26  
 Sample (adjusted): 1/18/2019 12/30/2019  
 Included observations: 247 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 238 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 1/17/2019  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	5.55E-06	9.38E-06	0.592207	0.5537
MA(1)	-0.987891	0.007637	-129.3559	0.0000

Variance Equation				
C	4.71E-05	5.32E-06	8.848639	0.0000
RESID(-1)^2	0.171410	0.164217	1.043807	0.2966

R-squared	0.496893	Mean dependent var	-4.99E-05
Adjusted R-squared	0.494840	S.D. dependent var	0.009979
S.E. of regression	0.007093	Akaike info criterion	-7.010581
Sum squared resid	0.012326	Schwarz criterion	-6.953748
Log likelihood	869.8067	Hannan-Quinn criter.	-6.987700
Durbin-Watson stat	2.009732		

Inverted MA Roots	.99
-------------------	-----

GARCH 1,1

Dependent Variable: D(MOEX)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 11:26  
 Sample (adjusted): 1/18/2019 12/30/2019  
 Included observations: 247 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 15 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 1/17/2019  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	2.38E-06	0.000144	0.016519	0.9868
MA(1)	-0.911722	0.097766	-9.325592	0.0000

Variance Equation				
C	6.45E-05	0.000153	0.422158	0.6729
RESID(-1)^2	0.150000	0.369795	0.405630	0.6850
GARCH(-1)	0.599822	0.890257	0.673763	0.5005



## Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

R-squared	0.479605	Mean dependent var	-4.99E-05
Adjusted R-squared	0.477481	S.D. dependent var	0.009979
S.E. of regression	0.007214	Akaike info criterion	-6.461264
Sum squared resid	0.012749	Schwarz criterion	-6.390224
Log likelihood	802.9661	Hannan-Quinn criter.	-6.432663
Durbin-Watson stat	2.096627		

Inverted MA Roots	.91
-------------------	-----

### JKSE

#### ARCH 1

Dependent Variable: D(JKSE)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 12:19  
 Sample (adjusted): 4/19/2018 3/14/2019  
 Included observations: 236 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 186 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 4/18/2018  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	7.89E-06	1.20E-05	0.657221	0.5110
MA(1)	-0.994024	0.004221	-235.4889	0.0000

#### Variance Equation

C	8.60E-05	8.71E-06	9.869975	0.0000
RESID(-1)^2	0.171388	0.096996	1.766965	0.0772

R-squared	0.491988	Mean dependent var	-3.69E-06
Adjusted R-squared	0.489817	S.D. dependent var	0.013911
S.E. of regression	0.009936	Akaike info criterion	-6.389139
Sum squared resid	0.023104	Schwarz criterion	-6.330430
Log likelihood	757.9184	Hannan-Quinn criter.	-6.365473
Durbin-Watson stat	1.980259		

Inverted MA Roots	.99
-------------------	-----



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

### GARCH 1,1

Dependent Variable: D(JKSE)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 12:20  
 Sample (adjusted): 4/19/2018 3/14/2019  
 Included observations: 236 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 15 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 4/18/2018  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-3.68E-05	0.000519	-0.070952	0.9434
MA(1)	-0.777533	0.158734	-4.898352	0.0000
Variance Equation				
C	0.000125	0.000268	0.467469	0.6402
RESID(-1)^2	0.150000	0.316757	0.473549	0.6358
GARCH(-1)	0.599766	0.816303	0.734734	0.4625
R-squared	0.415194	Mean dependent var		-3.69E-06
Adjusted R-squared	0.412695	S.D. dependent var		0.013911
S.E. of regression	0.010661	Akaike info criterion		-5.761491
Sum squared resid	0.026596	Schwarz criterion		-5.688104
Log likelihood	684.8559	Hannan-Quinn criter.		-5.731908
Durbin-Watson stat	2.135675			
Inverted MA Roots	.78			

POLITEKNIK  
 Negeri  
 IBOVESPA  
 JAKARTA

### ARCH 1

Dependent Variable: D(BOVESPA)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 12:30  
 Sample (adjusted): 10/11/2017 9/17/2018  
 Included observations: 244 after adjustments  
 Convergence not achieved after 500 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 10/10/2017  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	4.80E-06	1.36E-05	0.351986	0.7248
MA(1)	-0.990351	0.006647	-148.9890	0.0000



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

Variance Equation

C	0.000145	2.15E-05	6.731478	0.0000
RESID(-1)^2	0.171342	0.129929	1.318734	0.1873
R-squared	0.522194	Mean dependent var		-9.41E-05
Adjusted R-squared	0.520220	S.D. dependent var		0.018818
S.E. of regression	0.013034	Akaike info criterion		-5.825935
Sum squared resid	0.041114	Schwarz criterion		-5.768604
Log likelihood	714.7640	Hannan-Quinn criter.		-5.802845
Durbin-Watson stat	2.104903			
Inverted MA Roots	.99			

GARCH 1,1

Dependent Variable: D(IBOVESPA)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 12:30  
 Sample (adjusted): 10/11/2017 9/17/2018  
 Included observations: 244 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 17 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 10/10/2017  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	3.35E-05	0.000422	0.079358	0.9367
MA(1)	-0.869606	0.152569	-5.699753	0.0000

Variance Equation

C	0.000229	0.000342	0.670096	0.5028
RESID(-1)^2	0.150000	0.380887	0.393818	0.6937
GARCH(-1)	0.599498	0.583406	1.027583	0.3041
R-squared	0.495193	Mean dependent var		-9.41E-05
Adjusted R-squared	0.493107	S.D. dependent var		0.018818
S.E. of regression	0.013398	Akaike info criterion		-5.211064
Sum squared resid	0.043438	Schwarz criterion		-5.139400
Log likelihood	640.7498	Hannan-Quinn criter.		-5.182202
Durbin-Watson stat	2.249046			
Inverted MA Roots	.87			





### FTSE 100

#### ARCH 1

Dependent Variable: D(FTSE100)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 12:55  
 Sample (adjusted): 12/14/2018 12/06/2019  
 Included observations: 256 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 84 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 12/13/2018  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	2.53E-07	8.38E-06	0.030127	0.9760
MA(1)	-0.999986	0.000421	-2376.787	0.0000

Variance Equation				
C	6.74E-05	8.14E-06	8.285395	0.0000
RESID(-1)^2	0.171429	0.123349	1.389781	0.1646

R-squared	0.460433	Mean dependent var	2.88E-06
Adjusted R-squared	0.458308	S.D. dependent var	0.010151
S.E. of regression	0.007471	Akaike info criterion	-6.902229
Sum squared resid	0.014177	Schwarz criterion	-6.846836
Log likelihood	887.4853	Hannan-Quinn criter.	-6.879950
Durbin-Watson stat	1.852046		

