ANALISIS PERAMALAN HARGA SAHAM DI INDONESIA MENGGUNAKAN MODEL INTERVENSI MULTI INPUT FUNGSI *STEP* DAN *PULSE*

(Studi Kasus: *Daily Closing Price* Data Saham *Jakarta Islamic Index* (JII) Periode 1 Oktober 2013 – 31 Maret 2016)

SKRIPSI

Untuk memenuhi sebagian persyaratan

Mencapai derajat Sarjana S-1

Program Studi Matematika

Diajukan oleh:

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UNIVERSITAS ISLAM NEGERI SUNAN KALIJAGA

YOGYAKARTA

2016

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Assalamu'alaikum wr. wb.

Setelah membaca, meneliti, memberikan petunjuk dan mengoreksi serta mengadakan perbaikan seperlunya, maka kami selaku pembimbing berpendapat bahwa skripsi Saudara:

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sudah dapat diajukan kembali kepada Program Studi Matematika Fakultas Sains dan Teknologi UIN Sunan Kalijaga Yogyakarta sebagai salah satu syarat untuk memperoleh gelar Sarjana Strata Satu dalam bidang Matematika.

Dengan ini kami mengharap agar skripsi/tugas akhir Saudara tersebut di atas dapat segera dimunaqsyahkan. Atas perhatiannya kami ucapkan terima kasih.

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Dengan ini saya menyatakan bahwa skripsi ini tidak terdapat karya serupa yang diajukan untuk memperoleh gelar kesarjanaan di suatu perguruan tinggi lain, dan sepanjang pengetahuan saya juga belum terdapat karya yang pernah ditulis atau diterbitkan orang lain, kecuali yang secara tertulis dalam naskah ini dan disebutkan dalam daftar pustaka.

Yogyakarta, 24 Agustus 2016

Yang menyatakan,

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HALAMAN PERSEMBAHAN

Karya kecil ini kupersembahkan untuk

Orang tua, Kakak dan Keluargaku Tercinta

Sahabatku MARMOS

Keluarga besar AUFKLARUNG terkhusus Korp LIMIT

Keluarga besar mahasiswa Matematika angkatan 2012 UIN Sunan Kalijaga

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KESUKSESAN ADALAH PEMBALASAN TERHEBAT

****

HASIL TIDAK AKAN MENGKHIANATI PROSES

KATA PENGANTAR

Alhamdulillahirrobil'alamin, puji syukur senantiasa penulis panjatkan kehadirat Allah SWT, karena berkat kenikmatan yang selalu dicurahkan maka penulis dapat menyelesaikan skripsi ini. Skripsi ini disusun untuk memenuhi persyaratan guna memperoleh gelar Sarjana Sains pada Fakultas Sains dan Teknologi Universitas Islam Negeri Sunan Kalijaga Yogyakarta.

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Penulis,

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ANALISIS PERAMALAN HARGA SAHAM DI INDONESIA MENGGUNAKAN MODEL INTERVENSI MULTI INPUT FUNGSI *STEP* DAN *PULSE*

Oleh:
Lisa Ariyanti
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ABSTRAK

Model intervensi merupakan pengembangan dari model ARIMA. Model ARIMA tersebut digunakan sebagai *error* dalam model intervensi. Intervensi multi input terjadi ketika terdapat dua atau lebih kejadian intervensi selama rentang waktu penelitian. Kejadian intervensi yang berlangsung pada jangka waktu yang berkelanjutan merupakan intervensi *step*, sedangkan kejadian intervensi pada waktu tertentu dan tidak berkelanjutan merupakan intervensi fungsi *pulse*.

Tujuan penelitian ini adalah untuk menjelaskan prosedur pembentukan model intervensi multi input fungsi *step* dan *pulse*, dampak intervensi serta hasil peramalan harga saham di Indonesia. Data indeks harga saham harian *Jakarta Islamic Index* (JII) periode 1 Oktober 2013 – 31 Maret 2016 adalah sebagai variabel penelitian. Metode yang digunakan adalah studi literatur dan laboratorium komputer menggunakan EViews dan Ms.Excel. Prosedur pembentukan model intervensi multi input fungsi *step* dan *pulse* yaitu menentukan fungsi intervensi yang terjadi selama rentang waktu penelitian, membagi data berdasarkan waktu terjadinya intervensi, melakukan pembentukan model ARIMA dengan mengidentifikasi model intervensi, mengestimasi parameter, menguji diagnosisnya serta melakukan pemilihan model terbaik. Selanjutnya membentuk model intervensi pertama dan kedua.

Model intervensi multi input yang telah memenuhi uji diagnosis dapat digunakan untuk peramalan. Intervensi yang terjadi pada harga saham JII yaitu kebijakan 100 hari pemerintahan Jokowi-JK (fungsi *step*) dan indikasi krisis moneter 2015 (fungsi *pulse*). Hasil analisis intervensi multi input fungsi *step* dan *pulse* pada harga saham JII periode 1 Oktober 2013 – 31 Maret 2016 yaitu

$$\widehat{Y}_t = \frac{-0{,}096571}{2{,}011385} S_{(t)}^{(347)} - \frac{0{,}758501}{2{,}011385} S_{(t-116)}^{(347)} + \frac{0{,}103157}{2{,}011385} S_{(t-123)}^{(347)} + \frac{0.093919}{3.2240765} P_{(t-5)}^{(484)} - \frac{0.783284}{3.2240765} P_{(t-45)}^{(484)} - \frac{0.638237}{3.2240765} P_{(t-92)}^{(484)} - \frac{0.484053}{3.2240765} P_{(t-105)}^{(484)} + \frac{(1+0{,}142255B)}{(1-B)} a_t$$

dengan $S_{(t)}^{(347)} = \begin{cases} 0, & t \neq 347 \\ 1, & t = 347 \end{cases}$ dan dengan $P_{(t)}^{(484)} = \begin{cases} 0, t \neq 484 \\ 1, t = 484 \end{cases}$

Efek intervensi pertama berpengaruh 123 hari setelah intervensi itu terjadi yaitu ditunjukkan dengan adanya peningkatan harga saham dan efek intervensi kedua berpengaruh 45 hari berikutnya yang mengakibatkan penurunan harga saham pada hari-hari berikutnya. Hasil peramalan untuk 1 sampai dengan 7 April 2016 menunjukkan adanya peningkatan harga saham JII dibandingkan pada periode sebelumnya.

Kata kunci: Analisis intervensi multi input, ARIMA, *Jakarta Islamic Index* (JII), indikasi krisis moneter dan kebijakan 100 hari pemerintahan Jokowi-JK.

BAB I

PENDAHULUAN

1.1 Latar Belakang

Investasi merupakan salah satu kegiatan muamalah yang sangat dianjurkan dalam Islam karena dengan berinvestasi. Harta akan menjadi produktif dan mendatangkan kemaslahatan bagi orang lain. Salah satu bentuk investasi tersebut yaitu dengan menanamkan harta di pasar modal. Kegiatan investasi terutama di pasar modal merupakan aktivitas yang sangat mempengaruhi kondisi perekonomian suatu negara.

Pasar modal merupakan suatu wadah bagi pihak yang memiliki kelebihan harta atau sering disebut dengan investor untuk menyertakan modalnya kepada perusahaan yang membutuhkan dana atau sering disebut dengan emiten sehingga perusahaan tersebut dapat beroperasi dengan skala yang lebih besar yang pada akhirnya akan meningkatkan pendapatan perusahaan dan kemakmuran masyarakat luas. Institusi pasar modal syariah merupakan salah satu pengejawantahan atas anjuran untuk berinvestasi (Mirnah, 2012).

Adapun di Indonesia, pasar modal syariah ditandai dengan terbentuknya *Jakarta Islamic Index* (JII) pada 3 Juli 2000. JII merupakan respon akan kebutuhan informasi mengenai investasi secara Islami. Tujuannya adalah sebagai tolak ukur standar dan kinerja (*benchmarking*) bagi investasi saham secara syariah di pasar modal dan sebagai sarana untuk meningkatkan investasi di pasar modal secara syariah. Pasar modal syariah menjadi alternatif investasi bagi pelaku pasar

yang bukan sekadar ingin mendapatkan return terbaik, namun juga dapat memberikan ketenangan dari aktivitas investasinya.

Alasan dijadikannya *Jakarta Islamic Index* (JII) sebagai objek dalam penelitian ini adalah karena JII merupakan indeks yang ada di Bursa Efek Indonesia (BEI) yang mewakili saham-saham sesuai dengan syariah dan menjadi solusi atas keragu-raguan investor muslim yang akan bertransaksi pada pasar modal konvensional yang mengandung unsur riba (bunga), maysir (judi), dan gharar (tidak pasti). Hal ini dikarenakan saham *listing* di JII sebelumnya telah melalui *screening process* yang dilakukan berdasarkan fatwa yang dikeluarkan oleh Dewan Syariah Nasional. *Screening process* dengan melihat rasio likuidnya berkisar antara 17-49%, rasio pendapatan bunganya berkisar antara 5-15% serta rasio utangnya 30-33%. JII hanya menampung 30 saham dengan kinerja keuangan terbaik yang sudah sesuai dengan ketentuan syariah (Yunan, 2012).

Peramalan tentang harga saham syariah di JII merupakan informasi yang sangat dibutuhkan oleh perusahaan di bidang pasar modal. Dengan adanya peramalan tentang harga saham syariah di Indonesia, perusahaan dapat melakukan persiapan dalam menghadapi psikologi pasar demi kelancaran investasi yang diambilnya. Salah satu metode yang dapat digunakan dalam peramalan adalah *time series.* Data *time series* merupakan salah satu jenis data yang dikumpulkan menurut urutan waktu dalam rentang waktu tertentu. Dasar pemikiran *time series* adalah pengamatan sekarang (Z_t) dipengaruhi oleh satu atau beberapa pengamatan sebelumnya (Z_{t-k}). Dengan kata lain, model *time series* dibuat karena secara statistik ada korelasi antara deret pengamatan. Tujuan analisis *time series* antara

lain memahami dan menjelaskan mekanisme tertentu, meramalkan suatu nilai di masa depan dan mengoptimalkan sistem kendali (Makridakis, 1990). Salah satu model yang sering digunakan dalam analisis *time series* adalah ARIMA.

Model ARIMA adalah model peramalan yang dikembangkan oleh George Box dan Gwilym Jenkins (1975). Model peramalan ARIMA menggunakan pendekatan iteratif pada identifikasi suatu model yang mungkin dari model umum. ARIMA menggunakan nilai masa lalu dan sekarang dari variabel dependen untuk menghasilkan peramalan jangka pendek yang akurat (Hanke & Wichern, 2005). ARIMA cocok jika observasi dari deret waktu secara statistik berhubungan satu sama lain. Kelebihan dari model ARIMA adalah dapat diterapkan untuk semua pola data.

Meskipun pendekatan semacam ini efisien untuk peramalan *time series*, namun masih menunjukkan kekurangan ketika terjadi gangguan atau data-data yang berfluktuasi ekstrim. Data yang berfluktuasi ekstrim dapat mengindikasikan adanya suatu intervensi. Kejadian luar yang disebut intervensi misalnya bencana alam, kebijakan pemerintah, promosi, perang, hari libur, dan sebagainya. Adanya perubahan data yang tidak cukup besar dalam sebuah *time series* membuat model ARIMA kurang tepat dalam melakukan peramalan. Salah satu model yang dapat digunakan dalam mengatasi hal tersebut adalah model intervensi (Novitasari & Suhartono, 2007). Analisis intervensi digunakan untuk menganalisis data *time series* apabila waktu intervensi diketahui.

Pada analisis intervensi, diasumsikan bahwa kejadian intervensi terjadi pada waktu T yang diketahui dari suatu *time series* (Box & Tiao, 1975). Tujuan

utama dari analisis ini adalah mengukur besar dan lamanya efek intervensi pada suatu *time series* (Wei, 2006:212). Secara umum ada dua jenis model intervensi, yaitu *step* dan *pulse*. Analisis intervensi fungsi *step* digunakan pada intervensi yang bersifat jangka panjang, seperti kebijakan pemerintah, kebijakan perusahaan, pergantian presiden, *travel warning* dan lain-lain. Analisis intervensi fungsi *pulse* digunakan pada intervensi yang bersifat sementara, seperti bancana alam, bom, perang, promo potongan harga, demonstrasi dan krisis ekonomi.

Model intervensi pada data *time series* pertama kali diperkenalkan oleh Box dan Tiao pada tahun 1975 yang meneliti pengaruh pemberlakuan undang-undang desain mesin terhadap tingkat oksidan di daerah Los Angeles. Sejauh ini, banyak peneliti menggunakan model intervensi terbatas pada analisis intervensi input tunggal, yaitu *step* atau *pulse* saja. Dalam perkembangannya, mulai banyak peneliti yang meneliti mengenai model intervensi multi input. Intervensi multi input disebabkan terjadinya dua atau lebih kejadian intervensi selama rentang waktu penelitian.

Dalam penelitian ini terjadi lebih dari satu intervensi dalam rentang waktu penelitian, sehingga peneliti menggunakan model intervensi multi input. Pada studi kasus harga saham syariah di JII dengan adanya intervensi *step* yaitu kebijakan 100 hari pemerintahan Jokowi-JK dan intervensi *pulse* yaitu yaitu indikasi krisis moneter 2015 menyebabkan efek negatif terhadap harga saham JII yaitu penurunan harga saham serta nilai tukar rupiah ketika itu. Analisis peramalan khususnya pada harga saham sangat bermanfaat bagi investor untuk menghadapi psikologi pasar modal demi kelancaran investasinya. Oleh karena itu,

peneliti tertarik untuk melakukan penelitian dengan judul: **"Analisis Peramalan Harga Saham di Indonesia Menggunakan Model Intervensi Multi Input Fungsi *Step* dan *Pulse* (Studi Kasus: *Daily Closing Price* Data Saham *Jakarta Islamic Indeks* (JII) periode 1 Oktober 2013 – 31 Maret 2016)"**.

1.2 Batasan Masalah

Pembatasan masalah perlu dilakukan dengan tujuan agar pokok permasalahan yang diteliti tidak terlalu melebar dari yang sudah ditentukan. Peneliti dalam hal ini membatasi masalah sebagai berikut:

1. Estimasi parameter menggunakan metode *least square*.
2. Menggunakan bantuan *software* EViews 7 dan Ms. Excel.

1.3 Rumusan Masalah

Berdasarkan uraian pada latar belakang, maka disusun perumusan masalah sebagai berikut:

1. Bagaimana prosedur pembentukan model intervensi multi input fungsi *step* dan *pulse* pada peramalan harga saham syariah di *Jakarta Islamic Indeks* (JII) periode 1 Oktober 2013 – 31 Maret 2016?
2. Bagaimana dampak intervensi multi input fungsi *step* dan *pulse* pada peramalan harga saham syariah di *Jakarta Islamic Indeks* (JII) periode 1 Oktober 2013 – 31 Maret 2016?
3. Bagaimana respon hasil peramalan harga saham di Indonesia menggunakan model intervensi multi input fungsi *step* dan *pulse* pada peramalan harga saham syariah di *Jakarta Islamic Indeks* (JII) periode 6 Maret 2015 – 7 April 2016?

1.4 Tujuan Penelitian

Tujuan penelitian berdasarkan pada rumusan masalah adalah:

1. Menjelaskan prosedur pembentukan model intervensi multi input fungsi *step* dan *pulse* pada peramalan harga saham syariah di *Jakarta Islamic Indeks* (JII) periode 1 Oktober 2013 – 31 Maret 2016.
2. Menjelaskan dampak intervensi multi input fungsi *step* dan *pulse* pada peramalan harga saham syariah di *Jakarta Islamic Indeks* (JII) periode 1 Oktober 2013 – 31 Maret 2016.
3. Menjelaskan hasil peramalan harga saham di Indonesia menggunakan model intervensi multi input fungsi *step* dan *pulse* pada peramalan harga saham syariah di *Jakarta Islamic Indeks* (JII) periode 6 Maret 2015 – 7 April 2016.

1.5 Manfaat Penelitian

Manfaat penelitian ini adalah:

1. Manfaat bagi penulis

   Mengaplikasikan ilmu *time series* khususnya model intervensi multi input fungsi *step* dan *pulse*.

2. Manfaat bagi pembaca

   Penelitian ini secara teoritis merupakan pelatihan intelektual yang diharapkan dapat meningkatkan kompetensi keilmuan dalam disiplin ilmu, serta pemahaman yang bermanfaat, sehingga dapat memberikan kontribusi pemikiran kepada pembaca tentang analisis *time series* menggunakan pemodelan intervensi multi input fungsi *step* dan *pulse* pada pasar modal syariah.

3. Manfaat bagi Prodi Matematika

   Menambah referensi perpustakaan Prodi Matematika Fakultas Sains dan Teknologi.

4. Manfaat bagi investor

   Dijadikan sebagai informasi dalam menghadapi psikologi pasar modal khususnya *Jakarta Islamic Indeks* (JII).

1.6 Sistematika Penulisan

Dalam penelitian ini, agar dapat diperoleh pemahaman yang runtut, sistematis dan jelas, maka penyusun memberikan kerangka sistematika pembahasan dalam bentuk laporan hasil penelitian yang dirumuskan dalam enam bab, antara lain:

1. BAB I: PENDAHULUAN

   Bab ini berisikan latar belakang yang menguraikan alasan dan motivasi penelitian, selanjutnya rumusan masalah sebagai inti masalah, kemudian dilanjutkan dengan tujuan dan manfaat penelitian untuk mengetahui urgensi penelitian, tinjauan pustaka sebagai acuan penelitian dan yang terakhir berisikan sistematika penulisan penyusunan skripsi ini.

2. BAB II: LANDASAN TEORI

   Bab ini membahas tentang landasan teori yang menjadi penunjang yang digunakan dalam pembahasan sebelum melakukan analisis intervensi.

3. BAB III: METODOLOGI PENELITIAN

   Berisi berbagai penjelasan mengenai proses pelaksanaan penelitian ini, mulai jenis dan sumber data, metode pengumpulan data, variabel penelitian,

metodologi penelitian, metode analisis data, alat pengolahan data sampai dengan *Flowchart*.

4. BAB IV: PEMBAHASAN

   Berisi tentang pembahasan mengenai analisis intervensi fungsi *step* dan *pulse*.

5. BAB V: STUDI KASUS

   Berisi tentang penerapan dan aplikasi analisis peramalan dengan menggunakan model intervensi multi input fungsi *step* dan *pulse* pada data harga indeks saham syariah di JII dan interpretasi terhadap hasil analisis yang diperoleh.

6. BAB VI: KESIMPULAN DAN SARAN

   Berisi tentang kesimpulan yang dapat diambil dari pembahasan permasalahan yang ada, pemecahan masalah, dan saran-saran yang berkaitan dengan penelitian sejenis untuk penelitian berikutnya.

1.7 Tinjauan Pustaka

Tinjauan pustaka yang digunakan oleh peneliti adalah beberapa penelitian yang relevan dengan tema yang diambil peneliti, antara lain:

1. Divo (2009) telah melakukan penelitian mengenai pemodelan intervensi fungsi *pulse* pada permintaan pertamax di SPBU retail PT.Pertamina (Persero) UPM IV Semarang.
2. Anista (2010) telah melakukan penelitian terhadap dampak kecelakaan pesawat terhadap banyaknya penumpang pesawat domestik melalui pintu masuk Bandara Soekarno Hatta dengan model intervensi fungsi *pulse* ganda.

3. Wigid Hariadi (2015) telah melakukan penelitian untuk mengetahui estimasi maksimum likelihood pada model analisis intervensi fungsi *step* di Bank Indonesia.
4. Salindri (2012) menggunakan model intervensi fungsi *step* ganda pada indeks harga konsumen subkelompok transportasi di Kota Yogyakarta dengan intervensi perubahan harga BBM bersubsidi dalam penelitiannya.

Persamaan penelitian ini dengan penelitian sebelumnya adalah penggunaan model intervensi dalam menganalisis peramalan objek. Sedangkan perbedaannya adalah penggunaan data *time series* yang mengandung lebih dari satu jenis fungsi intervensi (multi fungsi) dengan analisis fungsi *step* dan *pulse*, studi kasus yang digunakan adalah *daily closing price* data saham *Jakarta Islamic Index* (JII) periode 1 Oktober 2013 sampai dengan 31 Maret 2016 (lampiran 1), model terbaiknya menggunakan ARIMA dan proses pengolahan datanya menggunakan *software* EViews.

Tabel 1.1 Kajian Pustaka

Nama Peneliti	Judul	Metode	Objek
Divo (2009)	Pemodelan Intervensi Fungsi *Pulse* pada Permintaan Pertamax	Fungsi *pulse*	SPBU Retail PT.Pertamina (Persero) UPM IV Semarang
Anista (2010)	Model Intervensi Fungsi *Pulse* Ganda pada Dampak Kecelakaan Pesawat	Fungsi *pulse* ganda	Banyaknya penumpang pesawat domestik di Bandara Soekarno Hatta
Wigid Hariadi (2015)	Estimasi Maksimum Likelihood pada Model Analisis Intervensi Fungsi *Step*	Fungsi *step*	Bank Indonesia
Salindri (2012)	Model Intervensi Fungsi *Step* Ganda dengan Intervensi Perubahan Harga BBM Bersubsidi	Fungsi *step* ganda	Indeks harga konsumen subkelompok transportasi di Kota Yogyakarta
Lisa Ariyanti (2016)	Analisis Peramalan Harga Saham di Indonesia Menggunakan Model Intervensi Multi Input Fungsi *Step* dan *Pulse*	Fungsi *Step* dan *Pulse*	*Daily Closing Price* Data Saham *Jakarta Islamic Indeks* (JII)

BAB VI

PENUTUP

6.1 Kesimpulan

Berdasarkan pembahasan mengenai model intervensi multi input fungsi *step* dan *pulse* pada peramalan harga saham *Jakarta Islamic Index* dengan intervensi kebijakan 100 hari pemerintahan Jokowi-JK dan indikasi krisis moneter 2015, maka dapat diambil kesimpulan:

1. Prosedur pembentukan model intervensi multi input fungsi *step* dan *pulse* pada peramalan harga saham syariah di *Jakarta Islamic Indeks* (JII) periode 1 Oktober 2013 – 31 Maret 2016 adalah sebagai berikut:
   a. Pembagian data menjadi tiga periode.
   b. Pemodelan ARIMA

      Pembentukan model ARIMA menggunakan data 1, sehingga diperoleh model terbaik yaitu ARIMA(0,1,2).
   c. Pembentukan model intervensi pertama

      Pertama kita lakukan peramalan data 2 berdasarkan model ARIMA(0,1,2) pada data 1. Kedua kita hitung hitung nilai-nilai respon dan identifikasi orde b_1, s_1 dan r_1 dari model intervensi pertama. Ketiga kita hitung estimasi parameter dan lakukan uji signifikansi parameter pada model intervensi pertama. Keempat kita lakukan uji diagnosis model untuk memenuhi uji independensi residual dan uji normalitas residual. Model yang telah memenuhi uji diagnosis dapat digunakan untuk peramalan.

d. Pembentukan model intervensi kedua

Pertama kita lakukan peramalan data 3 berdasarkan model ARIMA(0,1,3) pada data 2. Kedua kita hitung hitung nilai-nilai respon dan identifikasi orde b_2, s_2 dan r_2 dari model intervensi kedua. Ketiga kita hitung estimasi parameter dan lakukan uji signifikansi parameter pada model intervensi kedua. Keempat kita lakukan uji diagnosis model untuk memenuhi uji independensi residual dan uji normalitas residual. Model yang telah memenuhi uji diagnosis dapat digunakan untuk peramalan.

2. Dampak intervensi multi input fungsi *step* dan *pulse* pada peramalan harga saham syariah di *Jakarta Islamic Index* (JII) periode 1 Oktober 2013 – 31 Maret 2016 adalah sebagai berikut:
   a. Dampak intervensi pertama: efek intervensi dirasakan ketika intervensi berlangsung dan efeknya 123 hari setelah intervensi itu terjadi yaitu ditunjukkan dengan adanya peningkatan harga saham *Jakarta Islamic Index*.
   b. Dampak intervensi kedua: efek intervensi dirasakan 5 hari setelah intervensi terjadi. Ketika itu terjadi peningkatan sebesar $0{,}17067663$. Tapi efek intervensi juga berpengaruh setelah 45 hari berikutnya yang mengakibatkan penurunan harga saham pada hari-hari berikutnya.
3. Respon hasil peramalan harga saham di Indonesia menggunakan model intervensi multi input fungsi *step* dan *pulse* pada peramalan harga saham syariah di *Jakarta Islamic Indeks* (JII) periode 6 Maret 2015 – 7 April 2016 adalah sebagai berikut:

Waktu Peramalan	Respon Pasar Modal
6 Maret 2015 – 25 September 2015	Peningkatan harga saham yang sama dengan kenyataannya.
28 Agustus 2015 – 31 Maret 2016	Penurunan harga saham yang sama dengan kenyataannya.
1 April 2016 – 7 April 2016	Peningkatan harga saham dibandingkan periode sebelumnya.

Tabel 6.1 Respon Hasil Peramalan Harga Saham JII

6.2 Saran

Analisis intervensi multi input dalam skripsi ini menggunakan ARIMA sebagai identifikasi data awal. Penulis menggunakan ARIMA karena pada data *time series* menggunakan indeks harga harian JII dan terdapat pola *trend* di dalamnya. Model pengembangan dari ARIMA ada SARIMA, bagi pembaca yang berminat dengan analisis intervensi pada *time series* yang mengalami pergeseran musim dengan periode yang sama dapat menggunakan model SARIMA(p,d,q) sebagai identifikasi data awal. Lebih menarik lagi apabila pembaca tertarik menganalisis menggunakan model regARIMA sebagai identifikasi data awal untuk data *time series* yang tidak sama berdasarkan variasi kalender.

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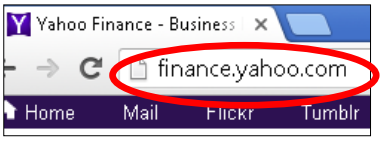
Lampiran 1

Langkah-langkah mendapatkan data harga indeks harian saham JII:

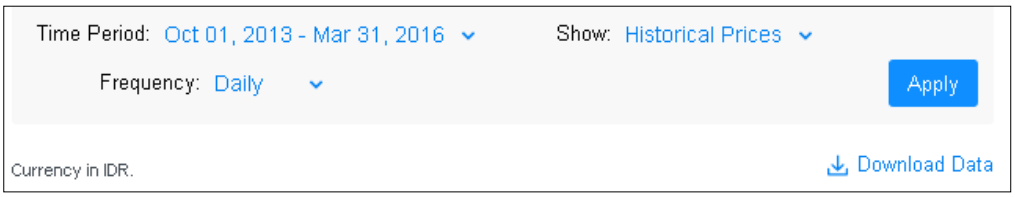
1. Search http://*finance.yahoo.com*/



2. Pada Quote Lookup klik ^JKII

3. Selanjutnya klik Historical Data

4. Pada "Time Period" isi dengan tanggal yang ingin anda jadikan sebagai studi kasusnya, misalkan 1 Oktober 2013 – 31 Maret 2016. Untuk "Frequency" isi dengan "Daily" karena kita memakai data harian. Selanjutknya pada "Show" klik "Historical Prices" dan Apply. Kita bisa mendownload datanya dengan mengklik Download Data .