Inverted MA Roots	1.00
-------------------	------

#### GARCH 1,1

Dependent Variable: D(FTSE100)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 12:55  
 Sample (adjusted): 12/14/2018 12/06/2019  
 Included observations: 256 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 14 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 12/13/2018  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	4.84E-05	0.000892	0.054216	0.9568
MA(1)	-0.365740	0.155558	-2.351150	0.0187

Variance Equation				
C	6.67E-05	0.000113	0.589753	0.5554
RESID(-1)^2	0.150000	0.264330	0.567472	0.5704
GARCH(-1)	0.599941	0.638989	0.938891	0.3478

#### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta





Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

R-squared	0.237144	Mean dependent var	2.88E-06
Adjusted R-squared	0.234141	S.D. dependent var	0.010151
S.E. of regression	0.008883	Akaike info criterion	-6.281505
Sum squared resid	0.020044	Schwarz criterion	-6.212263
Log likelihood	809.0327	Hannan-Quinn criter.	-6.253656
Durbin-Watson stat	2.482748		

Inverted MA Roots .37

CAC 40

ARCH 1

Dependent Variable: D(CAC40)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 13:00  
 Sample (adjusted): 7/05/2019 6/23/2020  
 Included observations: 253 after adjustments  
 Convergence not achieved after 500 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 7/04/2019  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.46E-06	5.11E-05	-0.028672	0.9771
MA(1)	-0.935196	0.009266	-100.9324	0.0000

Variance Equation

C	0.000187	8.45E-06	22.09445	0.0000
RESID(-1)^2	0.171122	0.032291	5.299446	0.0000

R-squared	0.487519	Mean dependent var	-8.60E-06
Adjusted R-squared	0.485478	S.D. dependent var	0.027437
S.E. of regression	0.019680	Akaike info criterion	-5.031696
Sum squared resid	0.097215	Schwarz criterion	-4.975832
Log likelihood	640.5095	Hannan-Quinn criter.	-5.009220
Durbin-Watson stat	2.081730		

Inverted MA Roots .94



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

### GARCH 1,1

Dependent Variable: D(CAC40)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 13:00  
 Sample (adjusted): 7/05/2019 6/23/2020  
 Included observations: 253 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 15 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 7/04/2019  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.000299	0.003613	-0.082841	0.9340
MA(1)	-0.194640	0.164298	-1.184678	0.2361
Variance Equation				
C	0.000487	0.000449	1.086001	0.2775
RESID(-1)^2	0.150000	0.149709	1.001946	0.3164
GARCH(-1)	0.599733	0.362345	1.655144	0.0979
R-squared	0.181608	Mean dependent var	-8.60E-06	
Adjusted R-squared	0.178347	S.D. dependent var	0.027437	
S.E. of regression	0.024870	Akaike info criterion	-4.379507	
Sum squared resid	0.155246	Schwarz criterion	-4.309677	
Log likelihood	559.0077	Hannan-Quinn criter.	-4.351412	
Durbin-Watson stat	2.945965			
Inverted MA Roots	.19			

**POLITEKNIK  
NEGERI  
BIST 100  
JAKARTA**

### ARCH 1

Dependent Variable: D(BIST100)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 13:16  
 Sample (adjusted): 6/30/2017 6/12/2018  
 Included observations: 248 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 91 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 6/29/2017  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-2.03E-05	2.15E-05	-0.944589	0.3449
MA(1)	-0.989652	0.010536	-93.93465	0.0000



**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

Variance Equation

C	0.000202	3.87E-05	5.227615	0.0000
RESID(-1)^2	0.171429	0.204997	0.836248	0.4030
R-squared	0.545792	Mean dependent var	5.07E-05	
Adjusted R-squared	0.543945	S.D. dependent var	0.017570	
S.E. of regression	0.011866	Akaike info criterion	-5.918723	
Sum squared resid	0.034635	Schwarz criterion	-5.862054	
Log likelihood	737.9216	Hannan-Quinn criter.	-5.895910	
Durbin-Watson stat	2.223209			
Inverted MA Roots	.99			

**GARCH 1,1**

Dependent Variable: D(BIST100)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/17/22 Time: 13:17  
 Sample (adjusted): 6/30/2017 6/12/2018  
 Included observations: 248 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 16 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 6/29/2017  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	7.90E-05	0.000926	0.085331	0.9320
MA(1)	-0.673569	0.203869	-3.303927	0.0010

Variance Equation

C	0.000200	0.000284	0.702975	0.4821
RESID(-1)^2	0.150000	0.337080	0.444998	0.6563
GARCH(-1)	0.599634	0.553719	1.082920	0.2788
R-squared	0.450030	Mean dependent var	5.07E-05	
Adjusted R-squared	0.447795	S.D. dependent var	0.017570	
S.E. of regression	0.013057	Akaike info criterion	-5.320588	
Sum squared resid	0.041937	Schwarz criterion	-5.249753	
Log likelihood	664.7530	Hannan-Quinn criter.	-5.292073	
Durbin-Watson stat	2.539575			
Inverted MA Roots	.67			



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

### FTSE MIB

#### ARCH 1

Dependent Variable: D(FTSEMIB)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/24/22 Time: 15:59  
 Sample (adjusted): 2/17/2020 2/03/2021  
 Included observations: 253 after adjustments  
 Convergence not achieved after 500 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 2/14/2020  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-2.14E-05	0.000149	-0.143277	0.8861
MA(1)	-0.843338	0.016983	-49.65834	0.0000
Variance Equation				
C	0.000237	1.13E-05	21.07371	0.0000
RESID(-1)^2	0.170945	0.025518	6.698921	0.0000
R-squared	0.510830	Mean dependent var	2.15E-05	
Adjusted R-squared	0.508881	S.D. dependent var	0.033183	
S.E. of regression	0.023255	Akaike info criterion	-4.698639	
Sum squared resid	0.135737	Schwarz criterion	-4.642775	
Log likelihood	598.3778	Hannan-Quinn criter.	-4.676163	
Durbin-Watson stat	2.394228			

Inverted MA Roots .84

#### GARCH 1,1

Dependent Variable: D(FTSEMIB)  
 Method: ML ARCH - Normal distribution (OPG - BHHH / Marquardt steps)  
 Date: 07/24/22 Time: 15:59  
 Sample (adjusted): 2/17/2020 2/03/2021  
 Included observations: 253 after adjustments  
 Failure to improve likelihood (non-zero gradients) after 17 iterations  
 Coefficient covariance computed using outer product of gradients  
 MA Backcast: 2/14/2020  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.000368	0.003873	-0.095046	0.9243
MA(1)	-0.288529	0.195095	-1.478911	0.1392
Variance Equation				
C	0.000713	0.000555	1.285669	0.1986
RESID(-1)^2	0.150000	0.099702	1.504483	0.1325
GARCH(-1)	0.599465	0.288106	2.080713	0.0375



## © Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

R-squared	0.276536	Mean dependent var	2.15E-05
Adjusted R-squared	0.273653	S.D. dependent var	0.033183
S.E. of regression	0.028281	Akaike info criterion	-4.044892
Sum squared resid	0.200750	Schwarz criterion	-3.975062
Log likelihood	516.6788	Hannan-Quinn criter.	-4.016797
Durbin-Watson stat	3.035979		
<hr/>			
Inverted MA Roots	.29		
<hr/>			





Lampiran 5. Perbandingan T-GARCH Pra, Saat, dan Pasca Masa Pemilu

S&P 500

PRA

Dependent Variable: D(SP500)  
 Method: ML ARCH - Normal distribution (Marquardt / EVIEWS legacy)  
 Date: 07/24/22 Time: 13:23  
 Sample (adjusted): 5/14/2018 1/11/2019  
 Included observations: 175 after adjustments  
 Convergence achieved after 14 iterations  
 MA Backcast: 5/11/2018  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	3.42E-06	1.20E-05	0.285514	0.7753
MA(1)	-0.993270	0.003416	-290.7368	0.0000
Variance Equation				
C	1.06E-06	7.78E-07	1.359802	0.1739
RESID(-1)^2	-0.056291	1.07E-12	-5.25E+10	0.0000
RESID(-1)^2*(RESID(-1)<0)	0.092064	0.019293	4.771935	0.0000
GARCH(-1)	0.984066	0.021776	45.18974	0.0000
R-squared	0.486344	Mean dependent var	-1.95E-05	
Adjusted R-squared	0.483375	S.D. dependent var	0.014059	
S.E. of regression	0.010105	Akaike info criterion	-6.641633	
Sum squared resid	0.017664	Schwarz criterion	-6.533126	
Log likelihood	587.1429	Hannan-Quinn criter.	-6.597620	
Durbin-Watson stat	1.947748			
Inverted MA Roots	.99			

SAAT

Dependent Variable: D(SP500)  
 Method: ML ARCH - Normal distribution (Marquardt / EVIEWS legacy)  
 Date: 07/24/22 Time: 13:25  
 Sample (adjusted): 11/06/2019 10/19/2020  
 Included observations: 249 after adjustments  
 Convergence achieved after 100 iterations  
 MA Backcast: 11/05/2019  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.81E-05	2.39E-05	-0.760555	0.4469
MA(1)	-0.983125	0.013457	-73.05890	0.0000

Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

Variance Equation

C	3.25E-06	1.85E-06	1.759774	0.0784
RESID(-1)^2	0.291933	0.080484	3.627228	0.0003
RESID(-1)^2*(RESID(-1)<0)	0.162566	0.102092	1.592338	0.1113
GARCH(-1)	0.716286	0.047880	14.95997	0.0000
R-squared	0.626068	Mean dependent var	-4.42E-05	
Adjusted R-squared	0.624555	S.D. dependent var	0.035926	
S.E. of regression	0.022013	Akaike info criterion	-5.769486	
Sum squared resid	0.119689	Schwarz criterion	-5.684728	
Log likelihood	724.3010	Hannan-Quinn criter.	-5.735369	
Durbin-Watson stat	2.719851			
Inverted MA Roots	.98			

**PASCA**

Dependent Variable: D(SP500)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 13:20  
 Sample (adjusted): 5/14/2018 1/11/2019  
 Included observations: 175 after adjustments  
 Convergence achieved after 8 iterations  
 MA Backcast: 5/11/2018  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*RESID(-1)^2\*(RESID(-1)<0)  
 + C(6)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.000173	0.000122	-1.412867	0.1577
MA(1)	-0.813330	0.054131	-15.02536	0.0000
Variance Equation				
C	1.22E-06	7.65E-07	1.589133	0.1120
RESID(-1)^2	-0.097427	0.030507	-3.193590	0.0014
RESID(-1)^2*(RESID(-1)<0)	0.244473	0.096871	2.523704	0.0116
GARCH(-1)	0.976802	0.012997	75.15523	0.0000
R-squared	0.483652	Mean dependent var	-2.41E-05	
Adjusted R-squared	0.480668	S.D. dependent var	0.012371	
S.E. of regression	0.008915	Akaike info criterion	-6.687484	
Sum squared resid	0.013749	Schwarz criterion	-6.578977	
Log likelihood	591.1548	Hannan-Quinn criter.	-6.643470	
Durbin-Watson stat	2.301142			
Inverted MA Roots	.81			





### Nikkei 225

#### PRA

Dependent Variable: D(N225\_1)  
 Method: ML ARCH - Normal distribution (Marquardt / EVIEWS legacy)  
 Date: 07/24/22 Time: 13:54  
 Sample (adjusted): 11/04/2019 10/05/2020  
 Included observations: 241 after adjustments  
 Convergence achieved after 10 iterations  
 MA Backcast: 11/01/2019  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-8.53E-05	2.63E-05	-3.243166	0.0012
MA(1)	-0.964783	0.006602	-146.1287	0.0000
Variance Equation				
C	6.05E-07	3.23E-07	1.875573	0.0607
RESID(-1)^2	-0.051888	8.14E-13	-6.38E+10	0.0000
RESID(-1)^2*(RESID(-1)<0)	0.240862	0.009904	24.31869	0.0000
GARCH(-1)	0.959536	3.82E-12	2.51E+11	0.0000
R-squared	0.443053	Mean dependent var	-4.98E-05	
Adjusted R-squared	0.440722	S.D. dependent var	0.021848	
S.E. of regression	0.016339	Akaike info criterion	-5.877697	
Sum squared resid	0.063805	Schwarz criterion	-5.790939	
Log likelihood	714.2625	Hannan-Quinn criter.	-5.842744	
Durbin-Watson stat	1.852753			
Inverted MA Roots	.96			

#### SAAT

Dependent Variable: D(N225)  
 Method: ML ARCH - Normal distribution (Marquardt / EVIEWS legacy)  
 Date: 07/24/22 Time: 13:33  
 Sample (adjusted): 11/05/2020 10/08/2021  
 Included observations: 242 after adjustments  
 Convergence achieved after 4 iterations  
 MA Backcast: 11/04/2020  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.000108	5.29E-05	-2.047041	0.0407
MA(1)	-0.935735	1.06E-11	-8.85E+10	0.0000
Variance Equation				
C	1.45E-05	2.76E-06	5.260649	0.0000
RESID(-1)^2	-0.105917	0.004024	-26.31972	0.0000

#### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



## Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

RESID(-1)^2*(RESID(-1)<0 GARCH(-1)	0.192568 0.915144	0.022062 0.031772	8.728651 28.80328	0.0000 0.0000
---------------------------------------	----------------------	----------------------	----------------------	------------------