5. Sehingga dapat kita peroleh:

Daily Closing Price **Data Saham** ***Jakarta Islamic Indeks*** **(JII)**

(Periode 1 Oktober 2013 – 31 Maret 2016)

No.	Date	Close	No.	Date	Close
1	01/10/2013	593,08	36	22/11/2013	592,89
2	02/10/2013	600,63	37	25/11/2013	592,72
3	03/10/2013	605,54	38	26/11/2013	573,57
4	04/10/2013	600,5	39	27/11/2013	580,2
5	07/10/2013	599,15	40	28/11/2013	578,91
6	08/10/2013	606,51	41	29/11/2013	579,87
7	09/10/2013	613,56	42	02/12/2013	591,92
8	10/10/2013	618,04	43	03/12/2013	584,71
9	11/10/2013	627,98	44	04/12/2013	577,39
10	16/10/2013	622,05	45	05/12/2013	573,88
11	17/10/2013	627,42	46	06/12/2013	569
12	18/10/2013	633,92	47	09/12/2013	576,23
13	21/10/2013	638,54	48	10/12/2013	587,52
14	22/10/2013	623,21	49	11/12/2013	586,11
15	23/10/2013	627,06	50	12/12/2013	575,66
16	24/10/2013	632,29	51	13/12/2013	568,15
17	25/10/2013	627,44	52	16/12/2013	560,75
18	28/10/2013	629,89	53	17/12/2013	567,51
19	29/10/2013	626,83	54	18/12/2013	572,12
20	30/10/2013	628,41	55	19/12/2013	579,32
21	31/10/2013	615,71	56	20/12/2013	575,8
22	01/11/2013	603,51	57	23/12/2013	572,59
23	04/11/2013	603,92	58	24/12/2013	578,14
24	06/11/2013	609,59	59	27/12/2013	578,64
25	07/11/2013	616,11	60	30/12/2013	585,11
26	08/11/2013	615,63	61	02/01/2014	596,15
27	11/11/2013	610,5	62	03/01/2014	585,64
28	12/11/2013	604,55	63	06/01/2014	579,93
29	13/11/2013	590,93	64	07/01/2014	572,29
30	14/11/2013	599,4	65	08/01/2014	576,41
31	15/11/2013	590,73	66	09/01/2014	574,28
32	18/11/2013	605,59	67	10/01/2014	582,38
33	19/11/2013	608,25	68	13/01/2014	601,81
34	20/11/2013	597,71	69	15/01/2014	609,9
35	21/11/2013	595,13	70	16/01/2014	606,82

No.	Date	Close	No.	Date	Close
71	17/01/2014	603,06	109	13/03/2014	641,31
72	20/01/2014	608,32	110	14/03/2014	661,74
73	21/01/2014	609,11	111	17/03/2014	663,86
74	22/01/2014	614,41	112	18/03/2014	651,32
75	23/01/2014	614,97	113	19/03/2014	655,45
76	24/01/2014	604,37	114	20/03/2014	634,17
77	27/01/2014	583,88	115	21/03/2014	636,55
78	28/01/2014	588,27	116	24/03/2014	637,79
79	29/01/2014	601,54	117	25/03/2014	632,44
80	30/01/2014	602,87	118	26/03/2014	636,48
81	03/02/2014	595,62	119	27/03/2014	635,02
82	04/02/2014	587,49	120	28/03/2014	640,41
83	05/02/2014	594,5	121	01/04/2014	657,09
84	06/02/2014	601,06	122	02/04/2014	655,27
85	07/02/2014	606,22	123	03/04/2014	658,53
86	10/02/2014	603,33	124	04/04/2014	653,27
87	11/02/2014	604,7	125	07/04/2014	667,22
88	12/02/2014	609,08	126	08/04/2014	666,52
89	13/02/2014	607,22	127	09/04/2014	666,52
90	14/02/2014	608,97	128	10/04/2014	643,15
91	17/02/2014	615,61	129	11/04/2014	653,28
92	18/02/2014	615,1	130	14/04/2014	659,71
93	19/02/2014	621,73	131	15/04/2014	659,78
94	20/02/2014	622,16	132	16/04/2014	657,86
95	21/02/2014	626,97	133	17/04/2014	663,59
96	24/02/2014	621,94	134	21/04/2014	663,52
97	25/02/2014	614,48	135	22/04/2014	664,13
98	26/02/2014	606,03	136	23/04/2014	664,14
99	27/02/2014	612,84	137	24/04/2014	663,18
100	28/02/2014	626,86	138	25/04/2014	663,21
101	03/03/2014	618,98	139	28/04/2014	650,32
102	04/03/2014	620,05	140	29/04/2014	645,25
103	05/03/2014	628	141	30/04/2014	647,67
104	06/03/2014	631	142	02/05/2014	646,25
105	07/03/2014	631,74	143	05/05/2014	648,25
106	10/03/2014	632,91	144	06/05/2014	647,04
107	11/03/2014	635,35	145	07/05/2014	651,73
108	12/03/2014	633,17	146	08/05/2014	652,8

No.	Date	Close	No.	Date	Close
147	09/05/2014	655,95	185	07/07/2014	679,41
148	12/05/2014	662,47	186	08/07/2014	683,29
149	13/05/2014	661,05	187	10/07/2014	692,85
150	14/05/2014	672,6	188	11/07/2014	679,85
151	16/05/2014	680,63	189	14/07/2014	679,71
152	19/05/2014	678,08	190	15/07/2014	688,2
153	20/05/2014	660,08	191	16/07/2014	694,49
154	21/05/2014	664,78	192	17/07/2014	685,93
155	22/05/2014	672,51	193	18/07/2014	689,79
156	23/05/2014	672,11	194	21/07/2014	697,11
157	26/05/2014	671,82	195	22/07/2014	692,33
158	28/05/2014	673,96	196	23/07/2014	692,14
159	30/05/2014	656,83	197	24/07/2014	692,46
160	02/06/2014	658,9	198	25/07/2014	690,4
161	03/06/2014	662,61	199	04/08/2014	701,23
162	04/06/2014	661,62	200	05/08/2014	697,15
163	05/06/2014	663,03	201	06/08/2014	687,88
164	06/06/2014	666,4	202	07/08/2014	690,39
165	09/06/2014	658,99	203	08/08/2014	686,73
166	10/06/2014	669,18	204	11/08/2014	697,35
167	11/06/2014	672,99	205	12/08/2014	700,19
168	12/06/2014	666,65	206	13/08/2014	707,38
169	13/06/2014	665,27	207	14/08/2014	703,81
170	16/06/2014	655,9	208	15/08/2014	701,44
171	17/06/2014	661,51	209	18/08/2014	702,47
172	18/06/2014	658,05	210	19/08/2014	701,37
173	19/06/2014	654,36	211	20/08/2014	706,22
174	20/06/2014	652,97	212	21/08/2014	707,44
175	23/06/2014	653,44	213	22/08/2014	704,21
176	24/06/2014	654,65	214	25/08/2014	701,09
177	25/06/2014	651,63	215	26/08/2014	696
178	26/06/2014	656,69	216	27/08/2014	698,91
179	27/06/2014	651,89	217	28/08/2014	701,52
180	30/06/2014	655	218	29/08/2014	691,13
181	01/07/2014	656,35	219	01/09/2014	699,5
182	02/07/2014	663,86	220	02/09/2014	703,05
183	03/07/2014	661,79	221	03/09/2014	707,22
184	04/07/2014	663,63	222	04/09/2014	702,23

No.	Date	Close	No.	Date	Close
223	05/09/2014	702,85	261	29/10/2014	667,8
224	08/09/2014	707,98	262	30/10/2014	666,81
225	09/09/2014	698,21	263	31/10/2014	670,44
226	10/09/2014	688,65	264	03/11/2014	670,19
227	11/09/2014	683,32	265	04/11/2014	664,45
228	12/09/2014	688,68	266	05/11/2014	665,43
229	15/09/2014	691,6	267	06/11/2014	662,14
230	16/09/2014	691	268	07/11/2014	654,02
231	17/09/2014	699,09	269	10/11/2014	649,65
232	18/09/2014	702,72	270	11/11/2014	661,68
233	19/09/2014	704,71	271	12/11/2014	663,92
234	22/09/2014	702,42	272	13/11/2014	665,7
235	23/09/2014	696,19	273	14/11/2014	665,84
236	24/09/2014	692,53	274	17/11/2014	668,51
237	25/09/2014	695	275	18/11/2014	675,76
238	26/09/2014	687,63	276	19/11/2014	678,64
239	29/09/2014	689,48	277	20/11/2014	672,59
240	30/09/2014	687,62	278	21/11/2014	677,52
241	01/10/2014	682,39	279	24/11/2014	686,49
242	02/10/2014	661,7	280	25/11/2014	680,1
243	03/10/2014	658,99	281	26/11/2014	681,6
244	06/10/2014	665,12	282	27/11/2014	684,71
245	07/10/2014	671,01	283	28/11/2014	683,02
246	08/10/2014	659,35	284	01/12/2014	685,4
247	09/10/2014	662,82	285	02/12/2014	685,92
248	10/10/2014	655,99	286	03/12/2014	681,74
249	13/10/2014	647,24	287	04/12/2014	686,69
250	14/10/2014	650,34	288	05/12/2014	688,28
251	15/10/2014	652,77	289	08/12/2014	680,77
252	16/10/2014	651,98	290	09/12/2014	678,71
253	17/10/2014	663,57	291	10/12/2014	682,72
254	20/10/2014	662,62	292	11/12/2014	679,66
255	21/10/2014	661,88	293	12/12/2014	680,39
256	22/10/2014	668,13	294	15/12/2014	674,28
257	23/10/2014	671,07	295	16/12/2014	663,39
258	24/10/2014	666,41	296	17/12/2014	661,6
259	27/10/2014	658,7	297	18/12/2014	675,49
260	28/10/2014	652,62	298	19/12/2014	679,18

No.	Date	Close	No.	Date	Close
299	29/12/2014	685,84	337	20/02/2015	715,36
300	30/12/2014	691,04	338	23/02/2015	718,39
301	31/12/2014	691,04	339	24/02/2015	720,43
302	02/01/2015	694,47	340	25/02/2015	727,44
303	05/01/2015	689,09	341	26/02/2015	727,37
304	06/01/2015	681,07	342	27/02/2015	722,1
305	07/01/2015	687,51	343	02/03/2015	728,61
306	08/01/2015	688,14	344	03/03/2015	730,2
307	09/01/2015	688,95	345	04/03/2015	723,39
308	12/01/2015	683,78	346	05/03/2015	722,09
309	13/01/2015	692,15	**347**	**06/03/2015**	**734,85**
310	14/01/2015	681,66	348	09/03/2015	724,65
311	15/01/2015	687,57	349	10/03/2015	725,85
312	16/01/2015	681,69	350	11/03/2015	720,53
313	19/01/2015	681,64	351	12/03/2015	723,77
314	20/01/2015	688,62	352	13/03/2015	723,68
315	21/01/2015	702,1	353	16/03/2015	725,35
316	22/01/2015	708,84	354	17/03/2015	724,68
317	23/01/2015	716,73	355	18/03/2015	718,32
318	26/01/2015	705,43	356	19/03/2015	724,86
319	27/01/2015	707,71	357	20/03/2015	721,67
320	28/01/2015	706,09	358	23/03/2015	721
321	29/01/2015	703,1	359	24/03/2015	721,5
322	30/01/2015	706,68	360	25/03/2015	711,03
323	02/02/2015	701,5	361	26/03/2015	703,48
324	03/02/2015	704,64	362	27/03/2015	709,98
325	04/02/2015	708,72	363	30/03/2015	720,5
326	05/02/2015	700,4	364	31/03/2015	728,2
327	06/02/2015	711,52	365	01/04/2015	718,59
328	09/02/2015	710,89	366	02/04/2015	716,8
329	10/02/2015	707,01	367	06/04/2015	720,87
330	11/02/2015	712,14	368	07/04/2015	727,56
331	12/02/2015	713,98	369	08/04/2015	719,99
332	13/02/2015	721,53	370	09/04/2015	723,85
333	16/02/2015	709,6	371	10/04/2015	722,08
334	17/02/2015	714,34	372	13/04/2015	717,43
335	18/02/2015	718,68	373	14/04/2015	711,11
336	19/02/2015	718,68	374	15/04/2015	711,09

No.	Date	Close	No.	Date	Close
375	16/04/2015	710,41	413	11/06/2015	666,6
376	17/04/2015	709,33	414	12/06/2015	665,66
377	20/04/2015	704,25	415	15/06/2015	648,04
378	21/04/2015	717,98	416	16/06/2015	653,03
379	22/04/2015	716,12	417	17/06/2015	660,82
380	23/04/2015	718,85	418	18/06/2015	665,06
381	24/04/2015	723,29	419	19/06/2015	666,82
382	27/04/2015	698,24	420	22/06/2015	661,64
383	28/04/2015	701,08	421	23/06/2015	657,11
384	29/04/2015	674,87	422	24/06/2015	666,37
385	30/04/2015	664,8	423	25/06/2015	659,79
386	01/05/2015	664,8	424	26/06/2015	658,85
387	04/05/2015	679,16	425	29/06/2015	652,82
388	05/05/2015	686,25	426	30/06/2015	656,99
389	06/05/2015	692,3	427	01/07/2015	654,81
390	07/05/2015	685,97	428	02/07/2015	662,42
391	08/05/2015	696,7	429	03/07/2015	670,93
392	11/05/2015	696,16	430	06/07/2015	661,37
393	12/05/2015	696,95	431	07/07/2015	657,72
394	13/05/2015	706,03	432	08/07/2015	653,25
395	15/05/2015	708,85	433	09/07/2015	645,59
396	18/05/2015	708,51	434	10/07/2015	648,74
397	19/05/2015	711,75	435	13/07/2015	654,82
398	20/05/2015	714,8	436	14/07/2015	655,9
399	21/05/2015	712,28	437	15/07/2015	653,65
400	22/05/2015	711,77	438	22/07/2015	658,39
401	25/05/2015	711,27	439	23/07/2015	656,34
402	26/05/2015	719,3	440	24/07/2015	646,94
403	27/05/2015	707,77	441	27/07/2015	632,14
404	28/05/2015	707,16	442	28/07/2015	628,63
405	29/05/2015	698,07	443	29/07/2015	629,1
406	01/06/2015	700,65	444	30/07/2015	628,9
407	03/06/2015	692,4	445	31/07/2015	641,97
408	04/06/2015	685,29	446	03/08/2015	636,99
409	05/06/2015	684,75	447	04/08/2015	634,22
410	08/06/2015	672,87	448	05/08/2015	644,25
411	09/06/2015	655,7	449	06/08/2015	634,64
412	10/06/2015	664,75	450	07/08/2015	631,77

No.	Date	Close	No.	Date	Close
451	10/08/2015	628,83	489	05/10/2015	576,34
452	11/08/2015	607,75	490	06/10/2015	596,68
453	12/08/2015	585,32	491	07/10/2015	602,55
454	13/08/2015	605,3	492	08/10/2015	601,15
455	14/08/2015	606,41	493	09/10/2015	615,43
456	18/08/2015	597,19	494	12/10/2015	619,08
457	19/08/2015	592,13	495	13/10/2015	592,98
458	20/08/2015	587,99	496	15/10/2015	599,48
459	21/08/2015	572,01	497	16/10/2015	602,01
460	24/08/2015	544,39	498	19/10/2015	612,11
461	25/08/2015	554,87	499	20/10/2015	612,84
462	26/08/2015	553,09	500	21/10/2015	616,93
463	27/08/2015	585,17	501	22/10/2015	611,34
464	28/08/2015	586,09	502	23/10/2015	620,24
465	31/08/2015	598,28	503	26/10/2015	623,61
466	01/09/2015	584,1	504	27/10/2015	620,94
467	02/09/2015	582,66	505	28/10/2015	610,9
468	03/09/2015	590,89	506	29/10/2015	586,97
469	04/09/2015	589,14	507	30/10/2015	586,1
470	07/09/2015	565,33	508	02/11/2015	593,58
471	08/09/2015	567,34	509	03/11/2015	599,47
472	09/09/2015	574,99	510	04/11/2015	610,47
473	10/09/2015	577,06	511	05/11/2015	605,23
474	11/09/2015	584,9	512	06/11/2015	603,79
475	14/09/2015	591,68	513	09/11/2015	591,37
476	15/09/2015	580,28	514	10/11/2015	582,21
477	16/09/2015	577,07	515	11/11/2015	584,88
478	17/09/2015	584,43	516	12/11/2015	582,48
479	18/09/2015	584,84	517	13/11/2015	587,55
480	21/09/2015	583,28	518	16/11/2015	581,53
481	22/09/2015	576,16	519	17/11/2015	589,3
482	23/09/2015	561,53	520	18/11/2015	593,79
483	25/09/2015	557,23	521	19/11/2015	596,86
484	**28/09/2015**	**542**	522	20/11/2015	604,54
485	29/09/2015	554,43	523	23/11/2015	595,6
486	30/09/2015	556,09	524	24/11/2015	594,88
487	01/10/2015	563,06	525	25/11/2015	599,28
488	02/10/2015	553,87	526	26/11/2015	601,79

No.	Date	Close	No.	Date	Close
527	27/11/2015	601,04	565	27/01/2016	605,23
528	30/11/2015	579,8	566	28/01/2016	607,75
529	01/12/2015	598,03	567	29/01/2016	612,75
530	02/12/2015	596,9	568	01/02/2016	611,1
531	03/12/2015	596,57	569	02/02/2016	603,72
532	04/12/2015	592,9	570	03/02/2016	610,23
533	07/12/2015	595,72	571	04/02/2016	621,98
534	08/12/2015	582,21	572	05/02/2016	642,55
535	10/12/2015	578,3	573	09/02/2016	636,13
536	11/12/2015	565,09	574	10/02/2016	634,17
537	14/12/2015	565,63	575	11/02/2016	643,98
538	15/12/2015	573,18	576	12/02/2016	630,49
539	16/12/2015	583,17	577	15/02/2016	633,97
540	17/12/2015	600,52	578	16/02/2016	635,29
541	18/12/2015	588,22	579	17/02/2016	638,29
542	21/12/2015	591,69	580	18/02/2016	641,42
543	22/12/2015	595,6	581	19/02/2016	631,06
544	23/12/2015	593,25	582	22/02/2016	631,76
545	28/12/2015	597,28	583	23/02/2016	623,53
546	29/12/2015	599,44	584	24/02/2016	620,82
547	30/12/2015	603,35	585	25/02/2016	623,93
548	04/01/2016	592,11	586	26/02/2016	636,62
549	05/01/2016	597,26	587	29/02/2016	641,86
550	06/01/2016	612,22	588	01/03/2016	648,92
551	07/01/2016	599,38	589	02/02/2016	660
552	08/01/2016	600,48	590	03/03/2016	657,37
553	11/01/2016	586,71	591	04/03/2016	654,52
554	12/01/2016	596,04	592	07/03/2016	650,56
555	13/01/2016	601,86	593	08/03/2016	648,36
556	14/01/2016	594,12	594	10/03/2016	649,18
557	15/01/2016	594,64	595	11/03/2016	653,01
558	18/01/2016	587,5	596	14/03/2016	665,47
559	19/01/2016	592,4	597	15/03/2016	658,03
560	20/01/2016	582,8	598	16/03/2016	661,67
561	21/01/2016	581,78	599	17/03/2016	668,14
562	22/01/2016	590,67	600	18/03/2016	669,3
563	25/01/2016	595,41	601	21/03/2016	668,26
564	26/01/2016	594,95	602	22/03/2016	664,19

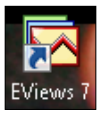
603	23/03/2016	656,99
604	24/03/2016	653,18
605	28/03/2016	646,07
606	29/03/2016	645
607	30/03/2016	650,67
608	31/03/2016	652,69
MAX		**734,85**
MIN		**542**

Lampiran 2

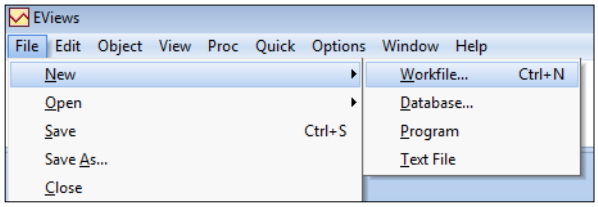
Langkah-langkah mendapatkan output uji stasioneritas dengan bantuan *software* EViews:

Disini kita memakai contoh pada data pertama

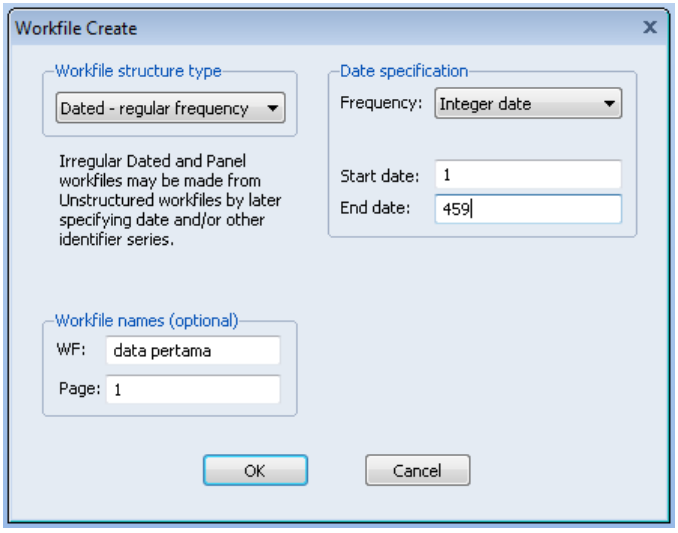
1. Buka aplikasi E-Views 7!



2. Klik File ⇨ New ⇨ Workfile...



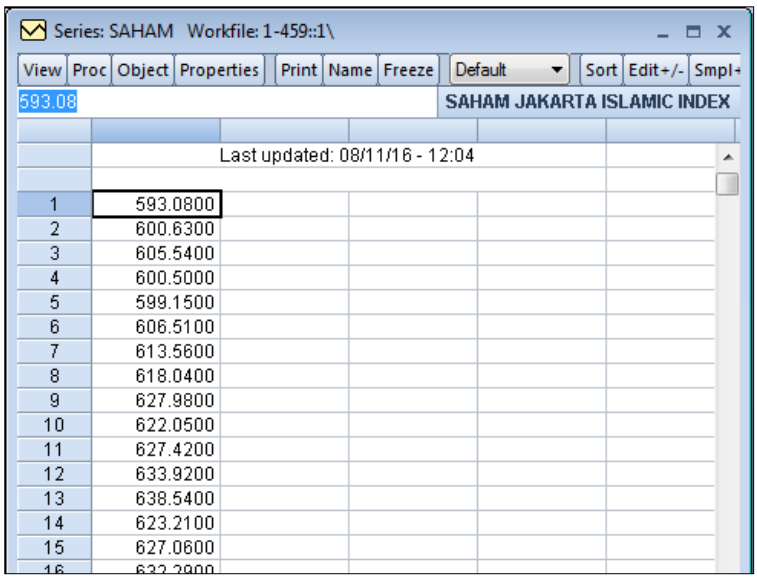
3. Pada "Workfile structure type" klik "Dated-reguler frequency" dan pada "Date specification-Frequency" klik "Integer date". Kita akan menguji data pertama dari 1-459 sehingga isi start-end date seperti pada gambar dibawah ini. Isi "WF" dengan nama file yang akan disimpan, misalkan "data pertama" dan isi "Page" dengan "1" karena kita hanya akan mengolah 1 data. Selanjutnya klik "OK".



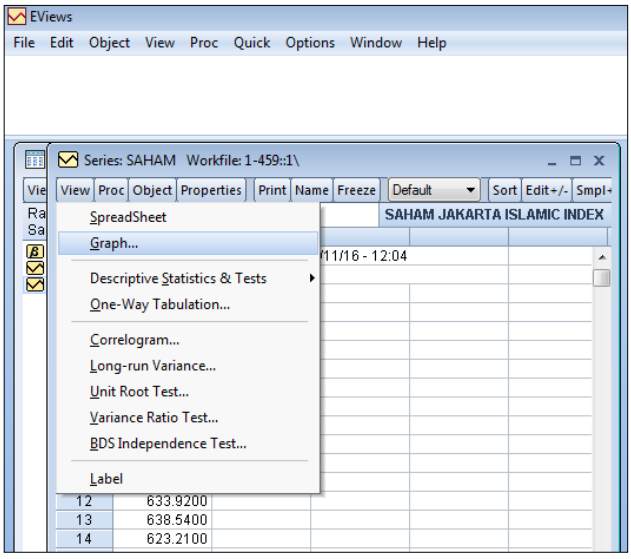
4. Isi data dengan cara, klik Object ⇨ New Object ⇨ type of object:series name:saham

Pada objek baru dengan nama “saham” klik 2x ➡ klik edit +/- ➡ copy – paste data ➡ Klik “SAVE” ➡ Klik “OK”

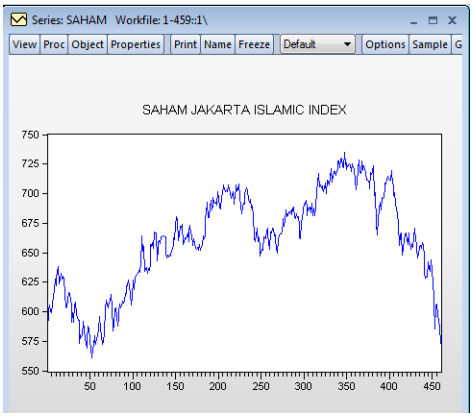
Sehingga akan tampak seperti gambar berikut ini:



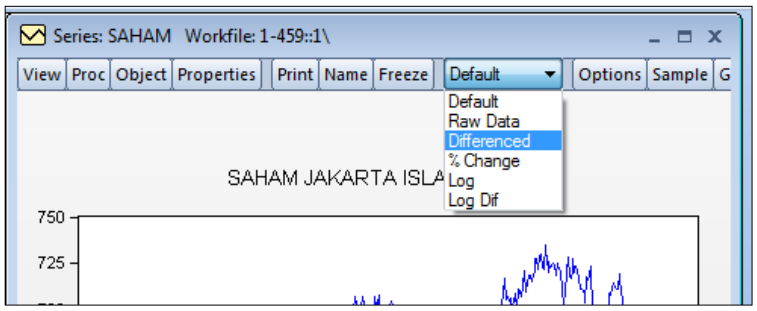
5. Disini kita akan melihat plot data apakah stasioner ataukah tidak.
   a. Klik View ➡ Graph... ➡ OK



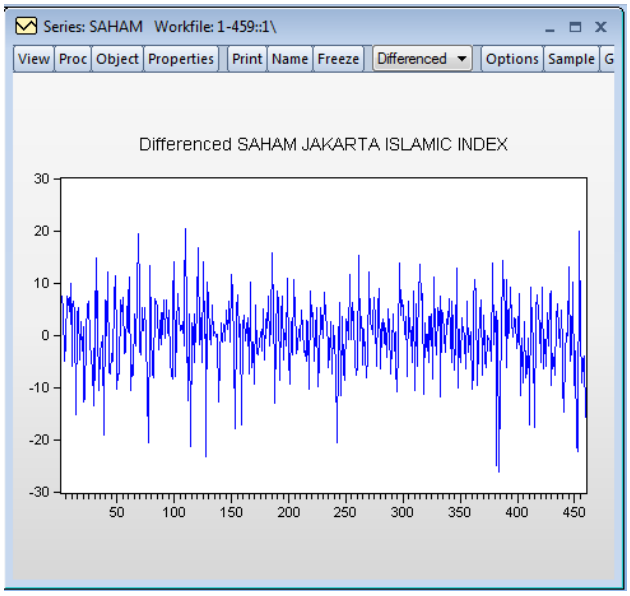
b. Sehingga akan muncul



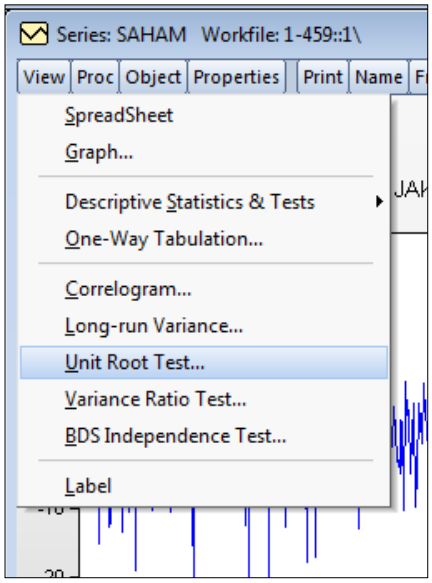
c. Karena plot menunjukkan data tidak stasioner maka data akan kita *differencing* dengan cara klik "Differenced"



d. Sehingga akan muncul



6. Dari hasil plot data setelah *differencing* adalah stasioner, selanjutnya kita perlu menguji stasioneritas juga dengan unit root test, caranya klik View ⇨ Unit Root Test...⇨ Level ⇨ OK



Sehingga akan diperoleh hasil

Augmented Dickey-Fuller Unit Root Test on SAHAM

Null Hypothesis: SAHAM has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=17)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.588752	0.4875
Test critical values:	1% level	-3.444404	
	5% level	-2.867631	
	10% level	-2.570077	

*MacKinnon (1996) one-sided p-values.

Karena nilai *test critical values* pada tingkat 1%, 5%, 10% < nilai ADF, maka H_0 diterima, dengan kata lain data mengandung unit root atau data tidak stasioner dan dengan tingkat kepercayaan 95% diperoleh nilai Probabilitas adalah 0,4875 > 0,05, sehingga H_0 diterima dalam kata lain data mengandung *unit root* atau data tidak stasioner.

Agar data stasioner maka kita coba *differencing*, caranya adalah klik View ➡ Unit Root Test... ➡ 1st difference ➡ OK. Sehingga akan muncul hasil output sebagai berikut:

Null Hypothesis: D(SAHAM) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=17)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-21.33295	0.0000
Test critical values:	1% level	-3.444436	
	5% level	-2.867645	
	10% level	-2.570085	

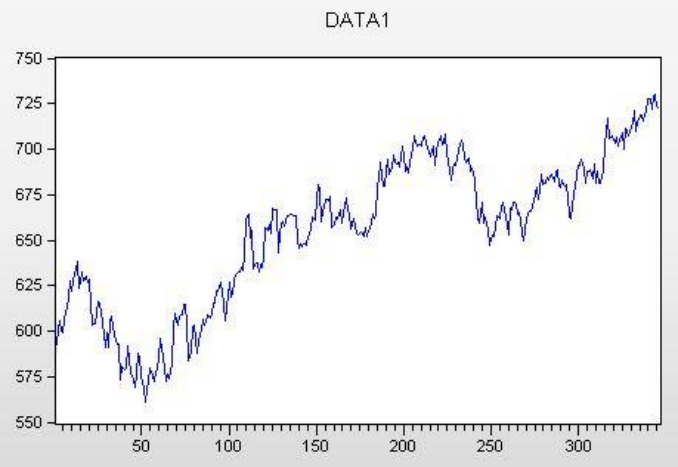
*MacKinnon (1996) one-sided p-values.

Karena nilai *test critical values* pada tingkat 1%, 5%, 10% > nilai ADF, maka H_0 ditolak, dengan kata lain data tidak mengandung *unit root* atau data stasioner dan dengan tingkat kepercayaan 95% diperoleh nilai Probabilitas adalah 0,0000 < 0,05, sehingga H_0 ditolak dalam kata lain data tidak mengandung *unit root* atau data stasioner.

7. Berikut adalah hasil output uji stasioneritas dari data pertama sampai dengan data ketiga:

Output Uji Stasioneritas

1. Data pertama
   a. Grafik sebelum *differencing*



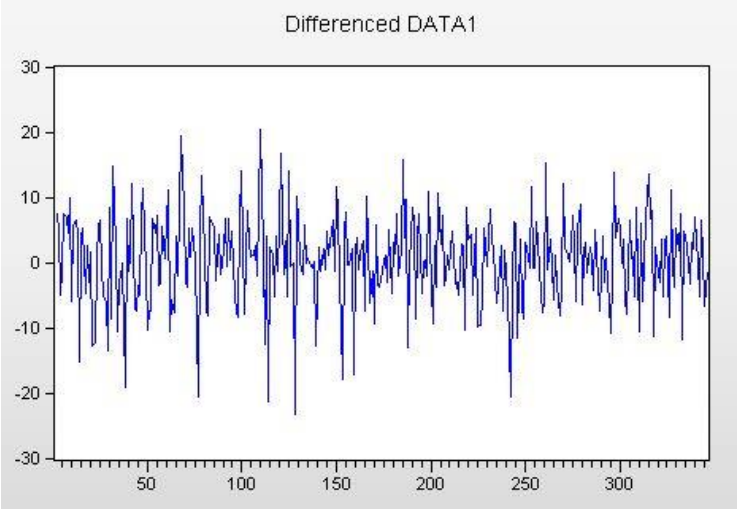
Unit root test sebelum *differencing*

Null Hypothesis: DATA1 has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=16)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.475839	0.5449
Test critical values:	1% level	-3.449108	
	5% level	-2.869701	
	10% level	-2.571187	

*MacKinnon (1996) one-sided p-values.

   b. Grafik setelah *differencing* ke-1



Unit root test setelah *differencing* ke-1

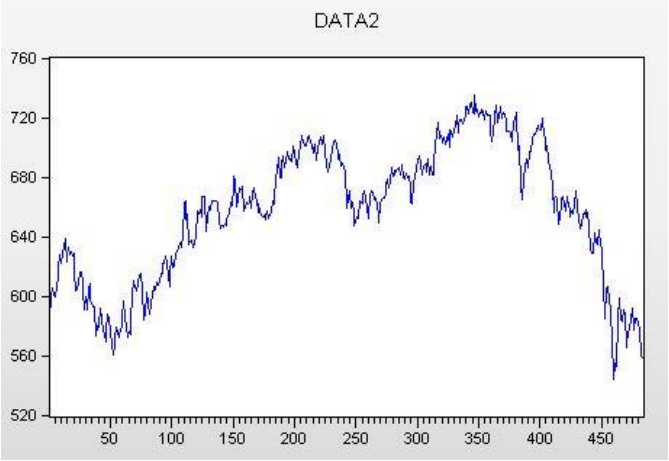
Null Hypothesis: D(DATA1) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=16)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-18.77193	0.0000
Test critical values:	1% level	-3.449164	
	5% level	-2.869726	
	10% level	-2.571200	

*MacKinnon (1996) one-sided p-values.

2. Data kedua

a. Grafik sebelum *differencing*



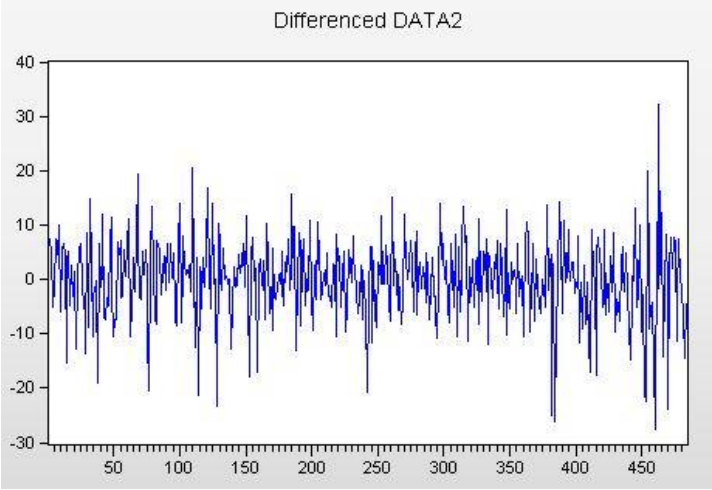
Unit root test sebelum *differencing*

Null Hypothesis: DATA2 has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=17)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.450736	0.5579
Test critical values:	1% level	-3.443691	
	5% level	-2.867317	
	10% level	-2.569909	

*MacKinnon (1996) one-sided p-values.

b. Grafik setelah *differencing* ke-1



Unit root test setelah *differencing* ke-1

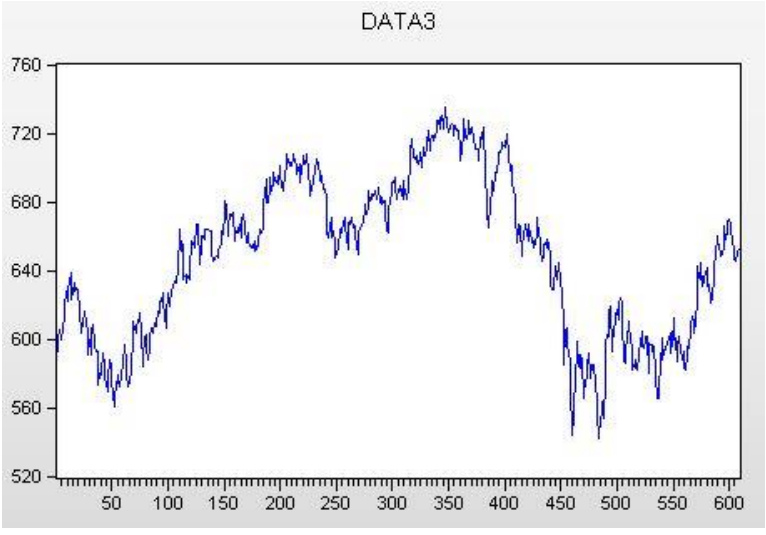
Null Hypothesis: D(DATA2) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=17)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-21.86555	0.0000
Test critical values:	1% level	-3.443719	
	5% level	-2.867329	
	10% level	-2.569916	

*MacKinnon (1996) one-sided p-values.

3. Data ketiga

a. Grafik sebelum *differencing*



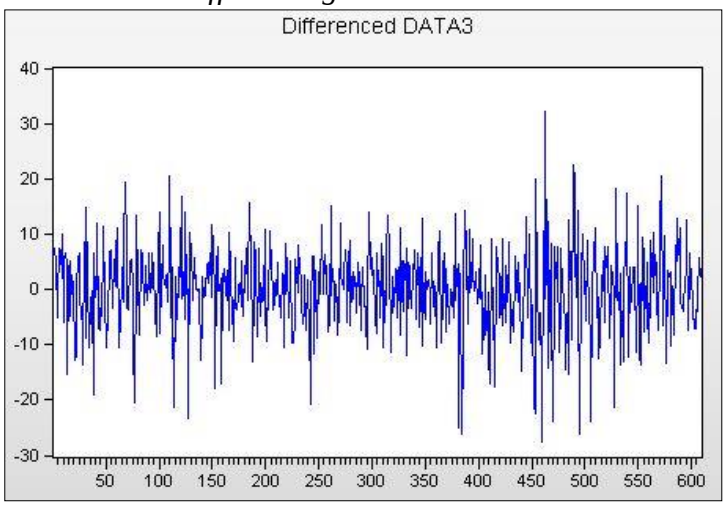
Unit root test sebelum *differencing*

Null Hypothesis: DATA3 has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.245239	0.1906
Test critical values:	1% level	-3.440894	
	5% level	-2.866083	
	10% level	-2.569248	

*MacKinnon (1996) one-sided p-values.

b. Grafik setelah *differencing* ke-1



Unit root test setelah *differencing* ke-1

Null Hypothesis: D(DATA3) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=18)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-24.66446	0.0000
Test critical values:	1% level	-3.440911	
	5% level	-2.866091	
	10% level	-2.569252	

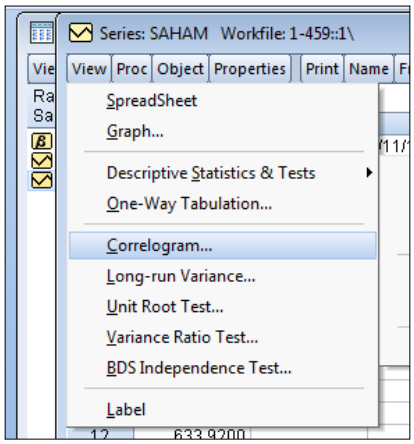
*MacKinnon (1996) one-sided p-values.

Lampiran 3

Langkah-langkah mendapatkan output korelogram model ARIMA(p,d,q) dengan bantuan *software* EViews:

Disini kita memakai contoh pada data pertama, melanjutkan tahapan pada lampiran 2

1. Klik View ➡ Correlogram... ➡ 1st difference ➡ OK



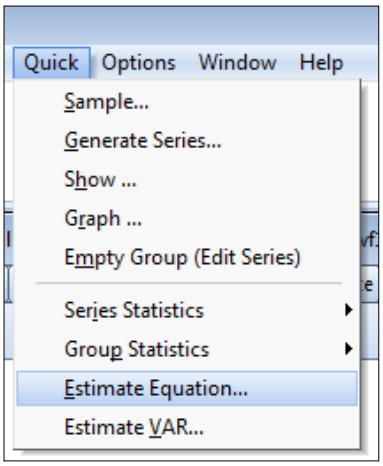
2. Sehingga akan diperoleh output *correlogram* ketika identifikasi model sebagai

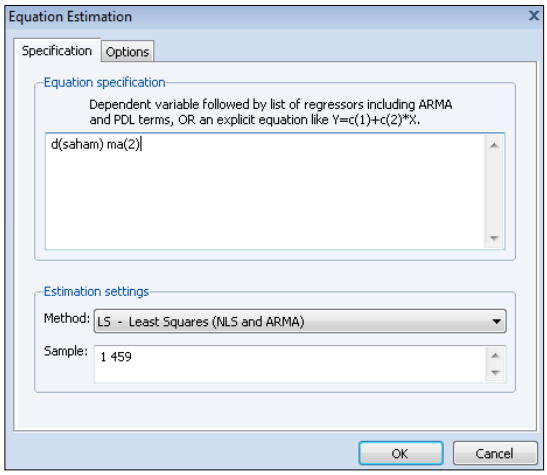
Date: 08/24/16 Time: 04:27
Sample: 1 459
Included observations: 458

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.004	-0.004	0.0082	0.928
		2	-0.097	-0.097	4.3902	0.111
		3	-0.064	-0.065	6.2760	0.099
		4	-0.027	-0.038	6.6038	0.158
		5	-0.016	-0.030	6.7234	0.242
		6	0.046	0.035	7.7052	0.261
		7	-0.004	-0.011	7.7109	0.359
		8	-0.006	-0.002	7.7254	0.461
		9	-0.001	0.001	7.7259	0.562
		10	0.024	0.025	8.0044	0.628

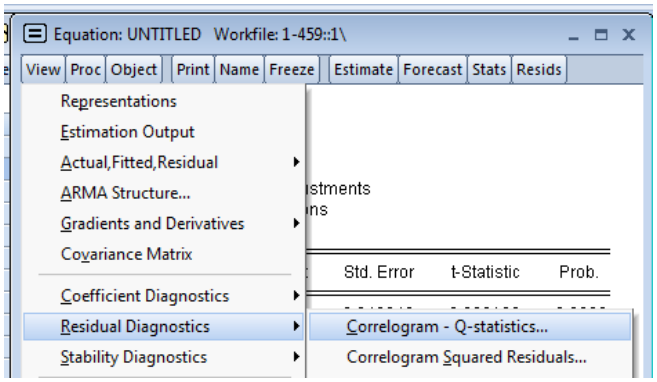
3. Berikut adalah cara untuk mendapatkan output *correlogram* residual untuk uji independensi:

Setelah mendapatkan model terbaik, kita dapat mencari residualnya. Pada data pertama, liat lampiran 4 kita peroleh model terbaiknya ARIMA(0,1,2) sehingga Klik Quick ➡ Estimate Equation... ➡ pada Estimate Specification ketik d(saham) ma(2) dengan method: LS ➡ OK

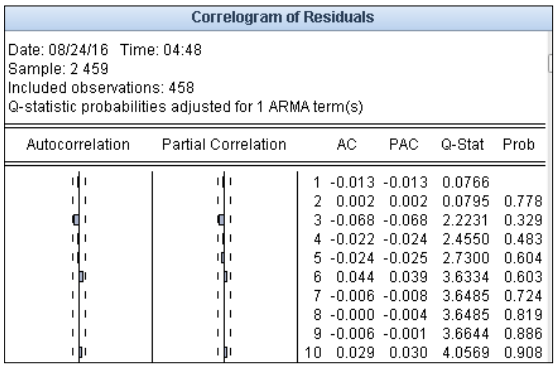




4. Klik View ➡ Residual Diagnostics➡ Correlogram – Q-statictics...



Sehingga akan muncul



Correlogram of Residuals

Date: 08/24/16 Time: 04:48
Sample: 2 459
Included observations: 458
Q-statistic probabilities adjusted for 1 ARMA term(s)

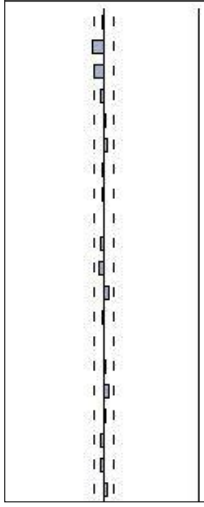
Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.013	-0.013	0.0766	
		2	0.002	0.002	0.0795	0.778
		3	-0.068	-0.068	2.2231	0.329
		4	-0.022	-0.024	2.4550	0.483
		5	-0.024	-0.025	2.7300	0.604
		6	0.044	0.039	3.6334	0.603
		7	-0.006	-0.008	3.6485	0.724
		8	-0.000	-0.004	3.6485	0.819
		9	-0.006	-0.001	3.6644	0.886
		10	0.029	0.030	4.0569	0.908

Berikut adalah hasil *correlogram* data pertama sampai dengan data ketiga:

Output Korelogram

1. Data pertama
   a. *Correlogram* ketika identifikasi model

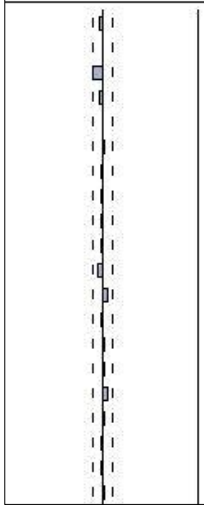
Date: 09/01/16 Time: 10:15
Sample: 1 346
Included observations: 345



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.013	-0.013	0.0628	0.802
		2	-0.133	-0.133	6.2268	0.044
		3	-0.099	-0.105	9.6827	0.021
		4	-0.039	-0.063	10.225	0.037
		5	0.019	-0.012	10.353	0.066
		6	0.029	0.005	10.653	0.100
		7	-0.010	-0.019	10.689	0.153
		8	-0.011	-0.009	10.734	0.217
		9	-0.005	-0.006	10.743	0.294
		10	-0.028	-0.033	11.028	0.355
		11	-0.053	-0.062	12.035	0.361
		12	0.060	0.047	13.333	0.345
		13	-0.012	-0.032	13.385	0.419
		14	-0.000	-0.002	13.385	0.496
		15	0.011	0.010	13.427	0.569
		16	0.061	0.067	14.796	0.540
		17	0.020	0.027	14.941	0.600
		18	-0.033	-0.016	15.346	0.638
		19	-0.029	-0.010	15.655	0.680
		20	0.025	0.029	15.894	0.723

   b. Output Pengujian Independensi
   Correlogram residual ARIMA(0,1,2)

Date: 09/01/16 Time: 22:52
Sample: 2 346
Included observations: 345
Q-statistic probabilities adjusted for 1 ARMA term(s)



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.033	-0.033	0.3693	
		2	0.001	0.000	0.3698	0.543
		3	-0.104	-0.104	4.1268	0.127
		4	-0.036	-0.043	4.5765	0.206
		5	0.003	-0.000	4.5790	0.333
		6	0.022	0.012	4.7563	0.446
		7	-0.011	-0.019	4.8023	0.569
		8	-0.011	-0.013	4.8449	0.679
		9	-0.015	-0.012	4.9208	0.766
		10	-0.022	-0.025	5.0890	0.826
		11	-0.058	-0.064	6.2765	0.792
		12	0.060	0.052	7.5551	0.753
		13	-0.018	-0.020	7.6752	0.810
		14	0.016	0.000	7.7646	0.859
		15	0.011	0.019	7.8094	0.899
		16	0.061	0.064	9.1425	0.870
		17	0.019	0.024	9.2701	0.902
		18	-0.023	-0.022	9.4605	0.925
		19	-0.023	-0.010	9.6469	0.943
		20	0.015	0.022	9.7265	0.959

Correlogram residual ARIMA(1,1,1)

Date: 09/01/16 Time: 22:58
Sample: 3 346
Included observations: 344
Q-statistic probabilities adjusted for 2 ARMA term(s)

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.054	0.054	1.0183	
		2	-0.077	-0.080	3.0638	
		3	-0.064	-0.056	4.4882	0.034
		4	-0.019	-0.019	4.6154	0.099
		5	0.032	0.025	4.9646	0.174
		6	0.039	0.030	5.4935	0.240
		7	-0.001	-0.002	5.4936	0.359
		8	-0.001	0.008	5.4937	0.482
		9	-0.000	0.004	5.4937	0.600
		10	-0.021	-0.021	5.6513	0.686
		11	-0.040	-0.040	6.2233	0.717
		12	0.070	0.071	7.9791	0.631
		13	-0.002	-0.018	7.9804	0.715
		14	0.011	0.018	8.0269	0.783
		15	0.026	0.031	8.2795	0.825
		16	0.072	0.078	10.172	0.750
		17	0.035	0.032	10.616	0.779
		18	-0.016	-0.010	10.716	0.827
		19	-0.011	0.006	10.759	0.869
		20	0.035	0.038	11.208	0.885
		21	0.034	0.023	11.647	0.900
		22	-0.057	-0.064	12.862	0.883
		23	-0.025	-0.006	13.094	0.905
		24	0.037	0.031	13.592	0.915

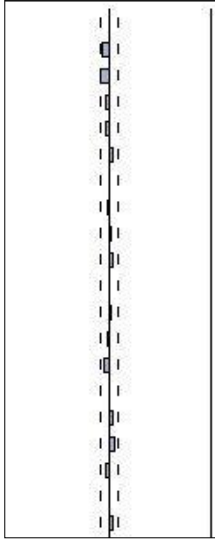
Correlogram residual ARIMA(2,1,0)

Date: 09/01/16 Time: 22:56
Sample: 4 346
Included observations: 343
Q-statistic probabilities adjusted for 1 ARMA term(s)

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.030	-0.030	0.3085	
		2	-0.009	-0.009	0.3337	0.564
		3	-0.104	-0.105	4.0942	0.129
		4	-0.059	-0.066	5.3109	0.150
		5	0.001	-0.006	5.3110	0.257
		6	0.018	0.006	5.4274	0.366
		7	-0.011	-0.024	5.4725	0.485
		8	-0.011	-0.016	5.5127	0.598
		9	-0.018	-0.017	5.6261	0.689
		10	-0.027	-0.031	5.8835	0.752
		11	-0.055	-0.064	6.9788	0.727
		12	0.064	0.054	8.4612	0.671
		13	-0.020	-0.026	8.6114	0.736
		14	0.015	-0.002	8.6936	0.796
		15	0.014	0.019	8.7631	0.846
		16	0.059	0.064	10.038	0.817
		17	0.020	0.024	10.183	0.857
		18	-0.020	-0.017	10.328	0.889
		19	-0.014	0.001	10.396	0.918
		20	0.020	0.031	10.545	0.938
		21	0.025	0.024	10.769	0.952
		22	-0.064	-0.068	12.290	0.931
		23	-0.021	-0.013	12.459	0.947
		24	0.027	0.032	12.736	0.957

2. Data kedua
   a. *Correlogram* ketika identifikasi model

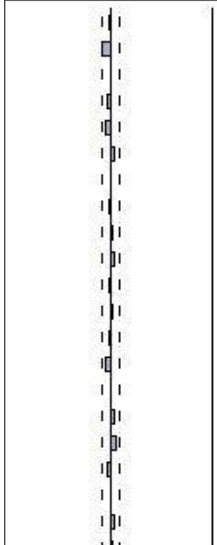
Date: 09/01/16 Time: 18:06
Sample: 1 483
Included observations: 482



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	0.002	0.002	0.0014	0.971
		2	-0.081	-0.081	3.1612	0.206
		3	-0.096	-0.096	7.6153	0.055
		4	-0.027	-0.035	7.9834	0.092
		5	-0.047	-0.064	9.0834	0.106
		6	0.033	0.018	9.6134	0.142
		7	0.004	-0.012	9.6195	0.211
		8	-0.016	-0.024	9.7444	0.283
		9	0.009	0.009	9.7810	0.369
		10	0.039	0.034	10.514	0.397
		11	-0.004	-0.003	10.523	0.484
		12	0.013	0.020	10.609	0.563
		13	-0.019	-0.014	10.796	0.628
		14	-0.057	-0.052	12.397	0.574
		15	-0.000	0.002	12.397	0.649
		16	0.038	0.024	13.107	0.665
		17	0.048	0.041	14.265	0.648
		18	-0.041	-0.040	15.108	0.655
		19	-0.002	0.005	15.109	0.716
		20	0.029	0.036	15.530	0.745

   b. Output pengujian independensi dengan *correlogram* residual ARIMA(0,1,3)

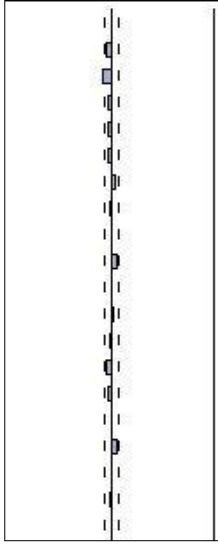
Date: 09/01/16 Time: 22:48
Sample: 2 483
Included observations: 482
Q-statistic probabilities adjusted for 1 ARMA term(s)



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.009	-0.009	0.0384	
		2	-0.087	-0.087	3.7326	0.053
		3	-0.003	-0.004	3.7358	0.154
		4	-0.028	-0.036	4.1313	0.248
		5	-0.058	-0.059	5.7531	0.218
		6	0.034	0.027	6.3174	0.277
		7	0.005	-0.005	6.3283	0.387
		8	-0.022	-0.019	6.5755	0.474
		9	0.013	0.009	6.6531	0.574
		10	0.038	0.034	7.3722	0.598
		11	-0.011	-0.005	7.4282	0.684
		12	0.014	0.019	7.5311	0.755
		13	-0.012	-0.014	7.6052	0.815
		14	-0.054	-0.047	9.0433	0.770
		15	-0.004	-0.004	9.0508	0.828
		16	0.036	0.025	9.6936	0.839
		17	0.047	0.048	10.784	0.823
		18	-0.041	-0.040	11.618	0.823
		19	-0.005	-0.004	11.632	0.866
		20	0.034	0.032	12.220	0.876
		21	0.009	0.015	12.263	0.907
		22	-0.072	-0.069	14.884	0.829
		23	0.006	0.002	14.904	0.866
		24	0.035	0.033	15.541	0.874

3. Data ketiga
   a. *Correlogram* ketika identifikasi model

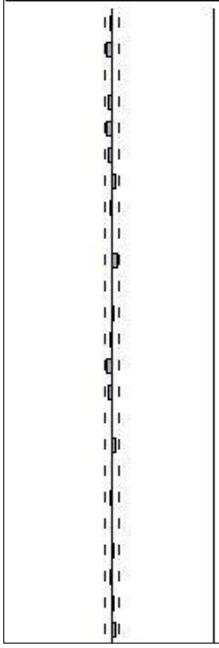
Date: 09/01/16 Time: 18:14
Sample: 1 608
Included observations: 607



Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.003	-0.003	0.0050	0.943
		2	-0.058	-0.058	2.0587	0.357
		3	-0.094	-0.095	7.4621	0.059
		4	-0.036	-0.041	8.2512	0.083
		5	-0.043	-0.056	9.4114	0.094
		6	-0.030	-0.046	9.9694	0.126
		7	0.036	0.022	10.766	0.149
		8	-0.017	-0.032	10.938	0.205
		9	-0.004	-0.012	10.946	0.279
		10	0.041	0.039	11.996	0.285
		11	0.004	-0.002	12.006	0.363
		12	0.013	0.017	12.108	0.437
		13	-0.023	-0.015	12.436	0.492
		14	-0.056	-0.056	14.399	0.420
		15	-0.026	-0.023	14.829	0.464
		16	-0.001	-0.009	14.830	0.537
		17	0.043	0.027	16.009	0.523
		18	-0.003	-0.011	16.014	0.592
		19	-0.022	-0.028	16.309	0.637
		20	0.002	0.001	16.313	0.697

   b. Output pengujian independensi dengan *correlogram* residual ARIMA(0,1,3)

Date: 09/01/16 Time: 23:02
Sample: 2 608
Included observations: 607
Q-statistic probabilities adjusted for 1 ARMA term(s)



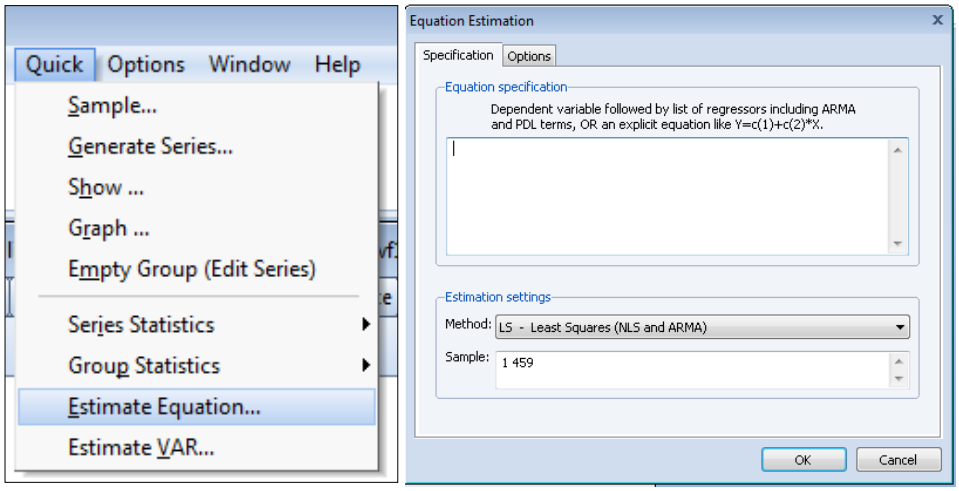
Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob
		1	-0.013	-0.013	0.0987	
		2	-0.064	-0.065	2.6350	0.105
		3	0.004	0.002	2.6428	0.267
		4	-0.033	-0.038	3.3300	0.343
		5	-0.052	-0.053	4.9960	0.288
		6	-0.030	-0.037	5.5607	0.351
		7	0.037	0.029	6.4024	0.380
		8	-0.022	-0.027	6.7076	0.460
		9	-0.006	-0.006	6.7269	0.566
		10	0.043	0.035	7.8692	0.547
		11	-0.004	-0.004	7.8775	0.641
		12	0.010	0.015	7.9346	0.719
		13	-0.019	-0.020	8.1599	0.773
		14	-0.053	-0.053	9.8892	0.703
		15	-0.026	-0.025	10.303	0.740
		16	-0.005	-0.010	10.321	0.799
		17	0.039	0.032	11.266	0.793
		18	-0.004	-0.007	11.276	0.842
		19	-0.024	-0.029	11.637	0.865
		20	0.008	0.000	11.676	0.899
		21	0.015	0.015	11.810	0.922
		22	-0.019	-0.017	12.031	0.939
		23	0.014	0.015	12.147	0.954
		24	0.037	0.033	13.001	0.952

Lampiran 4

Langkah-langkah mendapatkan output estimasi parameter model ARIMA(p,d,q) dengan bantuan *software* EViews:

Disini kita memakai contoh pada data pertama, melanjutkan tahapan pada lampiran 3 (*correlogram* ketika identifikasi model)

1. Klik Quick ⇨ Estimate Equation... ⇨ pada Estimate Specification ketik (*) dengan method: LS ⇨ OK



Karena akan di coba model ARIMA (p,d,q) yaitu ARIMA(1,1,0), ARIMA(2,1,0), ARIMA (0,1,1), ARIMA(0,1,2), ARIMA(1,1,1), ARIMA(1,1,2), ARIMA(2,1,1) dan ARIMA(2,1,2) maka pada equation specification ketik (*):

a. ARIMA(1,1,0) tanpa konstanta = d(saham) ar(1)
   ARIMA(1,1,0) dengan konstanta = d(saham) c ar(1)
b. ARIMA(2,1,0) tanpa konstanta = d(saham) ar(2)
   ARIMA(2,1,0) dengan konstanta = d(saham) c ar(2)
c. ARIMA(0,1,1) tanpa konstanta = d(saham) ma(1)
   ARIMA(0,1,1) dengan konstanta = d(saham) c ma(1)
d. ARIMA(0,1,2) tanpa konstanta = d(saham) ma(2)
   ARIMA(0,1,2) dengan konstanta = d(saham) c ma(2)
e. ARIMA(1,1,1) tanpa konstanta = d(saham) ar(1) ma(1)

	ARIMA(1,1,1) dengan konstanta	= d(saham) c ar(1) ma(1)
f.	ARIMA(1,1,2) tanpa konstanta	= d(saham) ar(1) ma(2)
	ARIMA(1,1,2) dengan konstanta	= d(saham) c ar(1) ma(2)
g.	ARIMA(2,1,1) tanpa konstanta	= d(saham) ar(2) ma(1)
	ARIMA(2,1,1) dengan konstanta	= d(saham) c ar(2) ma(1)
h.	ARIMA(2,1,2) tanpa konstanta	= d(saham) ar(2) ma(2)
	ARIMA(2,1,2) dengan konstanta	= d(saham) c ar(2) ma(2)

Lanjutkan dengan langkah yang sama pula pada data kedua dan ketiga sehingga akan diperoleh input sebagai berikut:

Output Estimasi Parameter Model ARIMA(p,d,q)

1. Data pertama

ARIMA(1,1,0) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 10:19
Sample (adjusted): 3 346
Included observations: 344 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	-0.010549	0.053899	-0.195718	0.8449

R-squared	-0.002559	Mean dependent var	0.353081
Adjusted R-squared	-0.002559	S.D. dependent var	6.842191
S.E. of regression	6.850939	Akaike info criterion	6.689551
Sum squared resid	16098.83	Schwarz criterion	6.700716
Log likelihood	-1149.603	Hannan-Quinn criter.	6.693998
Durbin-Watson stat	2.005763		

Inverted AR Roots	-.01

ARIMA(2,1,0) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 10:22
Sample (adjusted): 4 346
Included observations: 343 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	-0.129981	0.053559	-2.426867	0.0157

R-squared	0.014502	Mean dependent var	0.339796
Adjusted R-squared	0.014502	S.D. dependent var	6.847742
S.E. of regression	6.797907	Akaike info criterion	6.674018
Sum squared resid	15804.35	Schwarz criterion	6.685207
Log likelihood	-1143.594	Hannan-Quinn criter.	6.678475
Durbin-Watson stat	2.051462		

ARIMA(3,1,0) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 10:23
Sample (adjusted): 5 346
Included observations: 342 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	-0.096375	0.053806	-1.791147	0.0742

R-squared	0.006645	Mean dependent var	0.355526
Adjusted R-squared	0.006645	S.D. dependent var	6.851566
S.E. of regression	6.828763	Akaike info criterion	6.683084
Sum squared resid	15901.51	Schwarz criterion	6.694297
Log likelihood	-1141.807	Hannan-Quinn criter.	6.687551
Durbin-Watson stat	2.056002		

Inverted AR Roots	.23+.40i	.23-.40i	-.46

ARIMA(0,1,1) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:19
Sample (adjusted): 2 346
Included observations: 345 after adjustments
Convergence achieved after 7 iterations
MA Backcast: 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MA(1)	-0.014468	0.053914	-0.268343	0.7886

R-squared	-0.002842	Mean dependent var	0.373942
Adjusted R-squared	-0.002842	S.D. dependent var	6.843217
S.E. of regression	6.852934	Akaike info criterion	6.690125
Sum squared resid	16155.17	Schwarz criterion	6.701266
Log likelihood	-1153.047	Hannan-Quinn criter.	6.694562
Durbin-Watson stat	1.992311		

Inverted MA Roots	.01

ARIMA(0,1,2) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:21
Sample (adjusted): 2 346
Included observations: 345 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 0 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MA(2)	-0.142255	0.053402	-2.663884	0.0081

R-squared	0.015591	Mean dependent var	0.373942
Adjusted R-squared	0.015591	S.D. dependent var	6.843217
S.E. of regression	6.789660	Akaike info criterion	6.671573
Sum squared resid	15858.22	Schwarz criterion	6.682714
Log likelihood	-1149.846	Hannan-Quinn criter.	6.676010
Durbin-Watson stat	2.053289		

Inverted MA Roots	.38	-.38

ARIMA(0,1,3) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:23
Sample (adjusted): 2 346
Included observations: 345 after adjustments
Convergence achieved after 5 iterations
MA Backcast: -1 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MA(3)	-0.092474	0.053784	-1.719351	0.0865

R-squared	0.005920	Mean dependent var	0.373942
Adjusted R-squared	0.005920	S.D. dependent var	6.843217
S.E. of regression	6.822931	Akaike info criterion	6.681350
Sum squared resid	16014.02	Schwarz criterion	6.692490
Log likelihood	-1151.533	Hannan-Quinn criter.	6.685786
Durbin-Watson stat	2.048998		

Inverted MA Roots	.45	-.23-.39i	-.23+.39i

ARIMA(1,1,1) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:27
Sample (adjusted): 3 346
Included observations: 344 after adjustments
Convergence achieved after 16 iterations
MA Backcast: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	0.726972	0.136443	5.328041	0.0000
MA(1)	-0.822449	0.113614	-7.238968	0.0000

R-squared	0.019007	Mean dependent var	0.353081
Adjusted R-squared	0.016139	S.D. dependent var	6.842191
S.E. of regression	6.786754	Akaike info criterion	6.673620
Sum squared resid	15752.53	Schwarz criterion	6.695949
Log likelihood	-1145.863	Hannan-Quinn criter.	6.682513
Durbin-Watson stat	1.882535		