R-squared	0.498984	Mean dependent var	-5.99E-05
Adjusted R-squared	0.496896	S.D. dependent var	0.016563
S.E. of regression	0.011748	Akaike info criterion	-6.078329
Sum squared resid	0.033125	Schwarz criterion	-5.991827
Log likelihood	741.4778	Hannan-Quinn criter.	-6.043483
Durbin-Watson stat	2.128743		

Inverted MA Roots	.94
-------------------	-----

### PASCA

Dependent Variable: D(N225\_2)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 13:57  
 Sample (adjusted): 11/02/2021 6/21/2022  
 Included observations: 166 after adjustments  
 Convergence achieved after 5 iterations  
 MA Backcast: 11/01/2021  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*RESID(-1)^2\*(RESID(-1)<0)  
 + C(6)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.000418	1.29E-12	-3.24E+08	0.0000
MA(1)	-0.915928	3.46E-11	-2.65E+10	0.0000

Variance Equation				
C	0.000117	5.03E-05	2.323297	0.0202
RESID(-1)^2	-0.079906	0.025226	-3.167637	0.0015
RESID(-1)^2*(RESID(-1)<0 GARCH(-1)	0.030016 0.459898	0.154883 0.276633	0.193801 1.662484	0.8463 0.0964

R-squared	0.405282	Mean dependent var	3.18E-05
Adjusted R-squared	0.401656	S.D. dependent var	0.018935
S.E. of regression	0.014647	Akaike info criterion	-5.482729
Sum squared resid	0.035183	Schwarz criterion	-5.370247
Log likelihood	461.0665	Hannan-Quinn criter.	-5.437072
Durbin-Watson stat	1.823166		

Inverted MA Roots	.92
-------------------	-----



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

### DAX

#### PRA

Dependent Variable: D(DAX1)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 14:08  
 Sample (adjusted): 9/30/2019 9/10/2020  
 Included observations: 249 after adjustments  
 Convergence achieved after 29 iterations  
 MA Backcast: 9/27/2019  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-5.59E-05	7.46E-05	-0.748862	0.4539
MA(1)	-0.928606	0.027617	-33.62434	0.0000
Variance Equation				
C	6.60E-06	2.59E-06	2.544600	0.0109
RESID(-1)^2	-0.005243	0.042996	-0.121932	0.9030
RESID(-1)^2*(RESID(-1)<0)	0.333833	0.087037	3.835533	0.0001
GARCH(-1)	0.841135	0.044811	18.77089	0.0000
R-squared	0.491044	Mean dependent var	-4.17E-05	
Adjusted R-squared	0.488984	S.D. dependent var	0.028723	
S.E. of regression	0.020533	Akaike info criterion	-5.444528	
Sum squared resid	0.104136	Schwarz criterion	-5.359770	
Log likelihood	683.8437	Hannan-Quinn criter.	-5.410411	
Durbin-Watson stat	2.110244			
Inverted MA Roots	.93			

#### SAAT

Dependent Variable: D(DAX)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 13:35  
 Sample (adjusted): 9/30/2020 9/15/2021  
 Included observations: 251 after adjustments  
 Convergence achieved after 29 iterations  
 MA Backcast: 9/29/2020  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.91E-05	1.15E-05	-1.666171	0.0957
MA(1)	-0.992916	0.005540	-179.2263	0.0000
Variance Equation				
C	9.67E-06	2.28E-06	4.243991	0.0000
RESID(-1)^2	-0.054797	0.019871	-2.757625	0.0058



## Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

RESID(-1)^2*(RESID(-1)<0 GARCH(-1)	0.328615 0.806775	0.105834 0.054900	3.105010 14.69532	0.0019 0.0000
---------------------------------------	----------------------	----------------------	----------------------	------------------

R-squared	0.521863	Mean dependent var	-1.47E-05
Adjusted R-squared	0.519943	S.D. dependent var	0.014721
S.E. of regression	0.010200	Akaike info criterion	-6.497210
Sum squared resid	0.025904	Schwarz criterion	-6.412937
Log likelihood	821.3999	Hannan-Quinn criter.	-6.463296
Durbin-Watson stat	2.106229		

Inverted MA Roots	.99
-------------------	-----

### PASCA

Dependent Variable: D(DAX)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 14:04  
 Sample (adjusted): 9/29/2021 7/04/2022  
 Included observations: 199 after adjustments  
 Convergence achieved after 39 iterations  
 MA Backcast: 9/28/2021  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*RESID(-1)^2\*(RESID(-1)<0)  
 + C(6)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	5.01E-06	1.62E-05	0.309572	0.7569
MA(1)	-0.983586	0.010079	-97.58340	0.0000

#### Variance Equation

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	1.22E-06	7.26E-07	1.677803	0.0934
RESID(-1)^2	-0.097157	0.007451	-13.03981	0.0000
RESID(-1)^2*(RESID(-1)<0 GARCH(-1)	0.172692 1.011918	1.86E-13 1.19E-13	9.27E+11 8.49E+12	0.0000 0.0000

R-squared	0.505578	Mean dependent var	0.000173
Adjusted R-squared	0.503068	S.D. dependent var	0.021277
S.E. of regression	0.014999	Akaike info criterion	-5.805210
Sum squared resid	0.044320	Schwarz criterion	-5.705914
Log likelihood	583.6184	Hannan-Quinn criter.	-5.765022
Durbin-Watson stat	2.037181		

Inverted MA Roots	.98
-------------------	-----



- Hak Cipta :**
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
    - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
    - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
  2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

## MOEX

### PRA

Dependent Variable: D(MOEX)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 14:12  
 Sample (adjusted): 1/18/2018 12/18/2018  
 Included observations: 239 after adjustments  
 Convergence achieved after 12 iterations  
 MA Backcast: 1/17/2018  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	9.49E-06	8.19E-06	1.158525	0.2466
MA(1)	-0.999102	0.000343	-2909.954	0.0000
Variance Equation				
C	1.91E-05	1.48E-05	1.291288	0.1966
RESID(-1)^2	0.330217	0.147942	2.232074	0.0256
RESID(-1)^2*(RESID(-1)<0)	-0.265437	0.158099	-1.678924	0.0932
GARCH(-1)	0.659683	0.174388	3.782857	0.0002
R-squared	0.528374	Mean dependent var	-3.79E-05	
Adjusted R-squared	0.526384	S.D. dependent var	0.016024	
S.E. of regression	0.011028	Akaike info criterion	-6.165883	
Sum squared resid	0.028821	Schwarz criterion	-6.078607	
Log likelihood	742.8230	Hannan-Quinn criter.	-6.130713	
Durbin-Watson stat	2.122250			
Inverted MA Roots	1.00			

### SAAT

Dependent Variable: D(MOEX)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 13:38  
 Sample (adjusted): 1/18/2019 12/30/2019  
 Included observations: 247 after adjustments  
 Convergence achieved after 49 iterations  
 MA Backcast: 1/17/2019  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	4.69E-06	8.82E-06	0.532152	0.5946
MA(1)	-0.989337	0.005416	-182.6648	0.0000
Variance Equation				
C	9.71E-06	2.64E-05	0.368308	0.7126
RESID(-1)^2	0.010093	0.056997	0.177083	0.8594



## Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

RESID(-1)^2*(RESID(-1)<0 GARCH(-1)	0.030492 0.780739	0.073312 0.549876	0.415926 1.419845	0.6775 0.1557
---------------------------------------	----------------------	----------------------	----------------------	------------------

R-squared	0.497115	Mean dependent var	-4.99E-05
Adjusted R-squared	0.495062	S.D. dependent var	0.009979
S.E. of regression	0.007091	Akaike info criterion	-7.022246
Sum squared resid	0.012320	Schwarz criterion	-6.936998
Log likelihood	873.2474	Hannan-Quinn criter.	-6.987924
Durbin-Watson stat	2.007709		

Inverted MA Roots	.99
-------------------	-----

### PASCA

Dependent Variable: D(DAX2)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 14:16  
 Sample (adjusted): 1/21/2020 12/29/2020  
 Included observations: 246 after adjustments  
 Convergence achieved after 44 iterations  
 MA Backcast: 1/20/2020  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*RESID(-1)^2\*(RESID(-1)<0)  
 + C(6)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	1.28E-05	6.05E-06	2.113564	0.0346
MA(1)	-0.994129	0.004185	-237.5654	0.0000

#### Variance Equation

	Coefficient	Std. Error	z-Statistic	Prob.
C	4.45E-06	1.42E-06	3.137823	0.0017
RESID(-1)^2	-0.074041	0.026026	-2.844865	0.0044
RESID(-1)^2*(RESID(-1)<0 GARCH(-1)	0.172298 0.955636	0.027715 0.025018	6.216776 38.19804	0.0000 0.0000

R-squared	0.495292	Mean dependent var	-5.14E-06
Adjusted R-squared	0.493224	S.D. dependent var	0.023496
S.E. of regression	0.016726	Akaike info criterion	-5.778186
Sum squared resid	0.068264	Schwarz criterion	-5.692690
Log likelihood	716.7168	Hannan-Quinn criter.	-5.743760
Durbin-Watson stat	1.991380		

Inverted MA Roots	.99
-------------------	-----



Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

JKSE

PRA

Dependent Variable: D(JKSE)  
 Method: ML ARCH - Normal distribution (Marquardt / EVIEWS legacy)  
 Date: 07/24/22 Time: 14:24  
 Sample (adjusted): 4/19/2017 3/16/2018  
 Included observations: 238 after adjustments  
 Convergence achieved after 32 iterations  
 MA Backcast: 4/18/2017  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	6.65E-06	6.94E-06	0.957252	0.3384
MA(1)	-0.992165	0.001820	-545.0936	0.0000

Variance Equation

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.39E-07	1.12E-07	-1.246854	0.2125
RESID(-1)^2	-0.026803	0.000491	-54.62334	0.0000
RESID(-1)^2*(RESID(-1)<0)	0.051816	0.009895	5.236366	0.0000
GARCH(-1)	1.009966	6.73E-13	1.50E+12	0.0000

R-squared	0.512225	Mean dependent var	-4.88E-05
Adjusted R-squared	0.510158	S.D. dependent var	0.009238
S.E. of regression	0.006466	Akaike info criterion	-7.271715
Sum squared resid	0.009866	Schwarz criterion	-7.184178
Log likelihood	871.3340	Hannan-Quinn criter.	-7.236436
Durbin-Watson stat	2.060992		

Inverted MA Roots .99

SAAT

Dependent Variable: D(JKSE)  
 Method: ML ARCH - Normal distribution (Marquardt / EVIEWS legacy)  
 Date: 07/24/22 Time: 13:40  
 Sample (adjusted): 4/19/2018 3/14/2019  
 Included observations: 236 after adjustments  
 Convergence achieved after 6 iterations  
 MA Backcast: 4/18/2018  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.000106	0.000107	-0.985050	0.3246
MA(1)	-0.842541	0.036169	-23.29446	0.0000

Variance Equation

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	4.84E-06	9.75E-07	4.966314	0.0000
RESID(-1)^2	-0.075098	7.68E-12	-9.78E+09	0.0000



## Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

RESID(-1)^2*(RESID(-1)<0 GARCH(-1)	0.245275 0.918474	0.035951 0.018516	6.822437 49.60309	0.0000 0.0000
---------------------------------------	----------------------	----------------------	----------------------	------------------

R-squared	0.435629	Mean dependent var	-3.69E-06
Adjusted R-squared	0.433217	S.D. dependent var	0.013911
S.E. of regression	0.010473	Akaike info criterion	-6.332396
Sum squared resid	0.025667	Schwarz criterion	-6.244333
Log likelihood	753.2228	Hannan-Quinn criter.	-6.296897
Durbin-Watson stat	2.073833		

Inverted MA Roots	.84
-------------------	-----

### PASCA

Dependent Variable: D(JKSE2)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 14:28  
 Sample (adjusted): 4/23/2019 3/30/2020  
 Included observations: 245 after adjustments  
 Convergence achieved after 31 iterations  
 MA Backcast: 4/22/2019  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*RESID(-1)^2\*(RESID(-1)<0)  
 + C(6)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.28E-05	1.18E-05	-1.082078	0.2792
MA(1)	-0.985729	0.005233	-188.3765	0.0000

Variance Equation				
C	5.41E-06	2.37E-06	2.278426	0.0227
RESID(-1)^2	0.016413	0.044030	0.372778	0.7093
RESID(-1)^2*(RESID(-1)<0)	0.364408	0.106194	3.431518	0.0006
GARCH(-1)	0.779461	0.070494	11.05718	0.0000

R-squared	0.398468	Mean dependent var	-7.18E-05
Adjusted R-squared	0.395992	S.D. dependent var	0.018846
S.E. of regression	0.014646	Akaike info criterion	-6.485212
Sum squared resid	0.052127	Schwarz criterion	-6.399467
Log likelihood	800.4384	Hannan-Quinn criter.	-6.450682
Durbin-Watson stat	1.676857		

Inverted MA Roots	.99
-------------------	-----





Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

**IBOVESPA**

**PRA**

Dependent Variable: D(IBOVESPA)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 14:45  
 Sample (adjusted): 10/12/2016 9/19/2017  
 Included observations: 245 after adjustments  
 Convergence achieved after 31 iterations  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.000689	0.000578	-1.193288	0.2328
AR(1)	-0.499430	0.059757	-8.357749	0.0000