Inverted AR Roots	.73		
Inverted MA Roots	.82		

ARIMA(1,1,2) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:29
Sample (adjusted): 3 346
Included observations: 344 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 1 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	-0.029127	0.054028	-0.539114	0.5902
MA(2)	-0.145072	0.053596	-2.706779	0.0071

R-squared	0.016250	Mean dependent var	0.353081
Adjusted R-squared	0.013373	S.D. dependent var	6.842191
S.E. of regression	6.796285	Akaike info criterion	6.676426
Sum squared resid	15796.81	Schwarz criterion	6.698756
Log likelihood	-1146.345	Hannan-Quinn criter.	6.685320
Durbin-Watson stat	2.002671		

Inverted AR Roots	-.03		
Inverted MA Roots	.38	-.38	

ARIMA(1,1,3) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:36
Sample (adjusted): 3 346
Included observations: 344 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 0 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	-0.026726	0.054415	-0.491145	0.6236
MA(3)	-0.096298	0.054379	-1.770854	0.0775

R-squared	0.006858	Mean dependent var	0.353081
Adjusted R-squared	0.003954	S.D. dependent var	6.842191
S.E. of regression	6.828649	Akaike info criterion	6.685928
Sum squared resid	15947.61	Schwarz criterion	6.708257
Log likelihood	-1147.980	Hannan-Quinn criter.	6.694821
Durbin-Watson stat	2.010995		

Inverted AR Roots	-.03		
Inverted MA Roots	.46	-.23-.40i	-.23+.40i

ARIMA(2,1,1) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:40
Sample (adjusted): 4 346
Included observations: 343 after adjustments
Convergence achieved after 7 iterations
MA Backcast: 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	-0.132343	0.053659	-2.466375	0.0141
MA(1)	-0.027005	0.054177	-0.498454	0.6185

R-squared	0.015201	Mean dependent var	0.339796
Adjusted R-squared	0.012313	S.D. dependent var	6.847742
S.E. of regression	6.805452	Akaike info criterion	6.679139
Sum squared resid	15793.13	Schwarz criterion	6.701516
Log likelihood	-1143.472	Hannan-Quinn criter.	6.688053
Durbin-Watson stat	1.998315		

Inverted MA Roots	.03		

ARIMA(2,1,2) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 16:32
Sample (adjusted): 4 346
Included observations: 343 after adjustments
Convergence achieved after 10 iterations
MA Backcast: 2 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	0.235941	0.310145	0.760743	0.4473
MA(2)	-0.371721	0.296779	-1.252514	0.2112

R-squared	0.016375	Mean dependent var	0.339796
Adjusted R-squared	0.013491	S.D. dependent var	6.847742
S.E. of regression	6.801394	Akaike info criterion	6.677946
Sum squared resid	15774.30	Schwarz criterion	6.700323
Log likelihood	-1143.268	Hannan-Quinn criter.	6.686860
Durbin-Watson stat	2.063854		

Inverted AR Roots	.49	-.49	
Inverted MA Roots	.61	-.61	

ARIMA(2,1,3) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 16:34
Sample (adjusted): 4 346
Included observations: 343 after adjustments
Convergence achieved after 4 iterations
MA Backcast: 1 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	-0.131845	0.053648	-2.457587	0.0145
MA(3)	-0.098466	0.053993	-1.823695	0.0691

R-squared	0.024207	Mean dependent var	0.339796
Adjusted R-squared	0.021345	S.D. dependent var	6.847742
S.E. of regression	6.774264	Akaike info criterion	6.669953
Sum squared resid	15648.71	Schwarz criterion	6.692330
Log likelihood	-1141.897	Hannan-Quinn criter.	6.678866
Durbin-Watson stat	2.065084		

Inverted MA Roots	.46	-.23+.40i	-.23-.40i

ARIMA(3,1,1) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 16:37
Sample (adjusted): 5 346
Included observations: 342 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	-0.102824	0.054289	-1.894006	0.0591
MA(1)	-0.039023	0.054636	-0.714236	0.4756

R-squared	0.007732	Mean dependent var	0.355526
Adjusted R-squared	0.004814	S.D. dependent var	6.851566
S.E. of regression	6.835055	Akaike info criterion	6.687837
Sum squared resid	15884.11	Schwarz criterion	6.710263
Log likelihood	-1141.620	Hannan-Quinn criter.	6.696771
Durbin-Watson stat	1.990057		

Inverted AR Roots	.23+.41i	.23-.41i	-.47
Inverted MA Roots	.04		

ARIMA(3,1,2) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 16:41
Sample (adjusted): 5 346
Included observations: 342 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 3 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	-0.099422	0.053911	-1.844175	0.0660
MA(2)	-0.142544	0.053751	-2.651922	0.0084

R-squared	0.024612	Mean dependent var	0.355526
Adjusted R-squared	0.021743	S.D. dependent var	6.851566
S.E. of regression	6.776668	Akaike info criterion	6.670679
Sum squared resid	15613.90	Schwarz criterion	6.693105
Log likelihood	-1138.686	Hannan-Quinn criter.	6.679613
Durbin-Watson stat	2.065993		

Inverted AR Roots	.23+.40i	.23-.40i	-.46
Inverted MA Roots	.38	-.38	

ARIMA(3,1,3) tanpa konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 16:43
Sample (adjusted): 5 346
Included observations: 342 after adjustments
Convergence achieved after 10 iterations
MA Backcast: 2 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	-0.545788	0.311151	-1.754095	0.0803
MA(3)	0.466962	0.329351	1.417824	0.1572

R-squared	0.008884	Mean dependent var	0.355526
Adjusted R-squared	0.005969	S.D. dependent var	6.851566
S.E. of regression	6.831087	Akaike info criterion	6.686676
Sum squared resid	15865.68	Schwarz criterion	6.709101
Log likelihood	-1141.422	Hannan-Quinn criter.	6.695609
Durbin-Watson stat	2.049185		

Inverted AR Roots	.41+.71i	.41-.71i	-.82
Inverted MA Roots	.39-.67i	.39+.67i	-.78

ARIMA(1,1,0) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 10:20
Sample (adjusted): 3 346
Included observations: 344 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.353423	0.364516	0.969567	0.3329
AR(1)	-0.013438	0.053987	-0.248913	0.8036

R-squared	0.000181	Mean dependent var	0.353081
Adjusted R-squared	-0.002742	S.D. dependent var	6.842191
S.E. of regression	6.851566	Akaike info criterion	6.692629
Sum squared resid	16054.83	Schwarz criterion	6.714958
Log likelihood	-1149.132	Hannan-Quinn criter.	6.701522
F-statistic	0.061957	Durbin-Watson stat	2.006221
Prob(F-statistic)	0.803578		

Inverted AR Roots	-.01

ARIMA(2,1,0) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 10:22
Sample (adjusted): 4 346
Included observations: 343 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.346851	0.323813	1.071144	0.2849
AR(2)	-0.133327	0.053639	-2.485621	0.0134

R-squared	0.017796	Mean dependent var	0.339796
Adjusted R-squared	0.014915	S.D. dependent var	6.847742
S.E. of regression	6.796481	Akaike info criterion	6.676501
Sum squared resid	15751.53	Schwarz criterion	6.698878
Log likelihood	-1143.020	Hannan-Quinn criter.	6.685415
F-statistic	6.178312	Durbin-Watson stat	2.059148
Prob(F-statistic)	0.013411		

ARIMA(3,1,0) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 10:24
Sample (adjusted): 5 346
Included observations: 342 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.359222	0.335716	1.070018	0.2854
AR(3)	-0.099699	0.053885	-1.850214	0.0652

R-squared	0.009968	Mean dependent var	0.355526
Adjusted R-squared	0.007056	S.D. dependent var	6.851566
S.E. of regression	6.827350	Akaike info criterion	6.685581
Sum squared resid	15848.32	Schwarz criterion	6.708007
Log likelihood	-1141.234	Hannan-Quinn criter.	6.694515
F-statistic	3.423292	Durbin-Watson stat	2.064051
Prob(F-statistic)	0.065150		

Inverted AR Roots	.23+.40i	.23-.40i	-.46

ARIMA(0,1,1) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:20
Sample (adjusted): 2 346
Included observations: 345 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.373641	0.362066	1.031967	0.3028
MA(1)	-0.018624	0.053992	-0.344946	0.7303

R-squared	0.000250	Mean dependent var	0.373942
Adjusted R-squared	-0.002665	S.D. dependent var	6.843217
S.E. of regression	6.852330	Akaike info criterion	6.692835
Sum squared resid	16105.37	Schwarz criterion	6.715116
Log likelihood	-1152.514	Hannan-Quinn criter.	6.701708
F-statistic	0.085630	Durbin-Watson stat	1.991266
Prob(F-statistic)	0.769985		

Inverted MA Roots	.02

ARIMA(0,1,2) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:22
Sample (adjusted): 2 346
Included observations: 345 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 0 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.372021	0.311940	1.192604	0.2338
MA(2)	-0.147037	0.053453	-2.750768	0.0063

R-squared	0.019635	Mean dependent var	0.373942
Adjusted R-squared	0.016777	S.D. dependent var	6.843217
S.E. of regression	6.785571	Akaike info criterion	6.673254
Sum squared resid	15793.08	Schwarz criterion	6.695536
Log likelihood	-1149.136	Hannan-Quinn criter.	6.682128
F-statistic	6.869637	Durbin-Watson stat	2.063244
Prob(F-statistic)	0.009157		

Inverted MA Roots	.38	-.38

ARIMA(0,1,3) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:25
Sample (adjusted): 2 346
Included observations: 345 after adjustments
Convergence achieved after 5 iterations
MA Backcast: -1 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.373762	0.332196	1.125123	0.2613
MA(3)	-0.096193	0.053855	-1.786128	0.0750

R-squared	0.009561	Mean dependent var	0.373942
Adjusted R-squared	0.006673	S.D. dependent var	6.843217
S.E. of regression	6.820345	Akaike info criterion	6.683477
Sum squared resid	15955.37	Schwarz criterion	6.705759
Log likelihood	-1150.900	Hannan-Quinn criter.	6.692351
F-statistic	3.311017	Durbin-Watson stat	2.057835
Prob(F-statistic)	0.069689		

Inverted MA Roots	.46	-.23+.40i	-.23-.40i

ARIMA(1,1,1) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:28
Sample (adjusted): 3 346
Included observations: 344 after adjustments
Convergence achieved after 20 iterations
MA Backcast: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.313419	0.230891	1.357436	0.1755
AR(1)	0.726943	0.131631	5.522571	0.0000
MA(1)	-0.830468	0.107217	-7.745664	0.0000

R-squared	0.024065	Mean dependent var	0.353081
Adjusted R-squared	0.018341	S.D. dependent var	6.842191
S.E. of regression	6.779152	Akaike info criterion	6.674264
Sum squared resid	15671.31	Schwarz criterion	6.707758
Log likelihood	-1144.973	Hannan-Quinn criter.	6.687604
F-statistic	4.204331	Durbin-Watson stat	1.877338
Prob(F-statistic)	0.015712		

Inverted AR Roots	.73
Inverted MA Roots	.83

ARIMA(1,1,2) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:34
Sample (adjusted): 3 346
Included observations: 344 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 1 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.357048	0.300977	1.186294	0.2363
AR(1)	-0.034162	0.054126	-0.631150	0.5284
MA(2)	-0.151028	0.053653	-2.814918	0.0052

R-squared	0.020244	Mean dependent var	0.353081
Adjusted R-squared	0.014497	S.D. dependent var	6.842191
S.E. of regression	6.792413	Akaike info criterion	6.678172
Sum squared resid	15732.68	Schwarz criterion	6.711666
Log likelihood	-1145.646	Hannan-Quinn criter.	6.691513
F-statistic	3.522838	Durbin-Watson stat	2.002055
Prob(F-statistic)	0.030594		

Inverted AR Roots	-.03	
Inverted MA Roots	.39	-.39

ARIMA(1,1,3) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:39
Sample (adjusted): 3 346
Included observations: 344 after adjustments
Convergence achieved after 5 iterations
MA Backcast: 0 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.356114	0.321259	1.108496	0.2684
AR(1)	-0.031174	0.054531	-0.571667	0.5679
MA(3)	-0.100879	0.054478	-1.851726	0.0649

R-squared	0.010389	Mean dependent var	0.353081
Adjusted R-squared	0.004585	S.D. dependent var	6.842191
S.E. of regression	6.826486	Akaike info criterion	6.688180
Sum squared resid	15890.91	Schwarz criterion	6.721674
Log likelihood	-1147.367	Hannan-Quinn criter.	6.701520
F-statistic	1.789984	Durbin-Watson stat	2.012056
Prob(F-statistic)	0.168528		

Inverted AR Roots	-.03		
Inverted MA Roots	.47	-.23-.40i	-.23+.40i

ARIMA(2,1,1) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 15:41
Sample (adjusted): 4 346
Included observations: 343 after adjustments
Convergence achieved after 7 iterations
MA Backcast: 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.347483	0.313267	1.109221	0.2681
AR(2)	-0.136162	0.053747	-2.533371	0.0117
MA(1)	-0.031207	0.054263	-0.575095	0.5656

R-squared	0.018723	Mean dependent var	0.339796
Adjusted R-squared	0.012951	S.D. dependent var	6.847742
S.E. of regression	6.803256	Akaike info criterion	6.681388
Sum squared resid	15736.66	Schwarz criterion	6.714954
Log likelihood	-1142.858	Hannan-Quinn criter.	6.694758
F-statistic	3.243600	Durbin-Watson stat	1.997846
Prob(F-statistic)	0.040234		

Inverted MA Roots	.03		

ARIMA(2,1,2) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 16:33
Sample (adjusted): 4 346
Included observations: 343 after adjustments
Convergence achieved after 11 iterations
MA Backcast: 2 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.337287	0.300863	1.121065	0.2631
AR(2)	0.237768	0.307525	0.773166	0.4400
MA(2)	-0.378276	0.293453	-1.289052	0.1983

R-squared	0.019976	Mean dependent var	0.339796
Adjusted R-squared	0.014211	S.D. dependent var	6.847742
S.E. of regression	6.798910	Akaike info criterion	6.680110
Sum squared resid	15716.56	Schwarz criterion	6.713676
Log likelihood	-1142.639	Hannan-Quinn criter.	6.693480
F-statistic	3.465139	Durbin-Watson stat	2.073276
Prob(F-statistic)	0.032377		

Inverted AR Roots	.49	-.49	
Inverted MA Roots	.62	-.62	

ARIMA(2,1,3) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 16:35
Sample (adjusted): 4 346
Included observations: 343 after adjustments
Convergence achieved after 4 iterations
MA Backcast: 1 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.347952	0.288882	1.204477	0.2292
AR(2)	-0.136135	0.053734	-2.533507	0.0117
MA(3)	-0.103107	0.054067	-1.907036	0.0574

R-squared	0.028314	Mean dependent var	0.339796
Adjusted R-squared	0.022598	S.D. dependent var	6.847742
S.E. of regression	6.769926	Akaike info criterion	6.671565
Sum squared resid	15582.85	Schwarz criterion	6.705131
Log likelihood	-1141.173	Hannan-Quinn criter.	6.684936
F-statistic	4.953638	Durbin-Watson stat	2.074832
Prob(F-statistic)	0.007575		

Inverted MA Roots	.47	-.23+.41i	-.23-.41i

ARIMA(3,1,1) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 16:40
Sample (adjusted): 5 346
Included observations: 342 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.359717	0.318515	1.129358	0.2595
AR(3)	-0.107509	0.054380	-1.976982	0.0489
MA(1)	-0.045345	0.054725	-0.828602	0.4079

R-squared	0.011410	Mean dependent var	0.355526
Adjusted R-squared	0.005577	S.D. dependent var	6.851566
S.E. of regression	6.832433	Akaike info criterion	6.689972
Sum squared resid	15825.24	Schwarz criterion	6.723611
Log likelihood	-1140.985	Hannan-Quinn criter.	6.703373
F-statistic	1.956264	Durbin-Watson stat	1.988009
Prob(F-statistic)	0.142978		

Inverted AR Roots	.24+.41i	.24-.41i	-.48
Inverted MA Roots	.05		

ARIMA(3,1,2) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 16:42
Sample (adjusted): 5 346
Included observations: 342 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 3 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.358782	0.282665	1.269285	0.2052
AR(3)	-0.104211	0.053998	-1.929904	0.0545
MA(2)	-0.148433	0.053807	-2.758621	0.0061

R-squared	0.029174	Mean dependent var	0.355526
Adjusted R-squared	0.023446	S.D. dependent var	6.851566
S.E. of regression	6.770768	Akaike info criterion	6.671839
Sum squared resid	15540.88	Schwarz criterion	6.705478
Log likelihood	-1137.885	Hannan-Quinn criter.	6.685240
F-statistic	5.093567	Durbin-Watson stat	2.076436
Prob(F-statistic)	0.006614		

Inverted AR Roots	.24+.41i	.24-.41i	-.47
Inverted MA Roots	.39	-.39	

ARIMA(3,1,3) dengan konstanta

Dependent Variable: D(DATA1)
Method: Least Squares
Date: 09/01/16 Time: 16:47
Sample (adjusted): 5 346
Included observations: 342 after adjustments
Convergence achieved after 9 iterations
MA Backcast: 2 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.366731	0.348877	1.051177	0.2939
AR(3)	-0.527178	0.314240	-1.677630	0.0943
MA(3)	0.444970	0.332301	1.339056	0.1814

R-squared	0.012094	Mean dependent var	0.355526
Adjusted R-squared	0.006265	S.D. dependent var	6.851566
S.E. of regression	6.830068	Akaike info criterion	6.689280
Sum squared resid	15814.29	Schwarz criterion	6.722918
Log likelihood	-1140.867	Hannan-Quinn criter.	6.702680
F-statistic	2.074996	Durbin-Watson stat	2.057002
Prob(F-statistic)	0.127149		

Inverted AR Roots	.40+.70i	.40-.70i	-.81
Inverted MA Roots	.38+.66i	.38-.66i	-.76

2. Data kedua

ARIMA(1,1,0) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 18:44
Sample (adjusted): 3 483
Included observations: 481 after adjustments
Convergence achieved after 2 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	0.001778	0.045611	0.038974	0.9689

R-squared	-0.000140	Mean dependent var	-0.090229
Adjusted R-squared	-0.000140	S.D. dependent var	7.555233
S.E. of regression	7.555761	Akaike info criterion	6.884574
Sum squared resid	27402.97	Schwarz criterion	6.893256
Log likelihood	-1654.740	Hannan-Quinn criter.	6.887987
Durbin-Watson stat	2.000870		

Inverted AR Roots	.00

ARIMA(2,1,0) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 18:46
Sample (adjusted): 4 483
Included observations: 480 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	-0.081233	0.045667	-1.778787	0.0759

R-squared	0.006386	Mean dependent var	-0.100646
Adjusted R-squared	0.006386	S.D. dependent var	7.559656
S.E. of regression	7.535481	Akaike info criterion	6.879203
Sum squared resid	27199.28	Schwarz criterion	6.887899
Log likelihood	-1650.009	Hannan-Quinn criter.	6.882621
Durbin-Watson stat	2.011763		

ARIMA(3,1,0) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 18:48
Sample (adjusted): 5 483
Included observations: 479 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	-0.096571	0.045674	-2.114341	0.0350

R-squared	0.009124	Mean dependent var	-0.090334
Adjusted R-squared	0.009124	S.D. dependent var	7.564180
S.E. of regression	7.529592	Akaike info criterion	6.877644
Sum squared resid	27100.10	Schwarz criterion	6.886354
Log likelihood	-1646.196	Hannan-Quinn criter.	6.881068
Durbin-Watson stat	2.018232		

Inverted AR Roots	.23+.40i	.23-.40i	-.46

ARIMA(0,1,1) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 18:48
Sample (adjusted): 2 483
Included observations: 482 after adjustments
Convergence achieved after 5 iterations
MA Backcast: 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MA(1)	0.002128	0.045611	0.046661	0.9628

R-squared	-0.000093	Mean dependent var	-0.074378
Adjusted R-squared	-0.000093	S.D. dependent var	7.555394
S.E. of regression	7.555746	Akaike info criterion	6.884566
Sum squared resid	27459.96	Schwarz criterion	6.893234
Log likelihood	-1658.180	Hannan-Quinn criter.	6.887973
Durbin-Watson stat	1.997619		

Inverted MA Roots	-.00

ARIMA(0,1,2) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 18:50
Sample (adjusted): 2 483
Included observations: 482 after adjustments
Convergence achieved after 5 iterations
MA Backcast: 0 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MA(2)	-0.086401	0.045632	-1.893417	0.0589

R-squared	0.006883	Mean dependent var	-0.074378
Adjusted R-squared	0.006883	S.D. dependent var	7.555394
S.E. of regression	7.529347	Akaike info criterion	6.877566
Sum squared resid	27268.40	Schwarz criterion	6.886234
Log likelihood	-1656.493	Hannan-Quinn criter.	6.880973
Durbin-Watson stat	2.012647		

Inverted MA Roots	.29	-.29

ARIMA(0,1,3) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 18:51
Sample (adjusted): 2 483
Included observations: 482 after adjustments
Convergence achieved after 6 iterations
MA Backcast: -1 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MA(3)	-0.091714	0.045630	-2.009941	0.0450

R-squared	0.008677	Mean dependent var	-0.074378
Adjusted R-squared	0.008677	S.D. dependent var	7.555394
S.E. of regression	7.522542	Akaike info criterion	6.875758
Sum squared resid	27219.13	Schwarz criterion	6.884426
Log likelihood	-1656.058	Hannan-Quinn criter.	6.879164
Durbin-Watson stat	2.014771		

Inverted MA Roots	.45	-.23-.39i	-.23+.39i

ARIMA(1,1,1) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 18:52
Sample (adjusted): 3 483
Included observations: 481 after adjustments
Convergence achieved after 17 iterations
MA Backcast: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	0.758501	0.142794	5.311849	0.0000
MA(1)	-0.827524	0.123609	-6.694686	0.0000

R-squared	0.012317	Mean dependent var	-0.090229
Adjusted R-squared	0.010255	S.D. dependent var	7.555233
S.E. of regression	7.516393	Akaike info criterion	6.876199
Sum squared resid	27061.66	Schwarz criterion	6.893562
Log likelihood	-1651.726	Hannan-Quinn criter.	6.883024
Durbin-Watson stat	1.889178		

Inverted AR Roots	.76		
Inverted MA Roots	.83		

ARIMA(1,1,2) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 18:52
Sample (adjusted): 3 483
Included observations: 481 after adjustments
Convergence achieved after 7 iterations
MA Backcast: 1 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	-0.007904	0.045677	-0.173045	0.8627
MA(2)	-0.086333	0.045742	-1.887405	0.0597

R-squared	0.006703	Mean dependent var	-0.090229
Adjusted R-squared	0.004629	S.D. dependent var	7.555233
S.E. of regression	7.537726	Akaike info criterion	6.881868
Sum squared resid	27215.50	Schwarz criterion	6.899231
Log likelihood	-1653.089	Hannan-Quinn criter.	6.888692
Durbin-Watson stat	2.000849		

Inverted AR Roots	-.01		
Inverted MA Roots	.29	-.29	

ARIMA(1,1,3) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 18:59
Sample (adjusted): 3 483
Included observations: 481 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 0 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	-0.008762	0.045858	-0.191066	0.8486
MA(3)	-0.092419	0.045925	-2.012368	0.0447

R-squared	0.008663	Mean dependent var	-0.090229
Adjusted R-squared	0.006594	S.D. dependent var	7.555233
S.E. of regression	7.530284	Akaike info criterion	6.879892
Sum squared resid	27161.78	Schwarz criterion	6.897255
Log likelihood	-1652.614	Hannan-Quinn criter.	6.886716
Durbin-Watson stat	2.003026		

Inverted AR Roots	-.01		
Inverted MA Roots	.45	-.23+.39i	-.23-.39i

ARIMA(2,1,1) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 19:00
Sample (adjusted): 4 483
Included observations: 480 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	-0.081860	0.045718	-1.790561	0.0740
MA(1)	-0.006783	0.045763	-0.148222	0.8822

R-squared	0.006431	Mean dependent var	-0.100646
Adjusted R-squared	0.004352	S.D. dependent var	7.559656
S.E. of regression	7.543188	Akaike info criterion	6.883325
Sum squared resid	27198.05	Schwarz criterion	6.900716
Log likelihood	-1649.998	Hannan-Quinn criter.	6.890161
Durbin-Watson stat	1.998319		

Inverted MA Roots	.01		

ARIMA(2,1,2) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 19:00
Sample (adjusted): 4 483
Included observations: 480 after adjustments
Convergence achieved after 10 iterations
MA Backcast: 2 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	0.173737	0.439249	0.395531	0.6926
MA(2)	-0.258691	0.431427	-0.599618	0.5490

R-squared	0.006761	Mean dependent var	-0.100646
Adjusted R-squared	0.004683	S.D. dependent var	7.559656
S.E. of regression	7.541933	Akaike info criterion	6.882992
Sum squared resid	27189.00	Schwarz criterion	6.900383
Log likelihood	-1649.918	Hannan-Quinn criter.	6.889828
Durbin-Watson stat	2.019846		

Inverted AR Roots	.42	-.42	
Inverted MA Roots	.51	-.51	

ARIMA(2,1,3) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 19:01
Sample (adjusted): 4 483
Included observations: 480 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 1 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	-0.088552	0.045692	-1.938012	0.0532
MA(3)	-0.099979	0.045757	-2.185000	0.0294

R-squared	0.016556	Mean dependent var	-0.100646
Adjusted R-squared	0.014498	S.D. dependent var	7.559656
S.E. of regression	7.504656	Akaike info criterion	6.873082
Sum squared resid	26920.89	Schwarz criterion	6.890473
Log likelihood	-1647.540	Hannan-Quinn criter.	6.879918
Durbin-Watson stat	2.021162		

Inverted MA Roots	.46	-.23-.40i	-.23+.40i

ARIMA(3,1,1) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 19:02
Sample (adjusted): 5 483
Included observations: 479 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	-0.097852	0.045873	-2.133118	0.0334
MA(1)	-0.011601	0.045957	-0.252441	0.8008

R-squared	0.009233	Mean dependent var	-0.090334
Adjusted R-squared	0.007156	S.D. dependent var	7.564180
S.E. of regression	7.537066	Akaike info criterion	6.881710
Sum squared resid	27097.11	Schwarz criterion	6.899128
Log likelihood	-1646.169	Hannan-Quinn criter.	6.888557
Durbin-Watson stat	1.997236		

Inverted AR Roots	.23+.40i	.23-.40i	-.46
Inverted MA Roots	.01		

ARIMA(3,1,2) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 19:03
Sample (adjusted): 5 483
Included observations: 479 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 3 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	-0.103157	0.045719	-2.256329	0.0245
MA(2)	-0.092147	0.045811	-2.011471	0.0448

R-squared	0.016847	Mean dependent var	-0.090334
Adjusted R-squared	0.014786	S.D. dependent var	7.564180
S.E. of regression	7.508050	Akaike info criterion	6.873995
Sum squared resid	26888.88	Schwarz criterion	6.891414
Log likelihood	-1644.322	Hannan-Quinn criter.	6.880843
Durbin-Watson stat	2.021588		

Inverted AR Roots	.23-.41i	.23+.41i	-.47
Inverted MA Roots	.30	-.30	

ARIMA(3,1,3) tanpa konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/01/16 Time: 19:04
Sample (adjusted): 5 483
Included observations: 479 after adjustments
Convergence achieved after 9 iterations
MA Backcast: 2 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	-0.400368	0.336010	-1.191535	0.2340
MA(3)	0.311397	0.348906	0.892495	0.3726

R-squared	0.010123	Mean dependent var	-0.090334
Adjusted R-squared	0.008048	S.D. dependent var	7.564180
S.E. of regression	7.533680	Akaike info criterion	6.880811
Sum squared resid	27072.77	Schwarz criterion	6.898229
Log likelihood	-1645.954	Hannan-Quinn criter.	6.887658
Durbin-Watson stat	2.013152		

Inverted AR Roots	.37-.64i	.37+.64i	-.74
Inverted MA Roots	.34+.59i	.34-.59i	-.68

ARIMA(1,1,0) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:03
Sample (adjusted): 3 483
Included observations: 481 after adjustments
Convergence achieved after 2 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.090270	0.345428	-0.261328	0.7940
AR(1)	0.001674	0.045657	0.036666	0.9708

R-squared	0.000003	Mean dependent var	-0.090229
Adjusted R-squared	-0.002085	S.D. dependent var	7.555233
S.E. of regression	7.563105	Akaike info criterion	6.888590
Sum squared resid	27399.06	Schwarz criterion	6.905953
Log likelihood	-1654.706	Hannan-Quinn criter.	6.895414
F-statistic	0.001344	Durbin-Watson stat	2.000964
Prob(F-statistic)	0.970767		

Inverted AR Roots	.00

ARIMA(2,1,0) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:05
Sample (adjusted): 4 483
Included observations: 480 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.095729	0.318399	-0.300657	0.7638
AR(2)	-0.081297	0.045711	-1.778485	0.0760

R-squared	0.006574	Mean dependent var	-0.100646
Adjusted R-squared	0.004495	S.D. dependent var	7.559656
S.E. of regression	7.542646	Akaike info criterion	6.883181
Sum squared resid	27194.14	Schwarz criterion	6.900572
Log likelihood	-1649.963	Hannan-Quinn criter.	6.890017
F-statistic	3.163009	Durbin-Watson stat	2.012157
Prob(F-statistic)	0.075960		

ARIMA(3,1,0) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:06
Sample (adjusted): 5 483
Included observations: 479 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.084178	0.314045	-0.268046	0.7888
AR(3)	-0.096604	0.045719	-2.113008	0.0351

R-squared	0.009273	Mean dependent var	-0.090334
Adjusted R-squared	0.007196	S.D. dependent var	7.564180
S.E. of regression	7.536913	Akaike info criterion	6.881669
Sum squared resid	27096.01	Schwarz criterion	6.899088
Log likelihood	-1646.160	Hannan-Quinn criter.	6.888517
F-statistic	4.464802	Durbin-Watson stat	2.018543
Prob(F-statistic)	0.035119		

Inverted AR Roots	.23+.40i	.23-.40i	-.46

ARIMA(0,1,1) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:08
Sample (adjusted): 2 483
Included observations: 482 after adjustments
Convergence achieved after 5 iterations
MA Backcast: 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.074363	0.345185	-0.215431	0.8295
MA(1)	0.002002	0.045658	0.043847	0.9650

R-squared	0.000003	Mean dependent var	-0.074378
Adjusted R-squared	-0.002080	S.D. dependent var	7.555394
S.E. of regression	7.563247	Akaike info criterion	6.888619
Sum squared resid	27457.30	Schwarz criterion	6.905955
Log likelihood	-1658.157	Hannan-Quinn criter.	6.895432
F-statistic	0.001606	Durbin-Watson stat	1.997580
Prob(F-statistic)	0.968053		

Inverted MA Roots	-.00

ARIMA(0,1,2) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:09
Sample (adjusted): 2 483
Included observations: 482 after adjustments
Convergence achieved after 5 iterations
MA Backcast: 0 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.073243	0.313726	-0.233461	0.8155
MA(2)	-0.086509	0.045677	-1.893923	0.0588

R-squared	0.006996	Mean dependent var	-0.074378
Adjusted R-squared	0.004927	S.D. dependent var	7.555394
S.E. of regression	7.536758	Akaike info criterion	6.881602
Sum squared resid	27265.30	Schwarz criterion	6.898938
Log likelihood	-1656.466	Hannan-Quinn criter.	6.888415
F-statistic	3.381681	Durbin-Watson stat	2.012898
Prob(F-statistic)	0.066542		

Inverted MA Roots	.29	-.29

ARIMA(0,1,3) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:10
Sample (adjusted): 2 483
Included observations: 482 after adjustments
Convergence achieved after 6 iterations
MA Backcast: -1 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.071404	0.311712	-0.229071	0.8189
MA(3)	-0.091788	0.045675	-2.009586	0.0450

R-squared	0.008786	Mean dependent var	-0.074378
Adjusted R-squared	0.006721	S.D. dependent var	7.555394
S.E. of regression	7.529962	Akaike info criterion	6.879798
Sum squared resid	27216.16	Schwarz criterion	6.897134
Log likelihood	-1656.031	Hannan-Quinn criter.	6.886611
F-statistic	4.254572	Durbin-Watson stat	2.015012
Prob(F-statistic)	0.039682		

Inverted MA Roots	.45	-.23-.39i	-.23+.39i

ARIMA(1,1,1) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:12
Sample (adjusted): 3 483
Included observations: 481 after adjustments
Convergence achieved after 16 iterations
MA Backcast: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.118677	0.246695	-0.481065	0.6307
AR(1)	0.761118	0.138967	5.476976	0.0000
MA(1)	-0.830211	0.119991	-6.918965	0.0000

R-squared	0.012793	Mean dependent var	-0.090229
Adjusted R-squared	0.008662	S.D. dependent var	7.555233
S.E. of regression	7.522439	Akaike info criterion	6.879875
Sum squared resid	27048.63	Schwarz criterion	6.905920
Log likelihood	-1651.610	Hannan-Quinn criter.	6.890112
F-statistic	3.097098	Durbin-Watson stat	1.889928
Prob(F-statistic)	0.046088		

Inverted AR Roots	.76
Inverted MA Roots	.83

ARIMA(1,1,2) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:14
Sample (adjusted): 3 483
Included observations: 481 after adjustments
Convergence achieved after 7 iterations
MA Backcast: 1 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.086682	0.311907	-0.277910	0.7812
AR(1)	-0.008039	0.045723	-0.175816	0.8605
MA(2)	-0.086461	0.045786	-1.888358	0.0596

R-squared	0.006863	Mean dependent var	-0.090229
Adjusted R-squared	0.002708	S.D. dependent var	7.555233
S.E. of regression	7.544998	Akaike info criterion	6.885864
Sum squared resid	27211.10	Schwarz criterion	6.911909
Log likelihood	-1653.050	Hannan-Quinn criter.	6.896101
F-statistic	1.651593	Durbin-Watson stat	2.000934
Prob(F-statistic)	0.192837		

Inverted AR Roots	-.01	
Inverted MA Roots	.29	-.29

ARIMA(1,1,3) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:15
Sample (adjusted): 3 483
Included observations: 481 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 0 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.085306	0.309354	-0.275755	0.7829
AR(1)	-0.008890	0.045905	-0.193667	0.8465
MA(3)	-0.092517	0.045970	-2.012541	0.0447

R-squared	0.008821	Mean dependent var	-0.090229
Adjusted R-squared	0.004674	S.D. dependent var	7.555233
S.E. of regression	7.537557	Akaike info criterion	6.883891
Sum squared resid	27157.46	Schwarz criterion	6.909936
Log likelihood	-1652.576	Hannan-Quinn criter.	6.894128
F-statistic	2.126936	Durbin-Watson stat	2.003140
Prob(F-statistic)	0.120329		

Inverted AR Roots	-.01		
Inverted MA Roots	.45	-.23-.39i	-.23+.39i

ARIMA(2,1,1) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:17
Sample (adjusted): 4 483
Included observations: 480 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.095570	0.316328	-0.302122	0.7627
AR(2)	-0.081939	0.045762	-1.790566	0.0740
MA(1)	-0.006947	0.045810	-0.151655	0.8795

R-squared	0.006621	Mean dependent var	-0.100646
Adjusted R-squared	0.002456	S.D. dependent var	7.559656
S.E. of regression	7.550368	Akaike info criterion	6.887300
Sum squared resid	27192.85	Schwarz criterion	6.913386
Log likelihood	-1649.952	Hannan-Quinn criter.	6.897554
F-statistic	1.589605	Durbin-Watson stat	1.998387
Prob(F-statistic)	0.205085		

Inverted MA Roots	.01

ARIMA(2,1,2) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:19
Sample (adjusted): 4 483
Included observations: 480 after adjustments
Convergence achieved after 10 iterations
MA Backcast: 2 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.099407	0.309276	-0.321419	0.7480
AR(2)	0.188158	0.432304	0.435243	0.6636
MA(2)	-0.272939	0.424023	-0.643690	0.5201

R-squared	0.006975	Mean dependent var	-0.100646
Adjusted R-squared	0.002812	S.D. dependent var	7.559656
S.E. of regression	7.549021	Akaike info criterion	6.886943
Sum squared resid	27183.14	Schwarz criterion	6.913029
Log likelihood	-1649.866	Hannan-Quinn criter.	6.897197
F-statistic	1.675338	Durbin-Watson stat	2.020731
Prob(F-statistic)	0.188345		

Inverted AR Roots	.43	-.43
Inverted MA Roots	.52	-.52

ARIMA(2,1,3) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:20
Sample (adjusted): 4 483
Included observations: 480 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 1 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.091245	0.283631	-0.321702	0.7478
AR(2)	-0.088642	0.045736	-1.938125	0.0532
MA(3)	-0.100136	0.045800	-2.186368	0.0293

R-squared	0.016769	Mean dependent var	-0.100646
Adjusted R-squared	0.012646	S.D. dependent var	7.559656
S.E. of regression	7.511703	Akaike info criterion	6.877032
Sum squared resid	26915.05	Schwarz criterion	6.903118
Log likelihood	-1647.488	Hannan-Quinn criter.	6.887286
F-statistic	4.067608	Durbin-Watson stat	2.021615
Prob(F-statistic)	0.017716		

Inverted MA Roots	.46	-.23+.40i	-.23-.40i

ARIMA(3,1,1) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:21
Sample (adjusted): 5 483
Included observations: 479 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.083992	0.310295	-0.270684	0.7868
AR(3)	-0.097906	0.045918	-2.132194	0.0335
MA(1)	-0.011775	0.046004	-0.255944	0.7981

R-squared	0.009386	Mean dependent var	-0.090334
Adjusted R-squared	0.005223	S.D. dependent var	7.564180
S.E. of regression	7.544398	Akaike info criterion	6.885731
Sum squared resid	27092.94	Schwarz criterion	6.911859
Log likelihood	-1646.133	Hannan-Quinn criter.	6.896002
F-statistic	2.254953	Durbin-Watson stat	1.997238
Prob(F-statistic)	0.105998		

Inverted AR Roots	.23-.40i	.23+.40i	-.46	
Inverted MA Roots	.01			

ARIMA(3,1,2) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:22
Sample (adjusted): 5 483
Included observations: 479 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 3 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.082000	0.282662	-0.290098	0.7719
AR(3)	-0.103214	0.045763	-2.255400	0.0246
MA(2)	-0.092318	0.045855	-2.013259	0.0446

R-squared	0.017021	Mean dependent var	-0.090334
Adjusted R-squared	0.012891	S.D. dependent var	7.564180
S.E. of regression	7.515268	Akaike info criterion	6.877994
Sum squared resid	26884.12	Schwarz criterion	6.904121
Log likelihood	-1644.280	Hannan-Quinn criter.	6.888265
F-statistic	4.121105	Durbin-Watson stat	2.021953

Inverted AR Roots	.23-.41i	.23+.41i	-.47
Inverted MA Roots	.30	-.30	

ARIMA(3,1,3) dengan konstanta

Dependent Variable: D(DATA2)
Method: Least Squares
Date: 09/06/16 Time: 09:25
Sample (adjusted): 5 483
Included observations: 479 after adjustments
Convergence achieved after 8 iterations
MA Backcast: 2 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.078065	0.322268	-0.242235	0.8087
AR(3)	-0.399328	0.336564	-1.186484	0.2360
MA(3)	0.310278	0.349443	0.887923	0.3750

R-squared	0.010245	Mean dependent var	-0.090334
Adjusted R-squared	0.006087	S.D. dependent var	7.564180
S.E. of regression	7.541125	Akaike info criterion	6.884863
Sum squared resid	27069.43	Schwarz criterion	6.910991
Log likelihood	-1645.925	Hannan-Quinn criter.	6.895134
F-statistic	2.463607	Durbin-Watson stat	2.013438
Prob(F-statistic)	0.086212		

Inverted AR Roots	.37+.64i	.37-.64i	-.74
Inverted MA Roots	.34-.59i	.34+.59i	-.68

3. Data ketiga

ARIMA(1,1,0) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:09
Sample (adjusted): 3 608
Included observations: 606 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	-0.002736	0.040626	-0.067356	0.9463

R-squared	-0.000114	Mean dependent var	0.085908
Adjusted R-squared	-0.000114	S.D. dependent var	7.798371
S.E. of regression	7.798816	Akaike info criterion	6.947470
Sum squared resid	36797.02	Schwarz criterion	6.954742
Log likelihood	-2104.083	Hannan-Quinn criter.	6.950299
Durbin-Watson stat	2.001567		

Inverted AR Roots	-.00

ARIMA(2,1,0) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:15
Sample (adjusted): 4 608
Included observations: 605 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	-0.057917	0.040596	-1.426667	0.1542

R-squared	0.003259	Mean dependent var	0.077934
Adjusted R-squared	0.003259	S.D. dependent var	7.802351
S.E. of regression	7.789627	Akaike info criterion	6.945115
Sum squared resid	36649.69	Schwarz criterion	6.952396
Log likelihood	-2099.897	Hannan-Quinn criter.	6.947948
Durbin-Watson stat	2.016913		

ARIMA(3,1,0) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:17
Sample (adjusted): 5 608
Included observations: 604 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	-0.093919	0.040505	-2.318712	0.0207

R-squared	0.008716	Mean dependent var	0.086407
Adjusted R-squared	0.008716	S.D. dependent var	7.806032
S.E. of regression	7.771940	Akaike info criterion	6.940571
Sum squared resid	36423.04	Schwarz criterion	6.947862
Log likelihood	-2095.052	Hannan-Quinn criter.	6.943408
Durbin-Watson stat	2.024161		

Inverted AR Roots	.23+.39i	.23-.39i	-.45

ARIMA(0,1,1) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:45
Sample (adjusted): 2 608
Included observations: 607 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MA(1)	-0.003109	0.040624	-0.076522	0.9390

R-squared	-0.000150	Mean dependent var	0.098204
Adjusted R-squared	-0.000150	S.D. dependent var	7.797822
S.E. of regression	7.798408	Akaike info criterion	6.947362
Sum squared resid	36853.99	Schwarz criterion	6.954625
Log likelihood	-2107.524	Hannan-Quinn criter.	6.950188
Durbin-Watson stat	1.997958		

Inverted MA Roots	.00

ARIMA(0,1,2) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:47
Sample (adjusted): 2 608
Included observations: 607 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 0 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MA(2)	-0.063290	0.040554	-1.560635	0.1191

R-squared	0.003496	Mean dependent var	0.098204
Adjusted R-squared	0.003496	S.D. dependent var	7.797822
S.E. of regression	7.784177	Akaike info criterion	6.943709
Sum squared resid	36719.61	Schwarz criterion	6.950972
Log likelihood	-2106.416	Hannan-Quinn criter.	6.946535
Durbin-Watson stat	2.017347		

Inverted MA Roots	.25	-.25

ARIMA(0,1,3) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:48
Sample (adjusted): 2 608
Included observations: 607 after adjustments
Convergence achieved after 6 iterations
MA Backcast: -1 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MA(3)	-0.101642	0.040426	-2.514265	0.0122

R-squared	0.009377	Mean dependent var	0.098204
Adjusted R-squared	0.009377	S.D. dependent var	7.797822
S.E. of regression	7.761177	Akaike info criterion	6.937791
Sum squared resid	36502.93	Schwarz criterion	6.945054
Log likelihood	-2104.620	Hannan-Quinn criter.	6.940617
Durbin-Watson stat	2.023527		

Inverted MA Roots	.47	-.23+.40i	-.23-.40i

ARIMA(1,1,1) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:04
Sample (adjusted): 3 608
Included observations: 606 after adjustments
Convergence achieved after 17 iterations
MA Backcast: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	0.783284	0.116509	6.722954	0.0000
MA(1)	-0.850445	0.098863	-8.602275	0.0000

R-squared	0.012586	Mean dependent var	0.085908
Adjusted R-squared	0.010951	S.D. dependent var	7.798371
S.E. of regression	7.755554	Akaike info criterion	6.937990
Sum squared resid	36329.77	Schwarz criterion	6.952535
Log likelihood	-2100.211	Hannan-Quinn criter.	6.943650
Durbin-Watson stat	1.901518		

Inverted AR Roots	.78	
Inverted MA Roots	.85	

ARIMA(1,1,2) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:06
Sample (adjusted): 3 608
Included observations: 606 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 1 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	-0.009591	0.040666	-0.235841	0.8136
MA(2)	-0.063584	0.040627	-1.565081	0.1181

R-squared	0.003511	Mean dependent var	0.085908
Adjusted R-squared	0.001861	S.D. dependent var	7.798371
S.E. of regression	7.791111	Akaike info criterion	6.947139
Sum squared resid	36663.65	Schwarz criterion	6.961683
Log likelihood	-2102.983	Hannan-Quinn criter.	6.952798
Durbin-Watson stat	2.001187		

Inverted AR Roots	-.01	
Inverted MA Roots	.25	-.25

ARIMA(1,1,3) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:08
Sample (adjusted): 3 608
Included observations: 606 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 0 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(1)	-0.012567	0.040753	-0.308360	0.7579
MA(3)	-0.102718	0.040586	-2.530858	0.0116

R-squared	0.009533	Mean dependent var	0.085908
Adjusted R-squared	0.007893	S.D. dependent var	7.798371
S.E. of regression	7.767535	Akaike info criterion	6.941078
Sum squared resid	36442.10	Schwarz criterion	6.955622
Log likelihood	-2101.147	Hannan-Quinn criter.	6.946737
Durbin-Watson stat	2.003312		

Inverted AR Roots	-.01		
Inverted MA Roots	.47	-.23+.41i	-.23-.41i

ARIMA(2,1,1) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:12
Sample (adjusted): 4 608
Included observations: 605 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	-0.058718	0.040632	-1.445131	0.1489
MA(1)	-0.008920	0.040728	-0.219011	0.8267

R-squared	0.003337	Mean dependent var	0.077934
Adjusted R-squared	0.001684	S.D. dependent var	7.802351
S.E. of regression	7.795778	Akaike info criterion	6.948342
Sum squared resid	36646.81	Schwarz criterion	6.962905
Log likelihood	-2099.873	Hannan-Quinn criter.	6.954009
Durbin-Watson stat	1.999254		

Inverted MA Roots	.01	

ARIMA(0,1,2) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:13
Sample (adjusted): 4 608
Included observations: 605 after adjustments
Convergence achieved after 21 iterations
MA Backcast: 2 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	0.638237	0.238308	2.678201	0.0076
MA(2)	-0.698452	0.221761	-3.149573	0.0017

R-squared	0.007033	Mean dependent var	0.077934
Adjusted R-squared	0.005386	S.D. dependent var	7.802351
S.E. of regression	7.781312	Akaike info criterion	6.944627
Sum squared resid	36510.93	Schwarz criterion	6.959190
Log likelihood	-2098.750	Hannan-Quinn criter.	6.950294
Durbin-Watson stat	2.032178		

Inverted AR Roots	.80	-.80
Inverted MA Roots	.84	-.84

ARIMA(2,1,0) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:15
Sample (adjusted): 4 608
Included observations: 605 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 1 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(2)	-0.064825	0.040609	-1.596334	0.1109
MA(3)	-0.108060	0.040503	-2.667984	0.0078

R-squared	0.013814	Mean dependent var	0.077934
Adjusted R-squared	0.012178	S.D. dependent var	7.802351
S.E. of regression	7.754697	Akaike info criterion	6.937775
Sum squared resid	36261.60	Schwarz criterion	6.952338
Log likelihood	-2096.677	Hannan-Quinn criter.	6.943442
Durbin-Watson stat	2.027715		

Inverted MA Roots	.48	-.24-.41i	-.24+.41i

ARIMA(3,1,1) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:21
Sample (adjusted): 5 608
Included observations: 604 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	-0.095227	0.040599	-2.345530	0.0193
MA(1)	-0.013950	0.040821	-0.341744	0.7327

R-squared	0.008883	Mean dependent var	0.086407
Adjusted R-squared	0.007237	S.D. dependent var	7.806032
S.E. of regression	7.777735	Akaike info criterion	6.943713
Sum squared resid	36416.89	Schwarz criterion	6.958295
Log likelihood	-2095.001	Hannan-Quinn criter.	6.949388
Durbin-Watson stat	1.998220		

Inverted AR Roots	.23-.40i	.23+.40i	-.46
Inverted MA Roots	.01		

ARIMA(3,1,2) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:22
Sample (adjusted): 5 608
Included observations: 604 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 3 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	-0.097727	0.040529	-2.411311	0.0162
MA(2)	-0.067358	0.040677	-1.655930	0.0983

R-squared	0.012791	Mean dependent var	0.086407
Adjusted R-squared	0.011151	S.D. dependent var	7.806032
S.E. of regression	7.762389	Akaike info criterion	6.939763
Sum squared resid	36273.32	Schwarz criterion	6.954344
Log likelihood	-2093.808	Hannan-Quinn criter.	6.945438
Durbin-Watson stat	2.027329		

Inverted AR Roots	.23+.40i	.23-.40i	-.46
Inverted MA Roots	.26	-.26	

ARIMA(3,1,3) tanpa konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:24
Sample (adjusted): 5 608
Included observations: 604 after adjustments
Convergence achieved after 13 iterations
MA Backcast: 2 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AR(3)	0.484053	0.225653	2.145127	0.0323
MA(3)	-0.573538	0.211417	-2.712833	0.0069

R-squared	0.013002	Mean dependent var	0.086407
Adjusted R-squared	0.011362	S.D. dependent var	7.806032
S.E. of regression	7.761557	Akaike info criterion	6.939549
Sum squared resid	36265.55	Schwarz criterion	6.954130
Log likelihood	-2093.744	Hannan-Quinn criter.	6.945223
Durbin-Watson stat	2.028121		

Inverted AR Roots	.79	-.39+.68i	-.39-.68i
Inverted MA Roots	.83	-.42+.72i	-.42-.72i

ARIMA(1,1,0) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:10
Sample (adjusted): 3 608
Included observations: 606 after adjustments
Convergence achieved after 2 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.085934	0.316141	0.271821	0.7859
AR(1)	-0.002871	0.040661	-0.070612	0.9437

R-squared	0.000008	Mean dependent var	0.085908
Adjusted R-squared	-0.001647	S.D. dependent var	7.798371
S.E. of regression	7.804792	Akaike info criterion	6.950648
Sum squared resid	36792.52	Schwarz criterion	6.965192
Log likelihood	-2104.046	Hannan-Quinn criter.	6.956307
F-statistic	0.004986	Durbin-Watson stat	2.001558
Prob(F-statistic)	0.943730		

Inverted AR Roots	-.00

ARIMA(2,1,0) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:16
Sample (adjusted): 4 608
Included observations: 605 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.078366	0.299554	0.261610	0.7937
AR(2)	-0.058034	0.040630	-1.428358	0.1537

R-squared	0.003372	Mean dependent var	0.077934
Adjusted R-squared	0.001719	S.D. dependent var	7.802351
S.E. of regression	7.795641	Akaike info criterion	6.948307
Sum squared resid	36645.53	Schwarz criterion	6.962870
Log likelihood	-2099.863	Hannan-Quinn criter.	6.953974
F-statistic	2.040207	Durbin-Watson stat	2.017165
Prob(F-statistic)	0.153707		

ARIMA(3,1,0) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:17
Sample (adjusted): 5 608
Included observations: 604 after adjustments
Convergence achieved after 3 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.086521	0.289268	0.299104	0.7650
AR(3)	-0.094055	0.040538	-2.320175	0.0207

R-squared	0.008863	Mean dependent var	0.086407
Adjusted R-squared	0.007217	S.D. dependent var	7.806032
S.E. of regression	7.777814	Akaike info criterion	6.943734
Sum squared resid	36417.63	Schwarz criterion	6.958315
Log likelihood	-2095.008	Hannan-Quinn criter.	6.949408
F-statistic	5.383212	Durbin-Watson stat	2.024488
Prob(F-statistic)	0.020665		

Inverted AR Roots	.23+.39i	.23-.39i	-.45

ARIMA(0,1,1) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:46
Sample (adjusted): 2 608
Included observations: 607 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.098154	0.315732	0.310876	0.7560
MA(1)	-0.003262	0.040658	-0.080222	0.9361

R-squared	0.000009	Mean dependent var	0.098204
Adjusted R-squared	-0.001644	S.D. dependent var	7.797822
S.E. of regression	7.804227	Akaike info criterion	6.950498
Sum squared resid	36848.10	Schwarz criterion	6.965023
Log likelihood	-2107.476	Hannan-Quinn criter.	6.956149
F-statistic	0.005662	Durbin-Watson stat	1.997989
Prob(F-statistic)	0.940045		

Inverted MA Roots	.00

ARIMA(0,1,2) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:47
Sample (adjusted): 2 608
Included observations: 607 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 0 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.096163	0.296197	0.324658	0.7456
MA(2)	-0.063430	0.040587	-1.562825	0.1186

R-squared	0.003670	Mean dependent var	0.098204
Adjusted R-squared	0.002023	S.D. dependent var	7.797822
S.E. of regression	7.789929	Akaike info criterion	6.946830
Sum squared resid	36713.21	Schwarz criterion	6.961356
Log likelihood	-2106.363	Hannan-Quinn criter.	6.952482
F-statistic	2.228550	Durbin-Watson stat	2.017734
Prob(F-statistic)	0.136002		

Inverted MA Roots	.25	-.25

ARIMA(0,1,3) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 00:49
Sample (adjusted): 2 608
Included observations: 607 after adjustments
Convergence achieved after 6 iterations
MA Backcast: -1 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.095901	0.283316	0.338494	0.7351
MA(3)	-0.101816	0.040459	-2.516548	0.0121

R-squared	0.009564	Mean dependent var	0.098204
Adjusted R-squared	0.007927	S.D. dependent var	7.797822
S.E. of regression	7.766853	Akaike info criterion	6.940897
Sum squared resid	36496.02	Schwarz criterion	6.955422
Log likelihood	-2104.562	Hannan-Quinn criter.	6.946548
F-statistic	5.842250	Durbin-Watson stat	2.023943
Prob(F-statistic)	0.015941		

Inverted MA Roots	.47	-.23-.40i	-.23+.40i

ARIMA(1,1,1) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:05
Sample (adjusted): 3 608
Included observations: 606 after adjustments
Convergence achieved after 17 iterations
MA Backcast: 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.055300	0.219755	0.251645	0.8014
AR(1)	0.782930	0.117025	6.690259	0.0000
MA(1)	-0.850352	0.099238	-8.568839	0.0000

R-squared	0.012689	Mean dependent var	0.085908
Adjusted R-squared	0.009415	S.D. dependent var	7.798371
S.E. of regression	7.761575	Akaike info criterion	6.941186
Sum squared resid	36325.95	Schwarz criterion	6.963002
Log likelihood	-2100.179	Hannan-Quinn criter.	6.949675
F-statistic	3.875022	Durbin-Watson stat	1.901229
Prob(F-statistic)	0.021273		

Inverted AR Roots	.78
Inverted MA Roots	.85

ARIMA(1,1,2) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:07
Sample (adjusted): 3 608
Included observations: 606 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 1 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.085243	0.293743	0.290196	0.7718
AR(1)	-0.009761	0.040701	-0.239831	0.8105
MA(2)	-0.063748	0.040659	-1.567862	0.1174

R-squared	0.003650	Mean dependent var	0.085908
Adjusted R-squared	0.000345	S.D. dependent var	7.798371
S.E. of regression	7.797024	Akaike info criterion	6.950300
Sum squared resid	36658.53	Schwarz criterion	6.972116
Log likelihood	-2102.941	Hannan-Quinn criter.	6.958788
F-statistic	1.104512	Durbin-Watson stat	2.001158
Prob(F-statistic)	0.332042		

Inverted AR Roots	-.01	
Inverted MA Roots	.25	-.25

ARIMA(1,1,3) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:08
Sample (adjusted): 3 608
Included observations: 606 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 0 2

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.085218	0.279878	0.304483	0.7609
AR(1)	-0.012752	0.040788	-0.312646	0.7547
MA(3)	-0.102903	0.040619	-2.533331	0.0116

R-squared	0.009685	Mean dependent var	0.085908
Adjusted R-squared	0.006400	S.D. dependent var	7.798371
S.E. of regression	7.773376	Akaike info criterion	6.944224
Sum squared resid	36436.50	Schwarz criterion	6.966041
Log likelihood	-2101.100	Hannan-Quinn criter.	6.952713
F-statistic	2.948529	Durbin-Watson stat	2.003305
Prob(F-statistic)	0.053173		

Inverted AR Roots	-.01		
Inverted MA Roots	.47	-.23-.41i	-.23+.41i

ARIMA(2,1,1) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:12
Sample (adjusted): 4 608
Included observations: 605 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.078412	0.296852	0.264144	0.7918
AR(2)	-0.058848	0.040666	-1.447123	0.1484
MA(1)	-0.009055	0.040761	-0.222138	0.8243

R-squared	0.003453	Mean dependent var	0.077934
Adjusted R-squared	0.000142	S.D. dependent var	7.802351
S.E. of regression	7.801798	Akaike info criterion	6.951532
Sum squared resid	36642.57	Schwarz criterion	6.973376
Log likelihood	-2099.838	Hannan-Quinn criter.	6.960032
F-statistic	1.042832	Durbin-Watson stat	1.999241
Prob(F-statistic)	0.353091		

Inverted MA Roots	.01

ARIMA(2,1,2) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:14
Sample (adjusted): 4 608
Included observations: 605 after adjustments
Convergence achieved after 20 iterations
MA Backcast: 2 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.052061	0.266545	0.195318	0.8452
AR(2)	0.636840	0.240482	2.648177	0.0083
MA(2)	-0.697301	0.223779	-3.116032	0.0019

R-squared	0.007096	Mean dependent var	0.077934
Adjusted R-squared	0.003797	S.D. dependent var	7.802351
S.E. of regression	7.787525	Akaike info criterion	6.947870
Sum squared resid	36508.62	Schwarz criterion	6.969714
Log likelihood	-2098.731	Hannan-Quinn criter.	6.956370
F-statistic	2.151037	Durbin-Watson stat	2.032397
Prob(F-statistic)	0.117257		

Inverted AR Roots	.80	-.80
Inverted MA Roots	.84	-.84

ARIMA(0,1,2) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:16
Sample (adjusted): 4 608
Included observations: 605 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 1 3

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.077156	0.264368	0.291849	0.7705
AR(2)	-0.064985	0.040643	-1.598910	0.1104
MA(3)	-0.108216	0.040536	-2.669661	0.0078

R-squared	0.013953	Mean dependent var	0.077934
Adjusted R-squared	0.010677	S.D. dependent var	7.802351
S.E. of regression	7.760586	Akaike info criterion	6.940939
Sum squared resid	36256.47	Schwarz criterion	6.962783
Log likelihood	-2096.634	Hannan-Quinn criter.	6.949440
F-statistic	4.259276	Durbin-Watson stat	2.028020
Prob(F-statistic)	0.014561		

Inverted MA Roots	.48	-.24-.41i	-.24+.41i

ARIMA(2,1,0) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:21
Sample (adjusted): 5 608
Included observations: 604 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.086508	0.285050	0.303483	0.7616
AR(3)	-0.095386	0.040633	-2.347494	0.0192
MA(1)	-0.014142	0.040855	-0.346145	0.7294

R-squared	0.009035	Mean dependent var	0.086407
Adjusted R-squared	0.005737	S.D. dependent var	7.806032
S.E. of regression	7.783607	Akaike info criterion	6.946871
Sum squared resid	36411.31	Schwarz criterion	6.968743
Log likelihood	-2094.955	Hannan-Quinn criter.	6.955383
F-statistic	2.739759	Durbin-Watson stat	1.998197
Prob(F-statistic)	0.065393		

Inverted AR Roots	.23+.40i	.23-.40i	-.46
Inverted MA Roots	.01		

ARIMA(0,1,2) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:23
Sample (adjusted): 5 608
Included observations: 604 after adjustments
Convergence achieved after 6 iterations
MA Backcast: 3 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.085097	0.268529	0.316901	0.7514
AR(3)	-0.097891	0.040562	-2.413372	0.0161
MA(2)	-0.067517	0.040710	-1.658494	0.0977

R-squared	0.012955	Mean dependent var	0.086407
Adjusted R-squared	0.009671	S.D. dependent var	7.806032
S.E. of regression	7.768195	Akaike info criterion	6.942907
Sum squared resid	36267.26	Schwarz criterion	6.964779
Log likelihood	-2093.758	Hannan-Quinn criter.	6.951419
F-statistic	3.944197	Durbin-Watson stat	2.027685
Prob(F-statistic)	0.019870		

Inverted AR Roots	.23+.40i	.23-.40i	-.46
Inverted MA Roots	.26	-.26	

ARIMA(2,1,0) dengan konstanta

Dependent Variable: D(SAHAM)
Method: Least Squares
Date: 08/13/16 Time: 01:24
Sample (adjusted): 5 608
Included observations: 604 after adjustments
Convergence achieved after 13 iterations
MA Backcast: 2 4

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.051321	0.263431	0.194819	0.8456
AR(3)	0.481937	0.227186	2.121338	0.0343
MA(3)	-0.571736	0.212883	-2.685676	0.0074

R-squared	0.013064	Mean dependent var	0.086407
Adjusted R-squared	0.009780	S.D. dependent var	7.806032
S.E. of regression	7.767767	Akaike info criterion	6.942797
Sum squared resid	36263.26	Schwarz criterion	6.964669
Log likelihood	-2093.725	Hannan-Quinn criter.	6.951309
F-statistic	3.977750	Durbin-Watson stat	2.028319
Prob(F-statistic)	0.019223		