Variance Equation				
C	7.79E-05	2.32E-05	3.366567	0.0008
RESID(-1)^2	0.167294	0.122890	1.361332	0.1734
RESID(-1)^2*(RESID(-1)<0)	0.585769	0.188402	3.109137	0.0019
GARCH(-1)	0.304705	0.139915	2.177793	0.0294

R-squared	0.297894	Mean dependent var	4.44E-05
Adjusted R-squared	0.295005	S.D. dependent var	0.019207
S.E. of regression	0.016127	Akaike info criterion	-5.589179
Sum squared resid	0.063199	Schwarz criterion	-5.503434
Log likelihood	690.6744	Hannan-Quinn criter.	-5.554649
Durbin-Watson stat	2.352818		

Inverted AR Roots -0.50

**SAAT**

Dependent Variable: D(IBOVESPA)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 13:41  
 Sample (adjusted): 10/11/2017 9/17/2018  
 Included observations: 244 after adjustments  
 Convergence achieved after 12 iterations  
 MA Backcast: 10/10/2017  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.47E-05	3.68E-05	-0.398440	0.6903
MA(1)	-0.947601	0.021970	-43.13218	0.0000

Variance Equation				
C	8.27E-06	8.07E-07	10.25383	0.0000
RESID(-1)^2	-0.085292	1.54E-12	-5.55E+10	0.0000
RESID(-1)^2*(RESID(-1)<0)	0.097589	0.019294	5.057977	0.0000



**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

GARCH(-1)	0.992390	0.008577	115.7041	0.0000
R-squared	0.513937	Mean dependent var	-9.41E-05	
Adjusted R-squared	0.511929	S.D. dependent var	0.018818	
S.E. of regression	0.013146	Akaike info criterion	-5.834965	
Sum squared resid	0.041825	Schwarz criterion	-5.748969	
Log likelihood	717.8658	Hannan-Quinn criter.	-5.800331	
Durbin-Watson stat	2.159585			
Inverted MA Roots	.95			

**PASCA**

Dependent Variable: D(IBOVSPA2)  
 Method: ML ARCH - Normal distribution (Marquardt / EVIEWS legacy)  
 Date: 07/24/22 Time: 14:49  
 Sample (adjusted): 10/10/2018 9/13/2019  
 Included observations: 243 after adjustments  
 Convergence achieved after 12 iterations  
 MA Backcast: 10/09/2018  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*RESID(-1)^2\*(RESID(-1)<0)  
 + C(6)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-4.24E-05	5.52E-05	-0.767208	0.4430
MA(1)	-0.929280	0.033652	-27.61437	0.0000

Variance Equation				
C	8.70E-06	1.17E-06	7.417541	0.0000
RESID(-1)^2	-0.094403	2.07E-12	-4.57E+10	0.0000
RESID(-1)^2*(RESID(-1)<0)	0.124364	0.017371	7.159453	0.0000
GARCH(-1)	0.981940	0.006250	157.1196	0.0000

R-squared	0.461538	Mean dependent var	4.16E-05	
Adjusted R-squared	0.459304	S.D. dependent var	0.017826	
S.E. of regression	0.013108	Akaike info criterion	-5.883903	
Sum squared resid	0.041408	Schwarz criterion	-5.797655	
Log likelihood	720.8943	Hannan-Quinn criter.	-5.849163	
Durbin-Watson stat	1.973453			

Inverted MA Roots	.93
-------------------	-----



- Hak Cipta :**
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
    - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
    - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
  2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

## FTSE 100

### PRA

Dependent Variable: D(IBOVESPA)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 14:55  
 Sample (adjusted): 12/14/2017 12/11/2018  
 Included observations: 259 after adjustments  
 Convergence achieved after 61 iterations  
 MA Backcast: 12/13/2017  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-4.84E-06	8.48E-06	-0.571082	0.5679
MA(1)	-0.988804	0.004648	-212.7556	0.0000
Variance Equation				
C	3.64E-05	1.02E-05	3.555111	0.0004
RESID(-1)^2	0.036915	0.057900	0.637555	0.5238
RESID(-1)^2*(RESID(-1)<0)	0.455433	0.167979	2.711246	0.0067
GARCH(-1)	0.115925	0.206481	0.561430	0.5745
R-squared	0.535154	Mean dependent var	5.08E-05	
Adjusted R-squared	0.533345	S.D. dependent var	0.011310	
S.E. of regression	0.007726	Akaike info criterion	-6.940787	
Sum squared resid	0.015340	Schwarz criterion	-6.858389	
Log likelihood	904.8319	Hannan-Quinn criter.	-6.907658	
Durbin-Watson stat	2.173097			
Inverted MA Roots	.99			

### SAAT

Dependent Variable: D(FTSE100)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 13:45  
 Sample (adjusted): 12/17/2018 12/06/2019  
 Included observations: 255 after adjustments  
 Convergence achieved after 26 iterations  
 MA Backcast: 12/14/2018  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(4) + C(5)*RESID(-1)^2 + C(6)*RESID(-1)^2*(RESID(-1)<0) + C(7)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	5.45E-07	3.46E-06	0.157630	0.8747
AR(1)	0.001433	0.065904	0.021741	0.9827
MA(1)	-0.999988	0.016615	-60.18553	0.0000
Variance Equation				
C	4.28E-05	1.84E-05	2.327912	0.0199



## Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

RESID(-1)^2	-0.057677	0.062200	-0.927280	0.3538
RESID(-1)^2*(RESID(-1)<0	0.294040	0.118955	2.471850	0.0134
GARCH(-1)	0.101977	0.349539	0.291746	0.7705

R-squared	0.460988	Mean dependent var	1.98E-05
Adjusted R-squared	0.456710	S.D. dependent var	0.010167
S.E. of regression	0.007494	Akaike info criterion	-6.951742
Sum squared resid	0.014152	Schwarz criterion	-6.854530
Log likelihood	893.3470	Hannan-Quinn criter.	-6.912639
Durbin-Watson stat	1.855296		

Inverted AR Roots	.00
Inverted MA Roots	1.00

### PASCA

Dependent Variable: D(FTSE100)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 14:51  
 Sample (adjusted): 12/17/2019 12/08/2020  
 Included observations: 256 after adjustments  
 Convergence achieved after 34 iterations  
 MA Backcast: 12/16/2019  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*RESID(-1)^2\*(RESID(-1)<0)  
 + C(6)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.94E-05	2.24E-05	-0.867394	0.3857
MA(1)	-0.976820	0.015067	-64.83060	0.0000