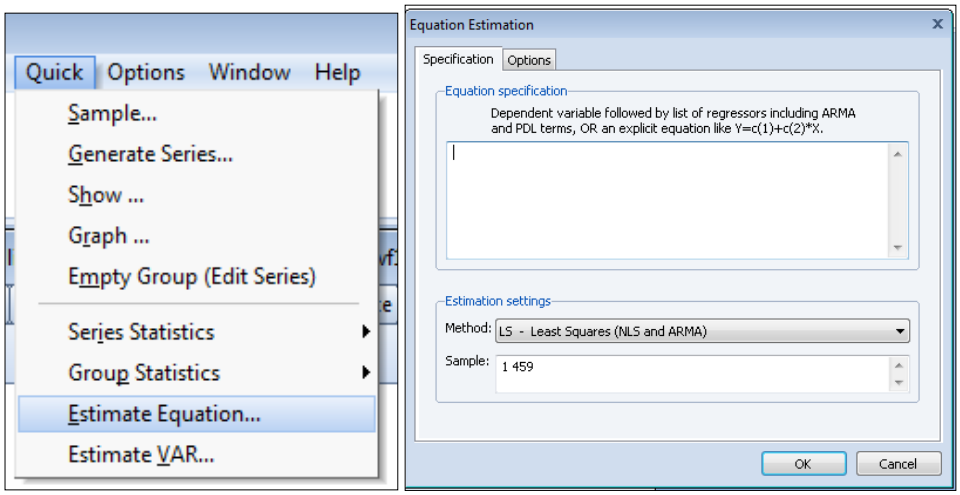
Inverted AR Roots	.78	-.39+.68i	-.39-.68i
Inverted MA Roots	.83	-.41+.72i	-.41-.72i

Lampiran 5

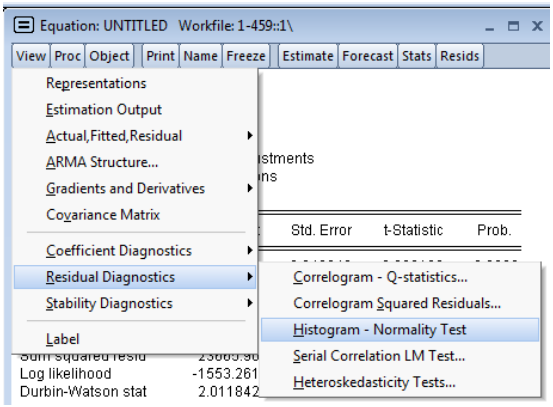
Langkah-langkah mendapatkan output hasil pengujian normalitas residual model ARIMA(p,d,q) dengan bantuan *software* EViews:

Disini kita memakai contoh pada data pertama, melanjutkan tahapan pada lampiran 4. Karena diperoleh model terbaik ARIMA(0,1,2) maka

1. Klik Quick ⇨ Estimate Equation... ⇨ pada Estimate Specification ketik d(saham) ma(2) dengan method: LS ⇨ OK



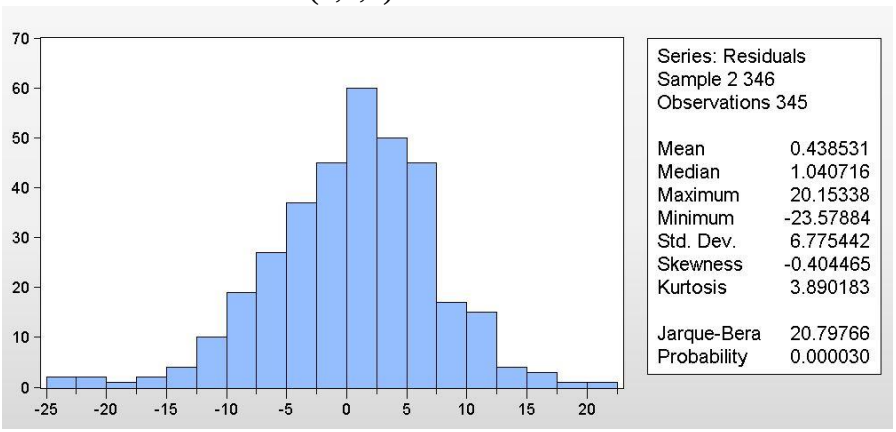
2. Selanjutnya klik View ⇨ Residual Diagnostics ⇨ Histogram – Normality Test



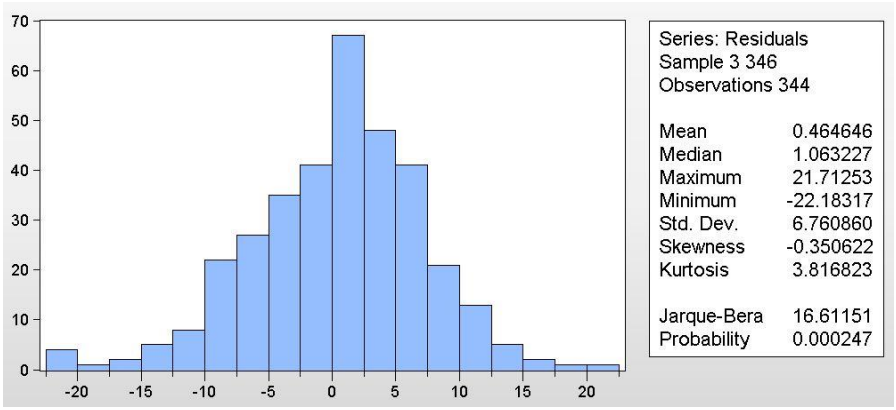
Lanjutkan dengan langkah-langkah yang sama pada data kedua dan ketiga, sehingga akan diperoleh output hasil pengujian normalitas residual adalah sebagai berikut:

Output Hasil Pengujian Normalitas

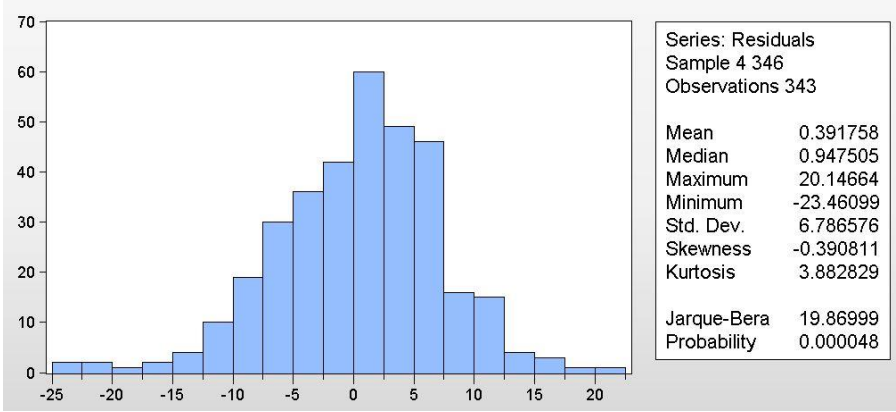
1. Data pertama
   a. Normalitas residual ARIMA(0,1,2)



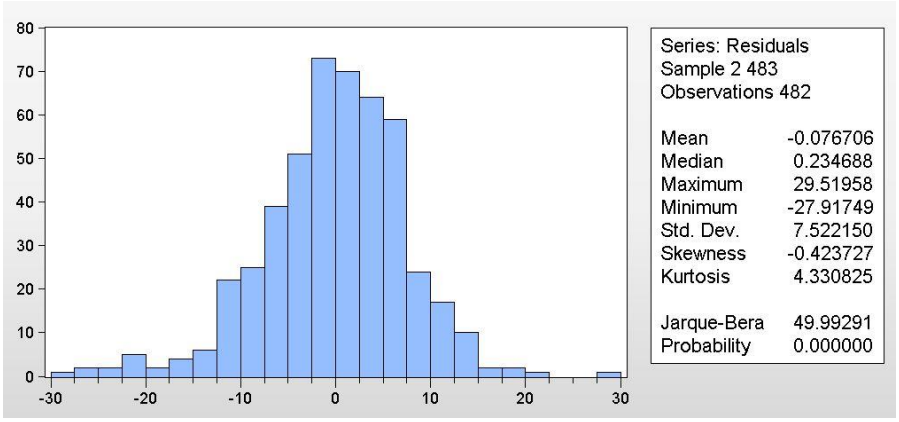
   b. Normalitas residual ARIMA(1,1,1)



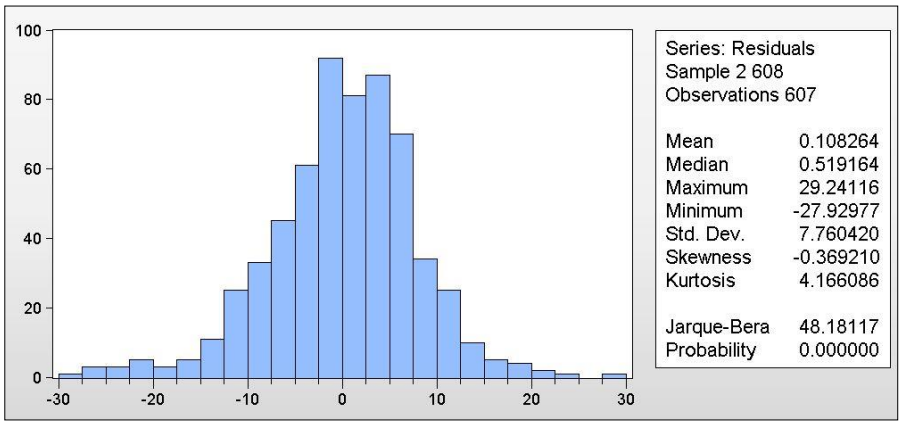
   c. Normalitas residual ARIMA(2,1,0)



2. Data kedua
   Normalitas residual ARIMA(0,1,3)



3. Data ketiga
   Normalitas residual ARIMA(0,1,3)

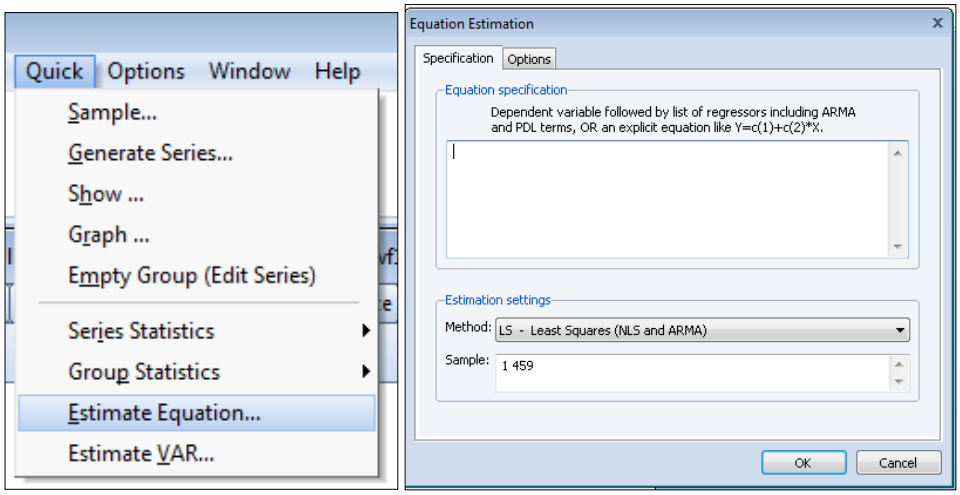


Lampiran 6

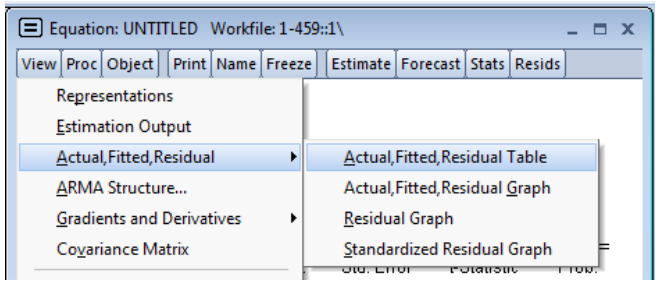
Langkah-langkah mendapatkan data aktual, peramalan (*fitted*) dan residual dengan bantuan software EViews:

Disini kita memakai contoh pada data pertama, melanjutkan tahapan pada lampiran 5, Karena diperoleh model terbaik ARIMA(0,1,2) maka

1. Klik Quick ⇨ Estimate Equation... ⇨ pada Estimate Specification ketik d(saham) ma(2) dengan method: LS ⇨ OK



2. Selanjutnya klik View ⇨ Residual Diagnostics ⇨ Histogram – Normality Test



Lanjutkan dengan langkah-langkah yang sama pada data kedua dan ketiga, sehingga akan diperoleh output data aktual, peramalan (*fitted*) dan residual adalah sebagai berikut:

Tabel Data Aktual, Peramalan (*Fitted*) dan Residual

1. Data kedua
   Model ARIMA(0,1,3)

obs	Actual	Fitted	Residual	obs	Actual	Fitted	Residual
2	7,55000	0,06281	7,48719	39	6,63000	0,17686	6,45314
3	4,91000	0,04773	4,86227	40	-1,29000	0,11132	-1,40132
4	-5,04000	-0,03734	-5,00266	41	0,96000	1,76753	-0,80753
5	-1,35000	-0,68668	-0,66332	42	12,0500	-0,59184	12,6418
6	7,36000	-0,44594	7,80594	43	-7,21000	0,12852	-7,33852
7	7,05000	0,45881	6,59119	44	-7,32000	0,07406	-7,39406
8	4,48000	0,06084	4,41916	45	-3,51000	-1,15943	-2,35057
9	9,94000	-0,71591	10,6559	46	-4,88000	0,67305	-5,55305
10	-5,93000	-0,60450	-5,32550	47	7,23000	0,67814	6,55186
11	5,37000	-0,40530	5,77530	48	11,2900	0,21558	11,0744
12	6,50000	-0,97730	7,47730	49	-1,41000	0,50929	-1,91929
13	4,62000	0,48842	4,13158	50	-10,4500	-0,60090	-9,84910
14	-15,3300	-0,52968	-14,8003	51	-7,51000	-1,01568	-6,49432
15	3,85000	-0,68577	4,53577	52	-7,40000	0,17603	-7,57603
16	5,23000	-0,37892	5,60892	53	6,76000	0,90330	5,85670
17	-4,85000	1,35740	-6,20740	54	4,61000	0,59562	4,01438
18	2,45000	-0,41599	2,86599	55	7,20000	0,69483	6,50517
19	-3,06000	-0,51442	-2,54558	56	-3,52000	-0,53714	-2,98286
20	1,58000	0,56931	1,01069	57	-3,21000	-0,36817	-2,84183
21	-12,7000	-0,26285	-12,4371	58	5,55000	-0,59662	6,14662
22	-12,2000	0,23347	-12,4335	59	0,50000	0,27357	0,22643
23	0,41000	-0,09269	0,50269	60	6,47000	0,26064	6,20936
24	5,67000	1,14066	4,52934	61	11,0400	-0,56373	11,6037
25	6,52000	1,14032	5,37968	62	-10,5100	-0,02077	-10,4892
26	-0,48000	-0,04610	-0,43390	63	-5,71000	-0,56949	-5,14051
27	-5,13000	-0,41540	-4,71460	64	-7,64000	-1,06422	-6,57578
28	-5,95000	-0,49339	-5,45661	65	4,12000	0,96201	3,15799
29	-13,6200	0,03979	-13,6598	66	-2,13000	0,47146	-2,60146
30	8,47000	0,43239	8,03761	67	8,10000	0,60309	7,49691
31	-8,67000	0,50045	-9,17045	68	19,4300	-0,28963	19,7196
32	14,8600	1,25279	13,6072	69	8,09000	0,23859	7,85141
33	2,66000	-0,73716	3,39716	70	-3,08000	-0,68757	-2,39243
34	-10,5400	0,84106	-11,3811	71	-3,76000	-1,80857	-1,95143
35	-2,58000	-1,24797	-1,33203	72	5,26000	-0,72008	5,98008
36	-2,24000	-0,31157	-1,92843	73	0,79000	0,21942	0,57058
37	-0,17000	1,04380	-1,21380	74	5,30000	0,17897	5,12103
38	-19,1500	0,12217	-19,2722	75	0,56000	-0,54846	1,10846

76	-10,6000	-0,05233	-10,5477	119	-1,46000	-0,16441	-1,29559
77	-20,4900	-0,46967	-20,0203	120	5,39000	0,66818	4,72182
78	4,39000	-0,10166	4,49166	121	16,6800	-0,38146	17,0615
79	13,2700	0,96737	12,3026	122	-1,82000	0,11882	-1,93882
80	1,33000	1,83614	-0,50614	123	3,26000	-0,43306	3,69306
81	-7,25000	-0,41195	-6,83805	124	-5,26000	-1,56477	-3,69523
82	-8,13000	-1,12832	-7,00168	125	13,9500	0,17782	13,7722
83	7,01000	0,04642	6,96358	126	-0,70000	-0,33871	-0,36129
84	6,56000	0,62715	5,93285	127	0,00000	0,33890	-0,33890
85	5,16000	0,64215	4,51785	128	-23,3700	-1,26310	-22,1069
86	-2,89000	-0,63866	-2,25134	129	10,1300	0,03314	10,0969
87	1,37000	-0,54413	1,91413	130	6,43000	0,03108	6,39892
88	4,38000	-0,41435	4,79435	131	0,07000	2,02751	-1,95751
89	-1,86000	0,20648	-2,06648	132	-1,92000	-0,92602	-0,99398
90	1,75000	-0,17555	1,92555	133	5,73000	-0,58687	6,31687
91	6,64000	-0,43971	7,07971	134	-0,07000	0,17953	-0,24953
92	-0,51000	0,18953	-0,69953	135	0,61000	0,09116	0,51884
93	6,63000	-0,17660	6,80660	136	0,01000	-0,57935	0,58935
94	0,43000	-0,64931	1,07931	137	-0,96000	0,02289	-0,98289
95	4,81000	0,06416	4,74584	138	0,03000	-0,04758	0,07758
96	-5,03000	-0,62426	-4,40574	139	-12,8900	-0,05405	-12,8359
97	-7,46000	-0,09899	-7,36101	140	-5,07000	0,09014	-5,16014
98	-8,45000	-0,43526	-8,01474	141	2,42000	-0,00712	2,42712
99	6,81000	0,40407	6,40593	142	-1,42000	1,17724	-2,59724
100	14,0200	0,67511	13,3449	143	2,00000	0,47326	1,52674
101	-7,88000	0,73506	-8,61506	144	-1,21000	-0,22260	-0,98740
102	1,07000	-0,58751	1,65751	145	4,69000	0,23820	4,45180
103	7,95000	-1,22391	9,17391	146	1,07000	-0,14002	1,21002
104	3,00000	0,79012	2,20988	147	3,15000	0,09056	3,05944
105	0,74000	-0,15202	0,89202	148	6,52000	-0,40829	6,92829
106	1,17000	-0,84138	2,01138	149	-1,42000	-0,11098	-1,30902
107	2,44000	-0,20268	2,64268	150	11,5500	-0,28059	11,8306
108	-2,18000	-0,08181	-2,09819	151	8,03000	-0,63542	8,66542
109	8,14000	-0,18447	8,32447	152	-2,55000	0,12006	-2,67006
110	20,4300	-0,24237	20,6724	153	-18,0000	-1,08503	-16,9150
111	2,12000	0,19243	1,92757	154	4,70000	-0,79474	5,49474
112	-12,5400	-0,76347	-11,7765	155	7,73000	0,24488	7,48512
113	4,13000	-1,89595	6,02595	156	-0,40000	1,55134	-1,95134
114	-21,2800	-0,17678	-21,1032	157	-0,29000	-0,50394	0,21394
115	2,38000	1,08007	1,29993	158	2,14000	-0,68649	2,82649
116	1,24000	-0,55266	1,79266	159	-17,1300	0,17897	-17,3090
117	-5,35000	1,93546	-7,28546	160	2,07000	-0,01962	2,08962
118	4,04000	-0,11922	4,15922	161	3,71000	-0,25923	3,96923

162	-0,99000	1,58747	-2,57747	205	2,84000	-0,32149	3,16149
163	1,41000	-0,19165	1,60165	206	7,19000	0,36919	6,82081
164	3,37000	-0,36403	3,73403	207	-3,57000	-0,89405	-2,67595
165	-7,41000	0,23639	-7,64639	208	-2,37000	-0,28995	-2,08005
166	10,1900	-0,14689	10,3369	209	1,03000	-0,62556	1,65556
167	3,81000	-0,34246	4,15246	210	-1,10000	0,24542	-1,34542
168	-6,34000	0,70128	-7,04128	211	4,85000	0,19077	4,65923
169	-1,38000	-0,94804	-0,43196	212	1,22000	-0,15184	1,37184
170	-9,37000	-0,38084	-8,98916	213	-3,23000	0,12339	-3,35339
171	5,61000	0,64578	4,96422	214	-3,12000	-0,42732	-2,69268
172	-3,46000	0,03962	-3,49962	215	-5,09000	-0,12582	-4,96418
173	-3,69000	0,82443	-4,51443	216	2,91000	0,30755	2,60245
174	-1,39000	-0,45529	-0,93471	217	2,61000	0,24696	2,36304
175	0,47000	0,32096	0,14904	218	-10,3900	0,45529	-10,8453
176	1,21000	0,41404	0,79596	219	8,37000	-0,23868	8,60868
177	-3,02000	0,08573	-3,10573	220	3,55000	-0,21672	3,76672
178	5,06000	-0,01367	5,07367	221	4,17000	0,99466	3,17534
179	-4,80000	-0,07300	-4,72700	222	-4,99000	-0,78954	-4,20046
180	3,11000	0,28484	2,82516	223	0,62000	-0,34546	0,96546
181	1,35000	-0,46533	1,81533	224	5,13000	-0,29122	5,42122
182	7,51000	0,43353	7,07647	225	-9,77000	0,38524	-10,1552
183	-2,07000	-0,25911	-1,81089	226	-9,56000	-0,08855	-9,47145
184	1,84000	-0,16649	2,00649	227	-5,33000	-0,49720	-4,83280
185	15,7800	-0,64901	16,4290	228	5,36000	0,93138	4,42862
186	3,88000	0,16608	3,71392	229	2,92000	0,86866	2,05134
187	9,56000	-0,18402	9,74402	230	-0,60000	0,44324	-1,04324
188	-13,0000	-1,50677	-11,4932	231	8,09000	-0,40617	8,49617
189	-0,14000	-0,34062	0,20062	232	3,63000	-0,18814	3,81814
190	8,49000	-0,89366	9,38366	233	1,99000	0,09568	1,89432
191	6,29000	1,05409	5,23591	234	-2,29000	-0,77922	-1,51078
192	-8,56000	-0,01840	-8,54160	235	-6,23000	-0,35018	-5,87982
193	3,86000	-0,86061	4,72061	236	-3,66000	-0,17374	-3,48626
194	7,32000	-0,48021	7,80021	237	2,47000	0,13856	2,33144
195	-4,78000	0,78338	-5,56338	238	-7,37000	0,53926	-7,90926
196	-0,19000	-0,43295	0,24295	239	1,85000	0,31974	1,53026
197	0,32000	-0,71539	1,03539	240	-1,86000	-0,21383	-1,64617
198	-2,06000	0,51024	-2,57024	241	-5,23000	0,72539	-5,95539
199	10,8300	-0,02228	10,8523	242	-20,6900	-0,14035	-20,5497
200	-4,08000	-0,09496	-3,98504	243	-2,71000	0,15098	-2,86098
201	-9,27000	0,23573	-9,50573	244	6,13000	0,54619	5,58381
202	2,51000	-0,99531	3,50531	245	5,89000	1,88469	4,00531
203	-3,66000	0,36548	-4,02548	246	-11,6600	0,26239	-11,9224
204	10,6200	0,87181	9,74819	247	3,47000	-0,51211	3,98211

248	-6,83000	-0,36734	-6,46266	291	4,01000	-0,15325	4,16325
249	-8,75000	1,09345	-9,84345	292	-3,06000	0,72573	-3,78573
250	3,10000	-0,36522	3,46522	293	0,73000	0,14532	0,58468
251	2,43000	0,59272	1,83728	294	-6,11000	-0,38183	-5,72817
252	-0,79000	0,90278	-1,69278	295	-10,8900	0,34720	-11,2372
253	11,5900	-0,31781	11,9078	296	-1,79000	-0,05362	-1,73638
254	-0,95000	-0,16850	-0,78150	297	13,8900	0,52535	13,3646
255	-0,74000	0,15525	-0,89525	298	3,69000	1,03061	2,65939
256	6,25000	-1,09211	7,34211	299	6,66000	0,15925	6,50075
257	2,94000	0,07167	2,86833	300	5,20000	-1,22573	6,42573
258	-4,66000	0,08211	-4,74211	301	0,00000	-0,24390	0,24390
259	-7,71000	-0,67337	-7,03663	302	3,43000	-0,59621	4,02621
260	-6,08000	-0,26307	-5,81693	303	-5,38000	-0,58933	-4,79067
261	15,1800	0,43492	14,7451	304	-8,02000	-0,02237	-7,99763
262	-0,99000	0,64536	-1,63536	305	6,44000	-0,36926	6,80926
263	3,63000	0,53349	3,09651	306	0,63000	0,43937	0,19063
264	-0,25000	-1,35233	1,10233	307	0,81000	0,73349	0,07651
265	-5,74000	0,14999	-5,88999	308	-5,17000	-0,62450	-4,54550
266	0,98000	-0,28399	1,26399	309	8,37000	-0,01748	8,38748
267	-3,29000	-0,10110	-3,18890	310	-10,4900	-0,00702	-10,4830
268	-8,12000	0,54019	-8,66019	311	5,91000	0,41689	5,49311
269	-4,37000	-0,11593	-4,25407	312	-5,88000	-0,76925	-5,11075
270	12,0300	0,29247	11,7375	313	-0,05000	0,96144	-1,01144
271	2,24000	0,79426	1,44574	314	6,98000	-0,50380	7,48380
272	1,78000	0,39016	1,38984	315	13,4800	0,46873	13,0113
273	0,14000	-1,07650	1,21650	316	6,74000	0,09276	6,64724
274	2,67000	-0,13259	2,80259	317	7,89000	-0,68637	8,57637
275	7,25000	-0,12747	7,37747	318	-11,3000	-1,19332	-10,1067
276	2,88000	-0,11157	2,99157	319	2,28000	-0,60964	2,88964
277	-6,05000	-0,25704	-5,79296	320	-1,62000	-0,78657	-0,83343
278	4,93000	-0,67662	5,60662	321	-2,99000	0,92692	-3,91692
279	8,97000	-0,27437	9,24437	322	3,58000	-0,26502	3,84502
280	-6,39000	0,53130	-6,92130	323	-5,18000	0,07644	-5,25644
281	1,50000	-0,51421	2,01421	324	3,14000	0,35924	2,78076
282	3,11000	-0,84784	3,95784	325	4,08000	-0,35264	4,43264
283	-1,69000	0,63478	-2,32478	326	-8,32000	0,48209	-8,80209
284	2,38000	-0,18473	2,56473	327	11,1200	-0,25503	11,3750
285	0,52000	-0,36299	0,88299	328	-0,63000	-0,40654	-0,22346
286	-4,18000	0,21321	-4,39321	329	-3,88000	0,80727	-4,68727
287	4,95000	-0,23522	5,18522	330	5,13000	-1,04325	6,17325
288	1,59000	-0,08098	1,67098	331	1,84000	0,02049	1,81951
289	-7,51000	0,40292	-7,91292	332	7,55000	0,42989	7,12011
290	-2,06000	-0,47556	-1,58444	333	-11,9300	-0,56617	-11,3638

334	4,74000	-0,16687	4,90687	377	-5,08000	0,01220	-5,09220
335	4,34000	-0,65301	4,99301	378	13,7300	0,10738	13,6226
336	0,00000	1,04222	-1,04222	379	-1,86000	0,14890	-2,00890
337	-3,32000	-0,45003	-2,86997	380	2,73000	0,46703	2,26297
338	3,03000	-0,45793	3,48793	381	4,44000	-1,24938	5,68938
339	2,04000	0,09559	1,94441	382	-25,0500	0,18424	-25,2342
340	7,01000	0,26322	6,74678	383	2,84000	-0,20755	3,04755
341	-0,07000	-0,31989	0,24989	384	-26,2100	-0,52180	-25,6882
342	-5,27000	-0,17833	-5,09167	385	-10,0700	2,31433	-12,3843
343	6,51000	-0,61877	7,12877	386	0,00000	-0,27950	0,27950
344	1,59000	-0,02292	1,61292	387	14,3600	2,35597	12,0040
345	-6,81000	0,46698	-7,27698	388	7,09000	1,13582	5,95418
346	-1,30000	-0,65381	-0,64619	389	6,05000	-0,02563	6,07563
347	12,7600	-0,14793	12,9079	390	-6,33000	-1,10094	-5,22906
348	-10,2000	0,66740	-10,8674	391	10,7300	-0,54608	11,2761
349	1,20000	0,05926	1,14074	392	-0,54000	-0,55722	0,01722
350	-5,32000	-1,18384	-4,13616	393	0,79000	0,47958	0,31042
351	3,24000	0,99669	2,24331	394	9,08000	-1,03417	10,1142
352	-0,09000	-0,10462	0,01462	395	2,82000	-0,00158	2,82158
353	1,67000	0,37934	1,29066	396	-0,34000	-0,02847	-0,31153
354	-0,67000	-0,20574	-0,46426	397	3,24000	-0,92761	4,16761
355	-6,36000	-0,00134	-6,35866	398	3,05000	-0,25878	3,30878
356	6,54000	-0,11837	6,65837	399	-2,52000	0,02857	-2,54857
357	-3,19000	0,04258	-3,23258	400	-0,51000	-0,38223	-0,12777
358	-0,67000	0,58318	-1,25318	401	-0,50000	-0,30346	-0,19654
359	0,50000	-0,61067	1,11067	402	8,03000	0,23374	7,79626
360	-10,4700	0,29647	-10,7665	403	-11,5300	0,01172	-11,5417
361	-7,55000	0,11493	-7,66493	404	-0,61000	0,01803	-0,62803
362	6,50000	-0,10186	6,60186	405	-9,09000	-0,71503	-8,37497
363	10,5200	0,98744	9,53256	406	2,58000	1,05854	1,52146
364	7,70000	0,70298	6,99702	407	-8,25000	0,05760	-8,30760
365	-9,61000	-0,60548	-9,00452	408	-7,11000	0,76810	-7,87810
366	-1,79000	-0,87427	-0,91573	409	-0,54000	-0,13954	-0,40046
367	4,07000	-0,64172	4,71172	410	-11,8800	0,76192	-12,6419
368	6,69000	0,82584	5,86416	411	-17,1700	0,72253	-17,8925
369	-7,57000	0,08399	-7,65399	412	9,05000	0,03673	9,01327
370	3,86000	-0,43213	4,29213	413	1,85000	1,15944	0,69056
371	-1,77000	-0,53783	-1,23217	414	-0,94000	1,64100	-2,58100
372	-4,65000	0,70198	-5,35198	415	-17,6200	-0,82664	-16,7934
373	-6,32000	-0,39365	-5,92635	416	4,99000	-0,06333	5,05333
374	-0,02000	0,11301	-0,13301	417	7,79000	0,23671	7,55329
375	-0,68000	0,49085	-1,17085	418	4,24000	1,54019	2,69981
376	-1,08000	0,54353	-1,62353	419	1,76000	-0,46346	2,22346

420	-5,18000	-0,69274	-4,48726	452	-21,0800	0,92358	-22,0036
421	-4,53000	-0,24761	-4,28239	453	-22,4300	0,28769	-22,7177
422	9,26000	-0,20392	9,46392	454	19,9800	0,17545	19,8045
423	-6,58000	0,41154	-6,99154	455	1,11000	2,01804	-0,90804
424	-0,94000	0,39276	-1,33276	456	-9,22000	2,08353	-11,3035
425	-6,03000	-0,86797	-5,16203	457	-5,06000	-1,81635	-3,24365
426	4,17000	0,64122	3,52878	458	-4,14000	0,08328	-4,22328
427	-2,18000	0,12223	-2,30223	459	-15,9800	1,03669	-17,0167
428	7,61000	0,47343	7,13657	460	-27,6200	0,29749	-27,9175
429	8,51000	-0,32364	8,83364	461	10,4800	0,38733	10,0927
430	-9,56000	0,21115	-9,77115	462	-1,78000	1,56067	-3,34067
431	-3,65000	-0,65452	-2,99548	463	32,0800	2,56042	29,5196
432	-4,47000	-0,81017	-3,65983	464	0,92000	-0,92564	1,84564
433	-7,66000	0,89615	-8,55615	465	12,1900	0,30639	11,8836
434	3,15000	0,27473	2,87527	466	-14,1800	-2,70736	-11,4726
435	6,08000	0,33566	5,74434	467	-1,44000	-0,16927	-1,27073
436	1,08000	0,78472	0,29528	468	8,23000	-1,08989	9,31989
437	-2,25000	-0,26370	-1,98630	469	-1,75000	1,05220	-2,80220
438	4,74000	-0,52684	5,26684	470	-23,8100	0,11654	-23,9265
439	-2,05000	-0,02708	-2,02292	471	2,01000	-0,85476	2,86476
440	-9,40000	0,18217	-9,58217	472	7,65000	0,25700	7,39300
441	-14,8000	-0,48304	-14,3170	473	2,07000	2,19440	-0,12440
442	-3,51000	0,18553	-3,69553	474	7,84000	-0,26274	8,10274
443	0,47000	0,87882	-0,40882	475	6,78000	-0,67804	7,45804
444	-0,20000	1,31307	-1,51307	476	-11,4000	0,01141	-11,4114
445	13,0700	0,33893	12,7311	477	-3,21000	-0,74313	-2,46687
446	-4,98000	0,03749	-5,01749	478	7,36000	-0,68401	8,04401
447	-2,77000	0,13877	-2,90877	479	0,41000	1,04659	-0,63659
448	10,0300	-1,16762	11,1976	480	-1,56000	0,22625	-1,78625
449	-9,61000	0,46017	-10,0702	481	-7,12000	-0,73775	-6,38225
450	-2,87000	0,26677	-3,13677	482	-14,6300	0,05838	-14,6884
451	-2,94000	-1,02698	-1,91302	483	-4,30000	0,16382	-4,46382

2. Data ketiga
   Model ARIMA(0,1,3)

obs	**Actual**	**Fitted**	**Residual**	**Obs**	**Actual**	**Fitted**	**Residual**
2	7,55000	0,02909	7,52091	46	-4,88000	0,41565	-5,29565
3	4,91000	0,01945	4,89055	47	7,23000	0,25068	6,97932
4	-5,04000	-0,47600	-4,56400	48	11,2900	0,33516	10,9548
5	-1,35000	-0,30952	-1,04048	49	-1,41000	-0,44172	-0,96828
6	7,36000	0,28886	7,07114	50	-10,4500	-0,69333	-9,75667

7	7,05000	0,06585	6,98415	51	-7,51000	0,06128	-7,57128
8	4,48000	-0,44753	4,92753	52	-7,40000	0,61750	-8,01750
9	9,94000	-0,44203	10,3820	53	6,76000	0,47919	6,28081
10	-5,93000	-0,31186	-5,61814	54	4,61000	0,50743	4,10257
11	5,37000	-0,65708	6,02708	55	7,20000	-0,39751	7,59751
12	6,50000	0,35557	6,14443	56	-3,52000	-0,25965	-3,26035
13	4,62000	-0,38145	5,00145	57	-3,21000	-0,48085	-2,72915
14	-15,3300	-0,38888	-14,9411	58	5,55000	0,20635	5,34365
15	3,85000	-0,31654	4,16654	59	0,50000	0,17273	0,32727
16	5,23000	0,94563	4,28437	60	6,47000	-0,33820	6,80820
17	-4,85000	-0,26370	-4,58630	61	11,0400	-0,02071	11,0607
18	2,45000	-0,27116	2,72116	62	-10,5100	-0,43089	-10,0791
19	-3,06000	0,29027	-3,35027	63	-5,71000	-0,70003	-5,00997
20	1,58000	-0,17222	1,75222	64	-7,64000	0,63791	-8,27791
21	-12,7000	0,21204	-12,9120	65	4,12000	0,31708	3,80292
22	-12,2000	-0,11090	-12,0891	66	-2,13000	0,52391	-2,65391
23	0,41000	0,81721	-0,40721	67	8,10000	-0,24069	8,34069
24	5,67000	0,76512	4,90488	68	19,4300	0,16797	19,2620
25	6,52000	0,02577	6,49423	69	8,09000	-0,52788	8,61788
26	-0,48000	-0,31043	-0,16957	70	-3,08000	-1,21910	-1,86090
27	-5,13000	-0,41102	-4,71898	71	-3,76000	-0,54543	-3,21457
28	-5,95000	0,01073	-5,96073	72	5,26000	0,11778	5,14222
29	-13,6200	0,29866	-13,9187	73	0,79000	0,20345	0,58655
30	8,47000	0,37726	8,09274	74	5,30000	-0,32545	5,62545
31	-8,67000	0,88091	-9,55091	75	0,56000	-0,03712	0,59712
32	14,8600	-0,51219	15,3722	76	-10,6000	-0,35604	-10,2440
33	2,66000	0,60448	2,05552	77	-20,4900	-0,03779	-20,4522
34	-10,5400	-0,97291	-9,56709	78	4,39000	0,64834	3,74166
35	-2,58000	-0,13009	-2,44991	79	13,2700	1,29442	11,9756
36	-2,24000	0,60550	-2,84550	80	1,33000	-0,23681	1,56681
37	-0,17000	0,15505	-0,32505	81	-7,25000	-0,75794	-6,49206
38	-19,1500	0,18009	-19,3301	82	-8,13000	-0,09916	-8,03084
39	6,63000	0,02057	6,60943	83	7,01000	0,41088	6,59912
40	-1,29000	1,22340	-2,51340	84	6,56000	0,50827	6,05173
41	0,96000	-0,41831	1,37831	85	5,16000	-0,41766	5,57766
42	12,0500	0,15907	11,8909	86	-2,89000	-0,38301	-2,50699
43	-7,21000	-0,08723	-7,12277	87	1,37000	-0,35301	1,72301
44	-7,32000	-0,75258	-6,56742	88	4,38000	0,15867	4,22133
45	-3,51000	0,45080	-3,96080	89	-1,86000	-0,10905	-1,75095
90	1,75000	-0,26717	2,01717	138	0,03000	5,5E-05	0,02995
91	6,64000	0,11082	6,52918	139	-12,8900	0,05685	-12,9469
92	-0,51000	-0,12767	-0,38233	140	-5,07000	-0,00190	-5,06810
93	6,63000	-0,41323	7,04323	141	2,42000	0,81941	1,60059

94	0,43000	0,02420	0,40580	142	-1,42000	0,32076	-1,74076
95	4,81000	-0,44577	5,25577	143	2,00000	-0,10130	2,10130
96	-5,03000	-0,02568	-5,00432	144	-1,21000	0,11017	-1,32017
97	-7,46000	-0,33264	-7,12736	145	4,69000	-0,13299	4,82299
98	-8,45000	0,31672	-8,76672	146	1,07000	0,08355	0,98645
99	6,81000	0,45109	6,35891	147	3,15000	-0,30525	3,45525
100	14,0200	0,55485	13,4652	148	6,52000	-0,06243	6,58243
101	-7,88000	-0,40246	-7,47754	149	-1,42000	-0,21868	-1,20132
102	1,07000	-0,85221	1,92221	150	11,5500	-0,41660	11,9666
103	7,95000	0,47325	7,47675	151	8,03000	0,07603	7,95397
104	3,00000	-0,12166	3,12166	152	-2,55000	-0,75737	-1,79263
105	0,74000	-0,47320	1,21320	153	-18,0000	-0,50341	-17,4966
106	1,17000	-0,19757	1,36757	154	4,70000	0,11346	4,58654
107	2,44000	-0,07678	2,51678	155	7,73000	1,10736	6,62264
108	-2,18000	-0,08655	-2,09345	156	-0,40000	-0,29028	-0,10972
109	8,14000	-0,15929	8,29929	157	-0,29000	-0,41915	0,12915
110	20,4300	0,13249	20,2975	158	2,14000	0,00694	2,13306
111	2,12000	-0,52526	2,64526	159	-17,1300	-0,00817	-17,1218
112	-12,5400	-1,28463	-11,2554	160	2,07000	-0,13500	2,20500
113	4,13000	-0,16742	4,29742	161	3,71000	1,08364	2,62636
114	-21,2800	0,71235	-21,9924	162	-0,99000	-0,13955	-0,85045
115	2,38000	-0,27198	2,65198	163	1,41000	-0,16622	1,57622
116	1,24000	1,39190	-0,15190	164	3,37000	0,05382	3,31618
117	-5,35000	-0,16784	-5,18216	165	-7,41000	-0,09976	-7,31024
118	4,04000	0,00961	4,03039	166	10,1900	-0,20988	10,3999
119	-1,46000	0,32798	-1,78798	167	3,81000	0,46267	3,34733
120	5,39000	-0,25508	5,64508	168	-6,34000	-0,65821	-5,68179
121	16,6800	0,11316	16,5668	169	-1,38000	-0,21185	-1,16815
122	-1,82000	-0,35728	-1,46272	170	-9,37000	0,35960	-9,72960
123	3,26000	-1,04852	4,30852	171	5,61000	0,07393	5,53607
124	-5,26000	0,09258	-5,35258	172	-3,46000	0,61579	-4,07579
125	13,9500	-0,27269	14,2227	173	-3,69000	-0,35038	-3,33962
126	-0,70000	0,33877	-1,03877	174	-1,39000	0,25796	-1,64796
127	0,00000	-0,90016	0,90016	175	0,47000	0,21137	0,25863
128	-23,3700	0,06574	-23,4357	176	1,21000	0,10430	1,10570
129	10,1300	-0,05697	10,1870	177	-3,02000	-0,01637	-3,00363
130	6,43000	1,48325	4,94675	178	5,06000	-0,06998	5,12998
131	0,07000	-0,64474	0,71474	179	-4,80000	0,19010	-4,99010
132	-1,92000	-0,31308	-1,60692	180	3,11000	-0,32468	3,43468
133	5,73000	-0,04524	5,77524	181	1,35000	0,31582	1,03418
134	-0,07000	0,10170	-0,17170	182	7,51000	-0,21738	7,72738
135	0,61000	-0,36552	0,97552	183	-2,07000	-0,06545	-2,00455
136	0,01000	0,01087	-0,00087	184	1,84000	-0,48907	2,32907

137	-0,96000	-0,06174	-0,89826	185	15,7800	0,12687	15,6531
186	3,88000	-0,14741	4,02741	234	-2,29000	-0,22855	-2,06145
187	9,56000	-0,99069	10,5507	235	-6,23000	-0,15900	-6,07100
188	-13,0000	-0,25490	-12,7451	236	-3,66000	0,13047	-3,79047
189	-0,14000	-0,66775	0,52775	237	2,47000	0,38423	2,08577
190	8,49000	0,80664	7,68336	238	-7,37000	0,23990	-7,60990
191	6,29000	-0,03340	6,32340	239	1,85000	-0,13201	1,98201
192	-8,56000	-0,48628	-8,07372	240	-1,86000	0,48163	-2,34163
193	3,86000	-0,40021	4,26021	241	-5,23000	-0,12544	-5,10456
194	7,32000	0,51099	6,80901	242	-20,6900	0,14820	-20,8382
195	-4,78000	-0,26963	-4,51037	243	-2,71000	0,32307	-3,03307
196	-0,19000	-0,43094	0,24094	244	6,13000	1,31885	4,81115
197	0,32000	0,28546	0,03454	245	5,89000	0,19196	5,69804
198	-2,06000	-0,01525	-2,04475	246	-11,6600	-0,30450	-11,3555
199	10,8300	-0,00219	10,8322	247	3,47000	-0,36063	3,83063
200	-4,08000	0,12941	-4,20941	248	-6,83000	0,71869	-7,54869
201	-9,27000	-0,68557	-8,58443	249	-8,75000	-0,24244	-8,50756
202	2,51000	0,26641	2,24359	250	3,10000	0,47776	2,62224
203	-3,66000	0,54331	-4,20331	251	2,43000	0,53844	1,89156
204	10,6200	-0,14200	10,7620	252	-0,79000	-0,16596	-0,62404
205	2,84000	0,26603	2,57397	253	11,5900	-0,11972	11,7097
206	7,19000	-0,68113	7,87113	254	-0,95000	0,03950	-0,98950
207	-3,57000	-0,16291	-3,40709	255	-0,74000	-0,74111	0,00111
208	-2,37000	-0,49816	-1,87184	256	6,25000	0,06263	6,18737
209	1,03000	0,21564	0,81436	257	2,94000	-7,0E-05	2,94007
210	-1,10000	0,11847	-1,21847	258	-4,66000	-0,39160	-4,26840
211	4,85000	-0,05154	4,90154	259	-7,71000	-0,18608	-7,52392
212	1,22000	0,07712	1,14288	260	-6,08000	0,27015	-6,35015
213	-3,23000	-0,31022	-2,91978	261	15,1800	0,47619	14,7038
214	-3,12000	-0,07233	-3,04767	262	-0,99000	0,40190	-1,39190
215	-5,09000	0,18479	-5,27479	263	3,63000	-0,93061	4,56061
216	2,91000	0,19289	2,71711	264	-0,25000	0,08809	-0,33809
217	2,61000	0,33384	2,27616	265	-5,74000	-0,28864	-5,45136
218	-10,3900	-0,17197	-10,2180	266	0,98000	0,02140	0,95860
219	8,37000	-0,14406	8,51406	267	-3,29000	0,34502	-3,63502
220	3,55000	0,64670	2,90330	268	-8,12000	-0,06067	-8,05933
221	4,17000	-0,53886	4,70886	269	-4,37000	0,23006	-4,60006
222	-4,99000	-0,18375	-4,80625	270	12,0300	0,51008	11,5199
223	0,62000	-0,29802	0,91802	271	2,24000	0,29114	1,94886
224	5,13000	0,30419	4,82581	272	1,78000	-0,72910	2,50910
225	-9,77000	-0,05810	-9,71190	273	0,14000	-0,12334	0,26334
226	-9,56000	-0,30543	-9,25457	274	2,67000	-0,15880	2,82880
227	-5,33000	0,61467	-5,94467	275	7,25000	-0,01667	7,26667

228	5,36000	0,58572	4,77428	276	2,88000	-0,17904	3,05904
229	2,92000	0,37624	2,54376	277	-6,05000	-0,45991	-5,59009
230	-0,60000	-0,30216	-0,29784	278	4,93000	-0,19361	5,12361
231	8,09000	-0,16100	8,25100	279	8,97000	0,35380	8,61620
232	3,63000	0,01885	3,61115	280	-6,39000	-0,32427	-6,06573
233	1,99000	-0,52221	2,51221	281	1,50000	-0,54532	2,04532
282	3,11000	0,38390	2,72610	330	5,13000	0,07235	5,05765
283	-1,69000	-0,12945	-1,56055	331	1,84000	0,20007	1,63993
284	2,38000	-0,17254	2,55254	332	7,55000	-0,32010	7,87010
285	0,52000	0,09877	0,42123	333	-11,9300	-0,10379	-11,8262
286	-4,18000	-0,16155	-4,01845	334	4,74000	-0,49810	5,23810
287	4,95000	-0,02666	4,97666	335	4,34000	0,74848	3,59152
288	1,59000	0,25433	1,33567	336	0,00000	-0,33152	0,33152
289	-7,51000	-0,31497	-7,19503	337	-3,32000	-0,22731	-3,09269
290	-2,06000	-0,08453	-1,97547	338	3,03000	-0,02098	3,05098
291	4,01000	0,45537	3,55463	339	2,04000	0,19574	1,84426
292	-3,06000	0,12503	-3,18503	340	7,01000	-0,19310	7,20310
293	0,73000	-0,22497	0,95497	341	-0,07000	-0,11672	0,04672
294	-6,11000	0,20158	-6,31158	342	-5,27000	-0,45589	-4,81411
295	-10,8900	-0,06044	-10,8296	343	6,51000	-0,00296	6,51296
296	-1,79000	0,39946	-2,18946	344	1,59000	0,30469	1,28531
297	13,8900	0,68540	13,2046	345	-6,81000	-0,41221	-6,39779
298	3,69000	0,13857	3,55143	346	-1,30000	-0,08135	-1,21865
299	6,66000	-0,83572	7,49572	347	12,7600	0,40492	12,3551
300	5,20000	-0,22477	5,42477	348	-10,2000	0,07713	-10,2771
301	0,00000	-0,47441	0,47441	349	1,20000	-0,78196	1,98196
302	3,43000	-0,34333	3,77333	350	-5,32000	0,65044	-5,97044
303	-5,38000	-0,03003	-5,34997	351	3,24000	-0,12544	3,36544
304	-8,02000	-0,23881	-7,78119	352	-0,09000	0,37787	-0,46787
305	6,44000	0,33860	6,10140	353	1,67000	-0,21300	1,88300
306	0,63000	0,49247	0,13753	354	-0,67000	0,02961	-0,69961
307	0,81000	-0,38616	1,19616	355	-6,36000	-0,11918	-6,24082
308	-5,17000	-0,00870	-5,16130	356	6,54000	0,04428	6,49572
309	8,37000	-0,07571	8,44571	357	-3,19000	0,39498	-3,58498
310	-10,4900	0,32666	-10,8167	358	-0,67000	-0,41112	-0,25888
311	5,91000	-0,53453	6,44453	359	0,50000	0,22689	0,27311
312	-5,88000	0,68459	-6,56459	360	-10,4700	0,01638	-10,4864
313	-0,05000	-0,40788	0,35788	361	-7,55000	-0,01728	-7,53272
314	6,98000	0,41547	6,56453	362	6,50000	0,66368	5,83632
315	13,4800	-0,02265	13,5026	363	10,5200	0,47675	10,0433
316	6,74000	-0,41547	7,15547	364	7,70000	-0,36938	8,06938
317	7,89000	-0,85458	8,74458	365	-9,61000	-0,63564	-8,97436
318	-11,3000	-0,45287	-10,8471	366	-1,79000	-0,51071	-1,27929

319	2,28000	-0,55345	2,83345	367	4,07000	0,56799	3,50201
320	-1,62000	0,68652	-2,30652	368	6,69000	0,08097	6,60903
321	-2,99000	-0,17933	-2,81067	369	-7,57000	-0,22164	-7,34836
322	3,58000	0,14598	3,43402	370	3,86000	-0,41829	4,27829
323	-5,18000	0,17789	-5,35789	371	-1,77000	0,46508	-2,23508
324	3,14000	-0,21734	3,35734	372	-4,65000	-0,27077	-4,37923
325	4,08000	0,33910	3,74090	373	-6,32000	0,14146	-6,46146
326	-8,32000	-0,21249	-8,10751	374	-0,02000	0,27716	-0,29716
327	11,1200	-0,23676	11,3568	375	-0,68000	0,40895	-1,08895
328	-0,63000	0,51313	-1,14313	376	-1,08000	0,01881	-1,09881
329	-3,88000	-0,71877	-3,16123	377	-5,08000	0,06892	-5,14892
378	13,7300	0,06954	13,6605	426	4,17000	0,02364	4,14636
379	-1,86000	0,32588	-2,18588	427	-2,18000	0,40911	-2,58911
380	2,73000	-0,86457	3,59457	428	7,61000	-0,26242	7,87242
381	4,44000	0,13834	4,30166	429	8,51000	0,16387	8,34613
382	-25,0500	-0,22750	-24,8225	430	-9,56000	-0,49825	-9,06175
383	2,84000	-0,27225	3,11225	431	-3,65000	-0,52823	-3,12177
384	-26,2100	1,57102	-27,7810	432	-4,47000	0,57352	-5,04352
385	-10,0700	-0,19697	-9,87303	433	-7,66000	0,19758	-7,85758
386	0,00000	1,75827	-1,75827	434	3,15000	0,31921	2,83079
387	14,3600	0,62487	13,7351	435	6,08000	0,49731	5,58269
388	7,09000	0,11128	6,97872	436	1,08000	-0,17916	1,25916
389	6,05000	-0,86930	6,91930	437	-2,25000	-0,35333	-1,89667
390	-6,33000	-0,44168	-5,88832	438	4,74000	-0,07969	4,81969
391	10,7300	-0,43792	11,1679	439	-2,05000	0,12004	-2,17004
392	-0,54000	0,37267	-0,91267	440	-9,40000	-0,30504	-9,09496
393	0,79000	-0,70682	1,49682	441	-14,8000	0,13734	-14,9373
394	9,08000	0,05776	9,02224	442	-3,51000	0,57562	-4,08562
395	2,82000	-0,09473	2,91473	443	0,47000	0,94539	-0,47539
396	-0,34000	-0,57102	0,23102	444	-0,20000	0,25858	-0,45858
397	3,24000	-0,18447	3,42447	445	13,0700	0,03009	13,0399
398	3,05000	-0,01462	3,06462	446	-4,98000	0,02902	-5,00902
399	-2,52000	-0,21674	-2,30326	447	-2,77000	-0,82530	-1,94470
400	-0,51000	-0,19396	-0,31604	448	10,0300	0,31702	9,71298
401	-0,50000	0,14577	-0,64577	449	-9,61000	0,12308	-9,73308
402	8,03000	0,02000	8,01000	450	-2,87000	-0,61474	-2,25526
403	-11,5300	0,04087	-11,5709	451	-2,94000	0,61601	-3,55601
404	-0,61000	-0,50695	-0,10305	452	-21,0800	0,14274	-21,2227
405	-9,09000	0,73232	-9,82232	453	-22,4300	0,22506	-22,6551
406	2,58000	0,00652	2,57348	454	19,9800	1,34319	18,6368
407	-8,25000	0,62166	-8,87166	455	1,11000	1,43384	-0,32384
408	-7,11000	-0,16288	-6,94712	456	-9,22000	-1,17953	-8,04047
409	-0,54000	0,56149	-1,10149	457	-5,06000	0,02050	-5,08050

410	-11,8800	0,43968	-12,3197	458	-4,14000	0,50888	-4,64888
411	-17,1700	0,06971	-17,2397	459	-15,9800	0,32155	-16,3015
412	9,05000	0,77971	8,27029	460	-27,6200	0,29423	-27,9142
413	1,85000	1,09110	0,75890	461	10,4800	1,03173	9,44827
414	-0,94000	-0,52343	-0,41657	462	-1,78000	1,76670	-3,54670
415	-17,6200	-0,04803	-17,5720	463	32,0800	-0,59798	32,6780
416	4,99000	0,02636	4,96364	464	0,92000	0,22447	0,69553
417	7,79000	1,11213	6,67787	465	12,1900	-2,06819	14,2582
418	4,24000	-0,31415	4,55415	466	-14,1800	-0,04402	-14,1360
419	1,76000	-0,42264	2,18264	467	-1,44000	-0,90240	-0,53760
420	-5,18000	-0,28823	-4,89177	468	8,23000	0,89467	7,33533
421	-4,53000	-0,13814	-4,39186	469	-1,75000	0,03402	-1,78402
422	9,26000	0,30960	8,95040	470	-23,8100	-0,46425	-23,3457
423	-6,58000	0,27796	-6,85796	471	2,01000	0,11291	1,89709
424	-0,94000	-0,56647	-0,37353	472	7,65000	1,47756	6,17244
425	-6,03000	0,43404	-6,46404	473	2,07000	-0,12007	2,19007
474	7,84000	-0,39065	8,23065	522	7,68000	-0,25930	7,93930
475	6,78000	-0,13861	6,91861	523	-8,94000	-0,22674	-8,71326
476	-11,4000	-0,52092	-10,8791	524	-0,72000	-0,50248	-0,21752
477	-3,21000	-0,43788	-2,77212	525	4,40000	0,55146	3,84854
478	7,36000	0,68854	6,67146	526	2,51000	0,01377	2,49623
479	0,41000	0,17545	0,23455	527	-0,75000	-0,24357	-0,50643
480	-1,56000	-0,42224	-1,13776	528	-21,2400	-0,15799	-21,0820
481	-7,12000	-0,01484	-7,10516	529	18,2300	0,03205	18,1979
482	-14,6300	0,07201	-14,7020	530	-1,13000	1,33428	-2,46428
483	-4,30000	0,44969	-4,74969	531	-0,33000	-1,15175	0,82175
484	-15,2300	0,93049	-16,1605	532	-3,67000	0,15596	-3,82596
485	12,4300	0,30061	12,1294	533	2,82000	-0,05201	2,87201
486	1,66000	1,02280	0,63720	534	-13,5100	0,24215	-13,7521
487	6,97000	-0,76767	7,73767	535	-3,91000	-0,18177	-3,72823
488	-9,19000	-0,04033	-9,14967	536	-13,2100	0,87038	-14,0804
489	22,4700	-0,48972	22,9597	537	0,54000	0,23596	0,30404
490	20,3400	0,57908	19,7609	538	7,55000	0,89115	6,65885
491	5,87000	-1,45312	7,32312	539	9,99000	-0,01924	10,0092
492	-1,40000	-1,25067	-0,14933	540	17,3500	-0,42144	17,7714
493	14,2800	-0,46348	14,7435	541	-12,3000	-0,63349	-11,6665
494	3,65000	0,00945	3,64055	542	3,47000	-1,12476	4,59476
495	-26,1000	-0,93312	-25,1669	543	3,91000	0,73838	3,17162
496	6,50000	-0,23041	6,73041	544	-2,35000	-0,29080	-2,05920
497	2,53000	1,59282	0,93718	545	4,03000	-0,20073	4,23073
498	10,1000	-0,42597	10,5260	546	2,16000	0,13033	2,02967
499	0,73000	-0,05931	0,78931	547	3,91000	-0,26776	4,17776
500	4,09000	-0,66619	4,75619	548	-11,2400	-0,12846	-11,1115

501	-5,59000	-0,04996	-5,54004	549	5,15000	-0,26441	5,41441
502	8,90000	-0,30102	9,20102	550	14,9600	0,70325	14,2567
503	3,37000	0,35063	3,01937	551	-12,8400	-0,34268	-12,4973
504	-2,67000	-0,58233	-2,08767	552	1,10000	-0,90231	2,00231
505	-10,0400	-0,19110	-9,84890	553	-13,7700	0,79096	-14,5610
506	-23,9300	0,13213	-24,0621	554	9,33000	-0,12673	9,45673
507	-0,87000	0,62334	-1,49334	555	5,82000	0,92157	4,89843
508	7,48000	1,52290	5,95710	556	-7,74000	-0,59852	-7,14148
509	5,89000	0,09451	5,79549	557	0,52000	-0,31002	0,83002
510	11,0000	-0,37703	11,3770	558	-7,14000	0,45199	-7,59199
511	-5,24000	-0,36680	-4,87320	559	4,90000	-0,05253	4,95253
512	-1,44000	-0,72005	-0,71995	560	-9,60000	0,48050	-10,0805
513	-12,4200	0,30843	-12,7284	561	-1,02000	-0,31345	-0,70655
514	-9,16000	0,04557	-9,20557	562	8,89000	0,63800	8,25200
515	2,67000	0,80558	1,86442	563	4,74000	0,04472	4,69528
516	-2,40000	0,58262	-2,98262	564	-0,46000	-0,52227	0,06227
517	5,07000	-0,11800	5,18800	565	10,2800	-0,29717	10,5772
518	-6,02000	0,18877	-6,20877	566	2,52000	-0,00394	2,52394
519	7,77000	-0,32835	8,09835	567	5,00000	-0,66943	5,66943
520	4,49000	0,39295	4,09705	568	-1,65000	-0,15974	-1,49026
521	3,07000	-0,51255	3,58255	569	-7,38000	-0,35882	-7,02118
570	6,51000	0,09432	6,41568	590	-2,63000	-0,49699	-2,13301
571	11,7500	0,44437	11,3056	591	-2,85000	-0,72289	-2,12711
572	20,5700	-0,40605	20,9760	592	-3,96000	0,13500	-4,09500
573	-6,42000	-0,71554	-5,70446	593	-2,20000	0,13463	-2,33463
574	-1,96000	-1,32758	-0,63242	594	0,82000	0,25917	0,56083
575	9,81000	0,36104	9,44896	595	3,83000	0,14776	3,68224
576	-13,4900	0,04003	-13,5300	596	12,4600	-0,03549	12,4955
577	3,48000	-0,59803	4,07803	597	-7,44000	-0,23305	-7,20695
578	1,32000	0,85632	0,46368	598	3,64000	-0,79084	4,43084
579	3,00000	-0,25810	3,25810	599	6,47000	0,45613	6,01387
580	3,13000	-0,02935	3,15935	600	1,16000	-0,28043	1,44043
581	-10,3600	-0,20621	-10,1538	601	-1,04000	-0,38062	-0,65938
582	0,70000	-0,19996	0,89996	602	-4,07000	-0,09116	-3,97884
583	-8,23000	0,64264	-8,87264	603	-7,20000	0,04173	-7,24173
584	-2,71000	-0,05696	-2,65304	604	-3,81000	0,25182	-4,06182
585	3,11000	0,56155	2,54845	605	-7,11000	0,45833	-7,56833
586	12,6900	0,16791	12,5221	606	-1,07000	0,25707	-1,32707
587	5,24000	-0,16129	5,40129	607	5,67000	0,47900	5,19100
588	7,06000	-0,79252	7,85252	608	2,02000	0,08399	1,93601
589	11,0800	-0,34185	11,4218				