Variance Equation				
C	3.14E-06	1.26E-06	2.491091	0.0127
RESID(-1)^2	-0.008091	0.029473	-0.274521	0.7837
RESID(-1)^2*(RESID(-1)<0	0.182000	0.041738	4.360504	0.0000
GARCH(-1)	0.914204	0.023925	38.21167	0.0000

R-squared	0.510120	Mean dependent var	-0.000119
Adjusted R-squared	0.508192	S.D. dependent var	0.026532
S.E. of regression	0.018606	Akaike info criterion	-5.612975
Sum squared resid	0.087935	Schwarz criterion	-5.529885
Log likelihood	724.4608	Hannan-Quinn criter.	-5.579556
Durbin-Watson stat	2.083872		

Inverted MA Roots	.98
-------------------	-----



- Hak Cipta :**
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
    - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
    - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
  2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

### CAC 40

#### PRA

Dependent Variable: D(CAC40)  
 Method: ML ARCH - Normal distribution (Marquardt / EVIEWS legacy)  
 Date: 07/24/22 Time: 15:01  
 Sample (adjusted): 7/05/2018 6/21/2019  
 Included observations: 252 after adjustments  
 Convergence achieved after 7 iterations  
 MA Backcast: 7/04/2018  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.17E-05	2.26E-05	-0.517877	0.6045
MA(1)	-0.960733	0.017246	-55.70894	0.0000
Variance Equation				
C	1.73E-05	2.39E-06	7.234144	0.0000
RESID(-1)^2	-0.103752	7.07E-12	-1.47E+10	0.0000
RESID(-1)^2*(RESID(-1)<0)	0.571869	0.114803	4.981307	0.0000
GARCH(-1)	0.655514	5.28E-11	1.24E+10	0.0000
R-squared	0.478549	Mean dependent var	1.79E-05	
Adjusted R-squared	0.476463	S.D. dependent var	0.012143	
S.E. of regression	0.008786	Akaike info criterion	-6.716061	
Sum squared resid	0.019300	Schwarz criterion	-6.632027	
Log likelihood	852.2237	Hannan-Quinn criter.	-6.682247	
Durbin-Watson stat	1.991247			
Inverted MA Roots	.96			

#### SAAT

Dependent Variable: D(CAC40)  
 Method: ML ARCH - Normal distribution (Marquardt / EVIEWS legacy)  
 Date: 07/24/22 Time: 13:46  
 Sample (adjusted): 7/05/2019 6/23/2020  
 Included observations: 253 after adjustments  
 Convergence achieved after 24 iterations  
 MA Backcast: 7/04/2019  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	1.52E-05	1.15E-05	1.322213	0.1861
MA(1)	-0.989819	0.005155	-192.0065	0.0000
Variance Equation				
C	6.60E-06	2.04E-06	3.244126	0.0012
RESID(-1)^2	0.126491	0.070365	1.797638	0.0722



## Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

RESID(-1)^2*(RESID(-1)<0 GARCH(-1)	0.411901 0.709442	0.112840 0.058118	3.650308 12.20691	0.0003 0.0000
R-squared	0.493995	Mean dependent var	-8.60E-06	
Adjusted R-squared	0.491979	S.D. dependent var	0.027437	
S.E. of regression	0.019556	Akaike info criterion	-5.808157	
Sum squared resid	0.095987	Schwarz criterion	-5.724361	
Log likelihood	740.7319	Hannan-Quinn criter.	-5.774443	
Durbin-Watson stat	1.996208			
Inverted MA Roots	.99			

### PASCA

Dependent Variable: D(CAC40\_2)  
 Method: ML ARCH - Normal distribution (Marquardt / EVIEWS legacy)  
 Date: 07/24/22 Time: 15:15  
 Sample (adjusted): 7/08/2020 6/28/2021  
 Included observations: 254 after adjustments  
 Convergence achieved after 23 iterations  
 MA Backcast: 7/07/2020  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*RESID(-1)^2\*(RESID(-1)<0)  
 + C(6)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-7.19E-08	6.29E-06	-0.011432	0.9909
MA(1)	-0.999972	0.002130	-469.4846	0.0000
Variance Equation				
C	7.10E-06	2.17E-06	3.275466	0.0011
RESID(-1)^2	0.007309	0.040056	0.182473	0.8552
RESID(-1)^2*(RESID(-1)<0)	0.327937	0.118259	2.773047	0.0056
GARCH(-1)	0.810432	0.051079	15.86624	0.0000
R-squared	0.483921	Mean dependent var	2.88E-05	
Adjusted R-squared	0.481873	S.D. dependent var	0.015018	
S.E. of regression	0.010810	Akaike info criterion	-6.334510	
Sum squared resid	0.029450	Schwarz criterion	-6.250951	
Log likelihood	810.4827	Hannan-Quinn criter.	-6.300895	
Durbin-Watson stat	1.936893			
Inverted MA Roots	1.00			



**BIST 100**

**PRA**

Dependent Variable: D(BIST100)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 15:19  
 Sample (adjusted): 6/28/2016 6/09/2017  
 Included observations: 249 after adjustments  
 Convergence achieved after 21 iterations  
 MA Backcast: OFF (Roots of MA process too large)  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	2.61E-05	6.69E-06	3.903449	0.0001
MA(1)	-1.002323	2.59E-10	-3.87E+09	0.0000
Variance Equation				
C	8.48E-05	3.17E-05	2.671583	0.0075
RESID(-1)^2	-0.067861	0.055380	-1.225385	0.2204
RESID(-1)^2*(RESID(-1)<0)	0.182788	0.146704	1.245967	0.2128
GARCH(-1)	0.412954	0.260346	1.586171	0.1127
R-squared	0.492062	Mean dependent var	-6.51E-06	
Adjusted R-squared	0.490006	S.D. dependent var	0.016252	
S.E. of regression	0.011606	Akaike info criterion	-6.046186	
Sum squared resid	0.033270	Schwarz criterion	-5.961428	
Log likelihood	758.7502	Hannan-Quinn criter.	-6.012070	
Durbin-Watson stat	1.943954			
Inverted MA Roots	1.00			

**SAAT**

Dependent Variable: D(BIST100)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 13:47  
 Sample (adjusted): 6/30/2017 6/12/2018  
 Included observations: 248 after adjustments  
 Convergence achieved after 36 iterations  
 MA Backcast: 6/29/2017  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.71E-05	1.23E-05	-1.392623	0.1637
MA(1)	-0.989564	0.005331	-185.6388	0.0000
Variance Equation				
C	3.93E-06	8.60E-07	4.573745	0.0000
RESID(-1)^2	-0.061509	0.008785	-7.001751	0.0000

**Hak Cipta :**

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta



## Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

RESID(-1)^2*(RESID(-1)<0 GARCH(-1)	0.038345 1.016504	0.015410 0.001250	2.488380 812.9326	0.0128 0.0000
R-squared	0.545688	Mean dependent var	5.07E-05	
Adjusted R-squared	0.543842	S.D. dependent var	0.017570	
S.E. of regression	0.011867	Akaike info criterion	-6.067018	
Sum squared resid	0.034643	Schwarz criterion	-5.982016	
Log likelihood	758.3102	Hannan-Quinn criter.	-6.032799	
Durbin-Watson stat	2.222898			
Inverted MA Roots	.99			

### PASCA

Dependent Variable: D(BIST100\_2)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 15:23  
 Sample (adjusted): 6/27/2018 6/04/2019  
 Included observations: 245 after adjustments  
 Convergence achieved after 17 iterations  
 MA Backcast: 6/26/2018  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*RESID(-1)^2\*(RESID(-1)<0)  
 + C(6)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-7.93E-06	9.90E-06	-0.801458	0.4229
MA(1)	-0.999954	0.008474	-118.0049	0.0000
Variance Equation				
C	4.67E-05	1.80E-05	2.599537	0.0093
RESID(-1)^2	-0.045177	0.054370	-0.830913	0.4060
RESID(-1)^2*(RESID(-1)<0 GARCH(-1)	0.219108 0.709913	0.070829 0.090399	3.093488 7.853102	0.0020 0.0000
R-squared	0.441111	Mean dependent var	-2.32E-05	
Adjusted R-squared	0.438811	S.D. dependent var	0.019501	
S.E. of regression	0.014608	Akaike info criterion	-5.623992	
Sum squared resid	0.051858	Schwarz criterion	-5.538247	
Log likelihood	694.9391	Hannan-Quinn criter.	-5.589463	
Durbin-Watson stat	1.786563			
Inverted MA Roots	1.00			





- Hak Cipta :**
1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
    - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian, penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
    - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
  2. Dilarang mengumumkan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

## FTSE MIB

### PRA

Dependent Variable: D(FTSEMIB)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 15:32  
 Sample (adjusted): 2/15/2019 1/30/2020  
 Included observations: 250 after adjustments  
 Convergence achieved after 31 iterations  
 MA Backcast: 2/14/2019  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	2.98E-06	1.05E-05	0.284393	0.7761
MA(1)	-0.991934	0.005453	-181.9197	0.0000
Variance Equation				
C	9.22E-06	3.91E-06	2.358255	0.0184
RESID(-1)^2	-0.067697	0.028005	-2.417325	0.0156
RESID(-1)^2*(RESID(-1)<0)	0.226511	0.077432	2.925279	0.0034
GARCH(-1)	0.833164	0.071782	11.60684	0.0000
R-squared	0.511905	Mean dependent var	5.90E-05	
Adjusted R-squared	0.509937	S.D. dependent var	0.013458	
S.E. of regression	0.009421	Akaike info criterion	-6.560700	
Sum squared resid	0.022013	Schwarz criterion	-6.476185	
Log likelihood	826.0875	Hannan-Quinn criter.	-6.526685	
Durbin-Watson stat	2.033047			
Inverted MA Roots	.99			

### SAAT

Dependent Variable: D(FTSEMIB)  
 Method: ML ARCH - Normal distribution (Marquardt / EViews legacy)  
 Date: 07/24/22 Time: 16:00  
 Sample (adjusted): 2/17/2020 2/03/2021  
 Included observations: 253 after adjustments  
 Convergence achieved after 52 iterations  
 MA Backcast: 2/14/2020  
 Presample variance: backcast (parameter = 0.7)  
 $GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*RESID(-1)^2*(RESID(-1)<0) + C(6)*GARCH(-1)$

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.000114	8.24E-05	-1.388856	0.1649
MA(1)	-0.916626	0.021754	-42.13549	0.0000
Variance Equation				
C	6.02E-06	2.98E-06	2.020261	0.0434
RESID(-1)^2	-0.053897	0.011373	-4.739122	0.0000



## Hak Cipta milik Politeknik Negeri Jakarta

### Hak Cipta :

1. Dilarang mengutip sebagian atau seluruh karya tulis ini tanpa mencantumkan dan menyebutkan sumber :
  - a. Pengutipan hanya untuk kepentingan pendidikan, penelitian , penulisan karya ilmiah, penulisan laporan, penulisan kritik atau tinjauan suatu masalah.
  - b. Pengutipan tidak merugikan kepentingan yang wajar Politeknik Negeri Jakarta
2. Dilarang mengemukakan dan memperbanyak sebagian atau seluruh karya tulis ini dalam bentuk apapun tanpa izin Politeknik Negeri Jakarta

RESID(-1)^2*(RESID(-1)<0)	0.226805	0.030241	7.499861	0.0000
GARCH(-1)	0.926540	0.016061	57.68880	0.0000
R-squared	0.521704	Mean dependent var		2.15E-05
Adjusted R-squared	0.519798	S.D. dependent var		0.033183
S.E. of regression	0.022995	Akaike info criterion		-5.182138
Sum squared resid	0.132720	Schwarz criterion		-5.098342
Log likelihood	661.5405	Hannan-Quinn criter.		-5.148424
Durbin-Watson stat	2.272587			
Inverted MA Roots	.92			

### PASCA

Dependent Variable: D(FTSEMIB\_2)  
 Method: ML ARCH - Normal distribution (Marquardt / EVIEWS legacy)  
 Date: 07/24/22 Time: 15:45  
 Sample (adjusted): 2/17/2021 2/07/2022  
 Included observations: 254 after adjustments  
 Convergence achieved after 26 iterations  
 MA Backcast: 2/16/2021  
 Presample variance: backcast (parameter = 0.7)  
 GARCH = C(3) + C(4)\*RESID(-1)^2 + C(5)\*RESID(-1)^2\*(RESID(-1)<0)  
 + C(6)\*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-4.90E-05	1.35E-05	-3.630857	0.0003
MA(1)	-0.964122	0.004431	-217.6093	0.0000
Variance Equation				
C	1.58E-06	4.25E-07	3.724333	0.0002
RESID(-1)^2	-0.112048	0.011926	-9.395501	0.0000
RESID(-1)^2*(RESID(-1)<0)	0.182491	0.023664	7.711748	0.0000
GARCH(-1)	1.008554	2.73E-12	3.70E+11	0.0000
R-squared	0.512569	Mean dependent var		-5.22E-06
Adjusted R-squared	0.510635	S.D. dependent var		0.015026
S.E. of regression	0.010512	Akaike info criterion		-6.414339
Sum squared resid	0.027845	Schwarz criterion		-6.330780
Log likelihood	820.6211	Hannan-Quinn criter.		-6.380724
Durbin-Watson stat	2.126076			
Inverted MA Roots	.96			