Lampiran 7

Nilai t Tabel dapat diperolehdari perintah dalam *software* Ms.Excel yaitu "**=TINV(α;df)**"

t Tabel ($df = 1 - 610$)

df	**0,005**	**0,0125**	**0,025**	**0,050**	**0,125**	**0,250**
	0,010	**0,025**	**0,050**	**0,100**	**0,250**	**0,500**
1	63,65674	25,4517	12,7062	6,313752	2,414214	1
2	9,924843	6,205347	4,302653	2,919986	1,603567	0,816497
3	5,840909	4,176535	3,182446	2,353363	1,422625	0,764892
4	4,604095	3,495406	2,776445	2,131847	1,344398	0,740697
5	4,032143	3,163381	2,570582	2,015048	1,300949	0,726687
6	3,707428	2,968687	2,446912	1,94318	1,273349	0,717558
7	3,499483	2,841244	2,364624	1,894579	1,254279	0,711142
8	3,355387	2,751524	2,306004	1,859548	1,240318	0,706387
9	3,249836	2,685011	2,262157	1,833113	1,229659	0,702722
10	3,169273	2,633767	2,228139	1,812461	1,221255	0,699812
11	3,105807	2,593093	2,200985	1,795885	1,21446	0,697445
12	3,05454	2,560033	2,178813	1,782288	1,208853	0,695483
13	3,012276	2,532638	2,160369	1,770933	1,204146	0,693829
14	2,976843	2,509569	2,144787	1,76131	1,20014	0,692417
15	2,946713	2,48988	2,13145	1,75305	1,196689	0,691197
16	2,920782	2,472878	2,119905	1,745884	1,193685	0,690132
17	2,898231	2,458051	2,109816	1,739607	1,191047	0,689195
18	2,87844	2,445006	2,100922	1,734064	1,188711	0,688364
19	2,860935	2,43344	2,093024	1,729133	1,186629	0,687621
20	2,84534	2,423117	2,085963	1,724718	1,184761	0,686954
21	2,83136	2,413845	2,079614	1,720743	1,183076	0,686352
22	2,818756	2,405473	2,073873	1,717144	1,181549	0,685805
23	2,807336	2,397875	2,068658	1,713872	1,180157	0,685306
24	2,796939	2,390949	2,063899	1,710882	1,178884	0,68485
25	2,787436	2,38461	2,059539	1,708141	1,177716	0,68443
26	2,778715	2,378786	2,055529	1,705618	1,176639	0,684043
27	2,770683	2,373417	2,05183	1,703288	1,175644	0,683685
28	2,763262	2,368452	2,048407	1,701131	1,174722	0,683353
29	2,756386	2,363846	2,04523	1,699127	1,173864	0,683044
30	2,749996	2,359562	2,042272	1,697261	1,173065	0,682756
31	2,744042	2,355568	2,039513	1,695519	1,172318	0,682486

32	2,738481	2,351835	2,036933	1,693889	1,171619	0,682234
33	2,733277	2,348338	2,034515	1,69236	1,170963	0,681997
34	2,728394	2,345056	2,032244	1,690924	1,170346	0,681774
35	2,723806	2,341969	2,030108	1,689572	1,169765	0,681564
36	2,719485	2,339061	2,028094	1,688298	1,169217	0,681366
37	2,715409	2,336316	2,026192	1,687094	1,168699	0,681178
38	2,711558	2,333721	2,024394	1,685954	1,168208	0,681001
39	2,707913	2,331264	2,022691	1,684875	1,167743	0,680833
40	2,704459	2,328935	2,021075	1,683851	1,167302	0,680673
41	2,701181	2,326723	2,019541	1,682878	1,166883	0,680521
42	2,698066	2,32462	2,018082	1,681952	1,166483	0,680376
43	2,695102	2,322618	2,016692	1,681071	1,166103	0,680238
44	2,692278	2,320711	2,015368	1,68023	1,16574	0,680107
45	2,689585	2,318891	2,014103	1,679427	1,165394	0,679981
46	2,687013	2,317152	2,012896	1,67866	1,165062	0,679861
47	2,684556	2,31549	2,01174	1,677927	1,164745	0,679746
48	2,682204	2,313899	2,010635	1,677224	1,164442	0,679635
49	2,679952	2,312375	2,009575	1,676551	1,164151	0,67953
50	2,677793	2,310914	2,008559	1,675905	1,163871	0,679428
51	2,675722	2,309512	2,007584	1,675285	1,163603	0,679331
52	2,673734	2,308165	2,006647	1,674689	1,163345	0,679237
53	2,671823	2,30687	2,005746	1,674116	1,163097	0,679147
54	2,669985	2,305625	2,004879	1,673565	1,162859	0,67906
55	2,668216	2,304426	2,004045	1,673034	1,162629	0,678977
56	2,666512	2,303271	2,003241	1,672522	1,162407	0,678896
57	2,66487	2,302158	2,002465	1,672029	1,162194	0,678818
58	2,663287	2,301084	2,001717	1,671553	1,161987	0,678743
59	2,661759	2,300047	2,000995	1,671093	1,161788	0,678671
60	2,660283	2,299046	2,000298	1,670649	1,161596	0,678601
61	2,658857	2,298078	1,999624	1,670219	1,161409	0,678533
62	2,657479	2,297142	1,998971	1,669804	1,161229	0,678467
63	2,656145	2,296237	1,998341	1,669402	1,161055	0,678404
64	2,654854	2,29536	1,99773	1,669013	1,160886	0,678342
65	2,653604	2,294511	1,997138	1,668636	1,160723	0,678283
66	2,652393	2,293689	1,996564	1,668271	1,160564	0,678225
67	2,65122	2,292891	1,996008	1,667916	1,16041	0,678169
68	2,650081	2,292118	1,995469	1,667572	1,160261	0,678115
69	2,648977	2,291367	1,994945	1,667239	1,160116	0,678062
70	2,647905	2,290639	1,994437	1,666914	1,159975	0,678011

71	2,646863	2,289931	1,993943	1,6666	1,159839	0,677961
72	2,645852	2,289243	1,993464	1,666294	1,159706	0,677912
73	2,644869	2,288575	1,992997	1,665996	1,159577	0,677865
74	2,643913	2,287925	1,992543	1,665707	1,159451	0,67782
75	2,642983	2,287292	1,992102	1,665425	1,159329	0,677775
76	2,642078	2,286677	1,991673	1,665151	1,15921	0,677732
77	2,641198	2,286078	1,991254	1,664885	1,159094	0,677689
78	2,64034	2,285494	1,990847	1,664625	1,158981	0,677648
79	2,639505	2,284926	1,99045	1,664371	1,158871	0,677608
80	2,638691	2,284372	1,990063	1,664125	1,158763	0,677569
81	2,637897	2,283832	1,989686	1,663884	1,158659	0,677531
82	2,637123	2,283305	1,989319	1,663649	1,158557	0,677493
83	2,636369	2,282791	1,98896	1,66342	1,158457	0,677457
84	2,635632	2,28229	1,98861	1,663197	1,15836	0,677422
85	2,634914	2,281801	1,988268	1,662979	1,158265	0,677387
86	2,634212	2,281323	1,987934	1,662765	1,158172	0,677353
87	2,633527	2,280856	1,987608	1,662557	1,158082	0,67732
88	2,632858	2,2804	1,98729	1,662354	1,157993	0,677288
89	2,632204	2,279955	1,986979	1,662155	1,157907	0,677256
90	2,631565	2,27952	1,986674	1,661961	1,157822	0,677225
91	2,63094	2,279094	1,986377	1,661771	1,15774	0,677195
92	2,63033	2,278678	1,986086	1,661585	1,157659	0,677166
93	2,629732	2,278271	1,985802	1,661404	1,15758	0,677137
94	2,629148	2,277873	1,985523	1,661226	1,157502	0,677109
95	2,628576	2,277483	1,985251	1,661052	1,157426	0,677081
96	2,628016	2,277101	1,984984	1,660881	1,157352	0,677054
97	2,627468	2,276728	1,984723	1,660715	1,15728	0,677027
98	2,626931	2,276362	1,984467	1,660551	1,157209	0,677001
99	2,626405	2,276003	1,984217	1,660391	1,157139	0,676976
100	2,625891	2,275652	1,983971	1,660234	1,157071	0,676951
101	2,625386	2,275308	1,983731	1,660081	1,157004	0,676927
102	2,624891	2,274971	1,983495	1,65993	1,156938	0,676903
103	2,624407	2,274641	1,983264	1,659782	1,156874	0,676879
104	2,623932	2,274317	1,983037	1,659637	1,156811	0,676856
105	2,623465	2,273999	1,982815	1,659495	1,156749	0,676833
106	2,623008	2,273687	1,982597	1,659356	1,156688	0,676811
107	2,62256	2,273381	1,982383	1,659219	1,156628	0,67679
108	2,62212	2,273081	1,982173	1,659085	1,15657	0,676768
109	2,621688	2,272787	1,981967	1,658953	1,156513	0,676747

110	2,621265	2,272497	1,981765	1,658824	1,156456	0,676727
111	2,620849	2,272214	1,981567	1,658697	1,156401	0,676706
112	2,62044	2,271935	1,981372	1,658573	1,156347	0,676687
113	2,620039	2,271661	1,98118	1,65845	1,156293	0,676667
114	2,619645	2,271392	1,980992	1,65833	1,156241	0,676648
115	2,619258	2,271128	1,980807	1,658212	1,156189	0,676629
116	2,618878	2,270869	1,980626	1,658096	1,156139	0,676611
117	2,618504	2,270614	1,980448	1,657982	1,156089	0,676592
118	2,618137	2,270363	1,980272	1,65787	1,15604	0,676575
119	2,617776	2,270117	1,9801	1,657759	1,155992	0,676557
120	2,617421	2,269875	1,97993	1,657651	1,155945	0,67654
121	2,617072	2,269637	1,979764	1,657544	1,155898	0,676523
122	2,616729	2,269402	1,9796	1,657439	1,155853	0,676506
123	2,616392	2,269172	1,979439	1,657336	1,155808	0,67649
124	2,61606	2,268945	1,97928	1,657235	1,155763	0,676473
125	2,615733	2,268723	1,979124	1,657135	1,15572	0,676458
126	2,615412	2,268503	1,978971	1,657037	1,155677	0,676442
127	2,615096	2,268287	1,97882	1,65694	1,155635	0,676426
128	2,614785	2,268075	1,978671	1,656845	1,155593	0,676411
129	2,614479	2,267866	1,978524	1,656752	1,155553	0,676396
130	2,614177	2,26766	1,97838	1,656659	1,155512	0,676382
131	2,61388	2,267457	1,978239	1,656569	1,155473	0,676367
132	2,613588	2,267258	1,978099	1,656479	1,155434	0,676353
133	2,6133	2,267061	1,977961	1,656391	1,155395	0,676339
134	2,613017	2,266868	1,977826	1,656305	1,155358	0,676325
135	2,612738	2,266677	1,977692	1,656219	1,15532	0,676311
136	2,612463	2,266489	1,977561	1,656135	1,155284	0,676298
137	2,612192	2,266304	1,977431	1,656052	1,155247	0,676285
138	2,611925	2,266122	1,977304	1,65597	1,155212	0,676272
139	2,611662	2,265942	1,977178	1,65589	1,155177	0,676259
140	2,611403	2,265765	1,977054	1,655811	1,155142	0,676246
141	2,611147	2,26559	1,976931	1,655732	1,155108	0,676234
142	2,610895	2,265418	1,976811	1,655655	1,155074	0,676221
143	2,610647	2,265249	1,976692	1,655579	1,155041	0,676209
144	2,610402	2,265081	1,976575	1,655504	1,155008	0,676197
145	2,610161	2,264916	1,97646	1,65543	1,154976	0,676185
146	2,609923	2,264754	1,976346	1,655357	1,154944	0,676174
147	2,609688	2,264593	1,976233	1,655285	1,154913	0,676162
148	2,609456	2,264435	1,976122	1,655215	1,154882	0,676151

149	2,609228	2,264279	1,976013	1,655145	1,154851	0,67614
150	2,609003	2,264125	1,975905	1,655076	1,154821	0,676129
151	2,60878	2,263973	1,975799	1,655007	1,154792	0,676118
152	2,608561	2,263823	1,975694	1,65494	1,154762	0,676107
153	2,608344	2,263675	1,97559	1,654874	1,154733	0,676097
154	2,608131	2,263529	1,975488	1,654808	1,154705	0,676086
155	2,60792	2,263385	1,975387	1,654744	1,154677	0,676076
156	2,607712	2,263243	1,975287	1,65468	1,154649	0,676066
157	2,607506	2,263103	1,975189	1,654617	1,154621	0,676056
158	2,607304	2,262964	1,975092	1,654555	1,154594	0,676046
159	2,607103	2,262827	1,974996	1,654494	1,154567	0,676036
160	2,606906	2,262692	1,974902	1,654433	1,154541	0,676026
161	2,606711	2,262559	1,974808	1,654373	1,154515	0,676017
162	2,606518	2,262427	1,974716	1,654314	1,154489	0,676007
163	2,606328	2,262297	1,974625	1,654256	1,154463	0,675998
164	2,606139	2,262168	1,974535	1,654198	1,154438	0,675989
165	2,605954	2,262041	1,974446	1,654141	1,154413	0,67598
166	2,60577	2,261916	1,974358	1,654085	1,154389	0,675971
167	2,605589	2,261792	1,974271	1,654029	1,154364	0,675962
168	2,60541	2,261669	1,974185	1,653974	1,15434	0,675953
169	2,605233	2,261548	1,9741	1,65392	1,154317	0,675944
170	2,605058	2,261429	1,974017	1,653866	1,154293	0,675936
171	2,604886	2,261311	1,973934	1,653813	1,15427	0,675927
172	2,604715	2,261194	1,973852	1,653761	1,154247	0,675919
173	2,604546	2,261079	1,973771	1,653709	1,154225	0,675911
174	2,604379	2,260965	1,973691	1,653658	1,154202	0,675902
175	2,604215	2,260852	1,973612	1,653607	1,15418	0,675894
176	2,604052	2,260741	1,973534	1,653557	1,154158	0,675886
177	2,603891	2,26063	1,973457	1,653508	1,154137	0,675878
178	2,603731	2,260522	1,973381	1,653459	1,154116	0,675871
179	2,603574	2,260414	1,973305	1,653411	1,154094	0,675863
180	2,603418	2,260307	1,973231	1,653363	1,154074	0,675855
181	2,603264	2,260202	1,973157	1,653316	1,154053	0,675848
182	2,603112	2,260098	1,973084	1,653269	1,154032	0,67584
183	2,602961	2,259995	1,973012	1,653223	1,154012	0,675833
184	2,602813	2,259893	1,972941	1,653177	1,153992	0,675825
185	2,602665	2,259792	1,97287	1,653132	1,153973	0,675818
186	2,60252	2,259693	1,9728	1,653087	1,153953	0,675811
187	2,602375	2,259594	1,972731	1,653043	1,153934	0,675804

188	2,602233	2,259497	1,972663	1,652999	1,153915	0,675797
189	2,602092	2,2594	1,972595	1,652956	1,153896	0,67579
190	2,601952	2,259305	1,972528	1,652913	1,153877	0,675783
191	2,601814	2,25921	1,972462	1,652871	1,153858	0,675776
192	2,601678	2,259117	1,972396	1,652829	1,15384	0,67577
193	2,601543	2,259024	1,972332	1,652787	1,153822	0,675763
194	2,601409	2,258933	1,972267	1,652746	1,153804	0,675756
195	2,601276	2,258842	1,972204	1,652705	1,153786	0,67575
196	2,601145	2,258753	1,972141	1,652665	1,153769	0,675744
197	2,601016	2,258664	1,972079	1,652625	1,153751	0,675737
198	2,600887	2,258576	1,972017	1,652586	1,153734	0,675731
199	2,60076	2,258489	1,971956	1,652547	1,153717	0,675725
200	2,600634	2,258403	1,971896	1,652508	1,1537	0,675718
201	2,60051	2,258318	1,971836	1,65247	1,153683	0,675712
202	2,600387	2,258234	1,971777	1,652432	1,153667	0,675706
203	2,600265	2,25815	1,971719	1,652394	1,15365	0,6757
204	2,600144	2,258067	1,971661	1,652357	1,153634	0,675694
205	2,600024	2,257986	1,971603	1,652321	1,153618	0,675688
206	2,599906	2,257904	1,971547	1,652284	1,153602	0,675683
207	2,599788	2,257824	1,97149	1,652248	1,153586	0,675677
208	2,599672	2,257745	1,971435	1,652212	1,153571	0,675671
209	2,599557	2,257666	1,971379	1,652177	1,153555	0,675665
210	2,599443	2,257588	1,971325	1,652142	1,15354	0,67566
211	2,59933	2,257511	1,971271	1,652107	1,153525	0,675654
212	2,599218	2,257434	1,971217	1,652073	1,15351	0,675649
213	2,599108	2,257358	1,971164	1,652039	1,153495	0,675643
214	2,598998	2,257283	1,971111	1,652005	1,15348	0,675638
215	2,598889	2,257209	1,971059	1,651972	1,153466	0,675633
216	2,598782	2,257135	1,971007	1,651939	1,153451	0,675627
217	2,598675	2,257062	1,970956	1,651906	1,153437	0,675622
218	2,598569	2,25699	1,970906	1,651873	1,153423	0,675617
219	2,598465	2,256918	1,970855	1,651841	1,153409	0,675612
220	2,598361	2,256847	1,970806	1,651809	1,153395	0,675607
221	2,598258	2,256777	1,970756	1,651778	1,153381	0,675601
222	2,598156	2,256707	1,970707	1,651746	1,153367	0,675596
223	2,598055	2,256638	1,970659	1,651715	1,153354	0,675592
224	2,597955	2,25657	1,970611	1,651685	1,15334	0,675587
225	2,597856	2,256502	1,970563	1,651654	1,153327	0,675582
226	2,597758	2,256435	1,970516	1,651624	1,153314	0,675577

227	2,597661	2,256368	1,970469	1,651594	1,1533	0,675572
228	2,597564	2,256302	1,970423	1,651564	1,153287	0,675567
229	2,597468	2,256237	1,970377	1,651535	1,153275	0,675563
230	2,597374	2,256172	1,970332	1,651506	1,153262	0,675558
231	2,59728	2,256107	1,970287	1,651477	1,153249	0,675553
232	2,597186	2,256044	1,970242	1,651448	1,153237	0,675549
233	2,597094	2,25598	1,970198	1,65142	1,153224	0,675544
234	2,597002	2,255918	1,970154	1,651391	1,153212	0,67554
235	2,596912	2,255855	1,97011	1,651364	1,1532	0,675535
236	2,596822	2,255794	1,970067	1,651336	1,153188	0,675531
237	2,596732	2,255733	1,970024	1,651308	1,153176	0,675526
238	2,596644	2,255672	1,969981	1,651281	1,153164	0,675522
239	2,596556	2,255612	1,969939	1,651254	1,153152	0,675518
240	2,596469	2,255553	1,969898	1,651227	1,15314	0,675513
241	2,596383	2,255493	1,969856	1,651201	1,153129	0,675509
242	2,596297	2,255435	1,969815	1,651175	1,153117	0,675505
243	2,596212	2,255377	1,969774	1,651148	1,153106	0,675501
244	2,596128	2,255319	1,969734	1,651123	1,153094	0,675497
245	2,596045	2,255262	1,969694	1,651097	1,153083	0,675492
246	2,595962	2,255205	1,969654	1,651071	1,153072	0,675488
247	2,59588	2,255149	1,969615	1,651046	1,153061	0,675484
248	2,595799	2,255093	1,969576	1,651021	1,15305	0,67548
249	2,595718	2,255038	1,969537	1,650996	1,153039	0,675476
250	2,595638	2,254983	1,969498	1,650971	1,153028	0,675472
251	2,595558	2,254929	1,96946	1,650947	1,153018	0,675468
252	2,595479	2,254875	1,969422	1,650923	1,153007	0,675465
253	2,595401	2,254821	1,969385	1,650899	1,152996	0,675461
254	2,595323	2,254768	1,969347	1,650875	1,152986	0,675457
255	2,595246	2,254716	1,969311	1,650851	1,152976	0,675453
256	2,59517	2,254663	1,969274	1,650828	1,152965	0,675449
257	2,595094	2,254611	1,969237	1,650804	1,152955	0,675446
258	2,595019	2,25456	1,969201	1,650781	1,152945	0,675442
259	2,594944	2,254509	1,969165	1,650758	1,152935	0,675438
260	2,59487	2,254458	1,96913	1,650735	1,152925	0,675435
261	2,594797	2,254408	1,969095	1,650713	1,152915	0,675431
262	2,594724	2,254358	1,96906	1,65069	1,152905	0,675427
263	2,594652	2,254308	1,969025	1,650668	1,152896	0,675424
264	2,59458	2,254259	1,96899	1,650646	1,152886	0,67542
265	2,594509	2,25421	1,968956	1,650624	1,152876	0,675417

266	2,594438	2,254162	1,968922	1,650602	1,152867	0,675413
267	2,594368	2,254114	1,968889	1,650581	1,152857	0,67541
268	2,594298	2,254066	1,968855	1,650559	1,152848	0,675406
269	2,594229	2,254019	1,968822	1,650538	1,152839	0,675403
270	2,594161	2,253972	1,968789	1,650517	1,152829	0,675399
271	2,594092	2,253925	1,968756	1,650496	1,15282	0,675396
272	2,594025	2,253879	1,968724	1,650475	1,152811	0,675393
273	2,593958	2,253833	1,968692	1,650454	1,152802	0,675389
274	2,593891	2,253787	1,96866	1,650434	1,152793	0,675386
275	2,593825	2,253742	1,968628	1,650413	1,152784	0,675383
276	2,593759	2,253697	1,968596	1,650393	1,152775	0,67538
277	2,593694	2,253653	1,968565	1,650373	1,152767	0,675376
278	2,59363	2,253608	1,968534	1,650353	1,152758	0,675373
279	2,593565	2,253564	1,968503	1,650333	1,152749	0,67537
280	2,593502	2,253521	1,968472	1,650314	1,152741	0,675367
281	2,593438	2,253477	1,968442	1,650294	1,152732	0,675364
282	2,593375	2,253434	1,968412	1,650275	1,152724	0,675361
283	2,593313	2,253392	1,968382	1,650256	1,152715	0,675358
284	2,593251	2,253349	1,968352	1,650237	1,152707	0,675355
285	2,59319	2,253307	1,968323	1,650218	1,152699	0,675352
286	2,593129	2,253265	1,968293	1,650199	1,15269	0,675349
287	2,593068	2,253224	1,968264	1,65018	1,152682	0,675346
288	2,593008	2,253182	1,968235	1,650162	1,152674	0,675343
289	2,592948	2,253141	1,968206	1,650143	1,152666	0,67534
290	2,592888	2,253101	1,968178	1,650125	1,152658	0,675337
291	2,592829	2,25306	1,968149	1,650107	1,15265	0,675334
292	2,592771	2,25302	1,968121	1,650089	1,152642	0,675331
293	2,592713	2,25298	1,968093	1,650071	1,152634	0,675328
294	2,592655	2,252941	1,968066	1,650053	1,152627	0,675325
295	2,592598	2,252901	1,968038	1,650035	1,152619	0,675322
296	2,592541	2,252862	1,968011	1,650018	1,152611	0,675319
297	2,592484	2,252824	1,967983	1,65	1,152604	0,675317
298	2,592428	2,252785	1,967956	1,649983	1,152596	0,675314
299	2,592372	2,252747	1,96793	1,649966	1,152588	0,675311
300	2,592316	2,252709	1,967903	1,649949	1,152581	0,675308
301	2,592261	2,252671	1,967876	1,649932	1,152574	0,675306
302	2,592207	2,252634	1,96785	1,649915	1,152566	0,675303
303	2,592152	2,252596	1,967824	1,649898	1,152559	0,6753
304	2,592098	2,252559	1,967798	1,649881	1,152552	0,675298

305	2,592045	2,252523	1,967772	1,649865	1,152544	0,675295
306	2,591991	2,252486	1,967747	1,649848	1,152537	0,675292
307	2,591938	2,25245	1,967721	1,649832	1,15253	0,67529
308	2,591886	2,252414	1,967696	1,649816	1,152523	0,675287
309	2,591833	2,252378	1,967671	1,6498	1,152516	0,675285
310	2,591781	2,252342	1,967646	1,649784	1,152509	0,675282
311	2,59173	2,252307	1,967621	1,649768	1,152502	0,675279
312	2,591679	2,252272	1,967596	1,649752	1,152495	0,675277
313	2,591628	2,252237	1,967572	1,649736	1,152488	0,675274
314	2,591577	2,252202	1,967548	1,649721	1,152481	0,675272
315	2,591527	2,252168	1,967523	1,649705	1,152474	0,675269
316	2,591477	2,252134	1,967499	1,64969	1,152468	0,675267
317	2,591427	2,2521	1,967476	1,649675	1,152461	0,675264
318	2,591378	2,252066	1,967452	1,649659	1,152454	0,675262
319	2,591329	2,252032	1,967428	1,649644	1,152448	0,67526
320	2,59128	2,251999	1,967405	1,649629	1,152441	0,675257
321	2,591232	2,251966	1,967382	1,649614	1,152435	0,675255
322	2,591184	2,251933	1,967359	1,6496	1,152428	0,675252
323	2,591136	2,2519	1,967336	1,649585	1,152422	0,67525
324	2,591088	2,251868	1,967313	1,64957	1,152415	0,675248
325	2,591041	2,251835	1,96729	1,649556	1,152409	0,675245
326	2,590994	2,251803	1,967267	1,649541	1,152403	0,675243
327	2,590948	2,251771	1,967245	1,649527	1,152396	0,675241
328	2,590901	2,251739	1,967223	1,649512	1,15239	0,675238
329	2,590855	2,251708	1,967201	1,649498	1,152384	0,675236
330	2,590809	2,251677	1,967179	1,649484	1,152378	0,675234
331	2,590764	2,251645	1,967157	1,64947	1,152372	0,675232
332	2,590719	2,251614	1,967135	1,649456	1,152365	0,675229
333	2,590674	2,251584	1,967113	1,649442	1,152359	0,675227
334	2,590629	2,251553	1,967092	1,649429	1,152353	0,675225
335	2,590585	2,251523	1,967071	1,649415	1,152347	0,675223
336	2,59054	2,251492	1,967049	1,649401	1,152341	0,675221
337	2,590497	2,251462	1,967028	1,649388	1,152336	0,675218
338	2,590453	2,251432	1,967007	1,649374	1,15233	0,675216
339	2,59041	2,251403	1,966986	1,649361	1,152324	0,675214
340	2,590366	2,251373	1,966966	1,649348	1,152318	0,675212
341	2,590324	2,251344	1,966945	1,649334	1,152312	0,67521
342	2,590281	2,251315	1,966925	1,649321	1,152306	0,675208
343	2,590239	2,251286	1,966904	1,649308	1,152301	0,675206

344	2,590197	2,251257	1,966884	1,649295	1,152295	0,675204
345	2,590155	2,251228	1,966864	1,649282	1,152289	0,675202
346	2,590113	2,251199	1,966844	1,649269	1,152284	0,675199
347	2,590072	2,251171	1,966824	1,649257	1,152278	0,675197
348	2,590031	2,251143	1,966804	1,649244	1,152273	0,675195
349	2,58999	2,251115	1,966784	1,649231	1,152267	0,675193
350	2,589949	2,251087	1,966765	1,649219	1,152262	0,675191
351	2,589909	2,251059	1,966745	1,649206	1,152256	0,675189
352	2,589868	2,251032	1,966726	1,649194	1,152251	0,675187
353	2,589828	2,251004	1,966707	1,649182	1,152245	0,675185
354	2,589789	2,250977	1,966688	1,649169	1,15224	0,675183
355	2,589749	2,25095	1,966669	1,649157	1,152235	0,675181
356	2,58971	2,250923	1,96665	1,649145	1,152229	0,67518
357	2,589671	2,250896	1,966631	1,649133	1,152224	0,675178
358	2,589632	2,25087	1,966612	1,649121	1,152219	0,675176
359	2,589593	2,250843	1,966594	1,649109	1,152214	0,675174
360	2,589555	2,250817	1,966575	1,649097	1,152208	0,675172
361	2,589517	2,250791	1,966557	1,649086	1,152203	0,67517
362	2,589479	2,250765	1,966539	1,649074	1,152198	0,675168
363	2,589441	2,250739	1,966521	1,649062	1,152193	0,675166
364	2,589403	2,250713	1,966502	1,649051	1,152188	0,675164
365	2,589366	2,250687	1,966485	1,649039	1,152183	0,675162
366	2,589329	2,250662	1,966467	1,649028	1,152178	0,675161
367	2,589292	2,250637	1,966449	1,649016	1,152173	0,675159
368	2,589255	2,250611	1,966431	1,649005	1,152168	0,675157
369	2,589218	2,250586	1,966414	1,648994	1,152163	0,675155
370	2,589182	2,250561	1,966396	1,648982	1,152158	0,675153
371	2,589146	2,250537	1,966379	1,648971	1,152153	0,675152
372	2,58911	2,250512	1,966361	1,64896	1,152148	0,67515
373	2,589074	2,250488	1,966344	1,648949	1,152144	0,675148
374	2,589039	2,250463	1,966327	1,648938	1,152139	0,675146
375	2,589003	2,250439	1,96631	1,648927	1,152134	0,675145
376	2,588968	2,250415	1,966293	1,648916	1,152129	0,675143
377	2,588933	2,250391	1,966276	1,648905	1,152124	0,675141
378	2,588898	2,250367	1,96626	1,648895	1,15212	0,675139
379	2,588863	2,250343	1,966243	1,648884	1,152115	0,675138
380	2,588829	2,25032	1,966226	1,648873	1,15211	0,675136
381	2,588795	2,250296	1,96621	1,648863	1,152106	0,675134
382	2,588761	2,250273	1,966193	1,648852	1,152101	0,675133

383	2,588727	2,250249	1,966177	1,648842	1,152097	0,675131
384	2,588693	2,250226	1,966161	1,648831	1,152092	0,675129
385	2,588659	2,250203	1,966145	1,648821	1,152088	0,675128
386	2,588626	2,25018	1,966129	1,648811	1,152083	0,675126
387	2,588593	2,250158	1,966113	1,648801	1,152079	0,675124
388	2,58856	2,250135	1,966097	1,64879	1,152074	0,675123
389	2,588527	2,250112	1,966081	1,64878	1,15207	0,675121
390	2,588494	2,25009	1,966065	1,64877	1,152065	0,675119
391	2,588462	2,250068	1,96605	1,64876	1,152061	0,675118
392	2,588429	2,250046	1,966034	1,64875	1,152056	0,675116
393	2,588397	2,250024	1,966019	1,64874	1,152052	0,675115
394	2,588365	2,250002	1,966003	1,64873	1,152048	0,675113
395	2,588333	2,24998	1,965988	1,64872	1,152043	0,675111
396	2,588301	2,249958	1,965973	1,648711	1,152039	0,67511
397	2,58827	2,249936	1,965957	1,648701	1,152035	0,675108
398	2,588238	2,249915	1,965942	1,648691	1,152031	0,675107
399	2,588207	2,249893	1,965927	1,648682	1,152026	0,675105
400	2,588176	2,249872	1,965912	1,648672	1,152022	0,675104
401	2,588145	2,249851	1,965897	1,648662	1,152018	0,675102
402	2,588114	2,24983	1,965883	1,648653	1,152014	0,675101
403	2,588084	2,249809	1,965868	1,648643	1,15201	0,675099
404	2,588053	2,249788	1,965853	1,648634	1,152006	0,675098
405	2,588023	2,249767	1,965839	1,648625	1,152002	0,675096
406	2,587993	2,249746	1,965824	1,648615	1,151997	0,675095
407	2,587963	2,249726	1,96581	1,648606	1,151993	0,675093
408	2,587933	2,249705	1,965795	1,648597	1,151989	0,675092
409	2,587903	2,249685	1,965781	1,648588	1,151985	0,67509
410	2,587874	2,249665	1,965767	1,648579	1,151981	0,675089
411	2,587844	2,249645	1,965753	1,64857	1,151977	0,675087
412	2,587815	2,249625	1,965739	1,64856	1,151973	0,675086
413	2,587786	2,249605	1,965724	1,648551	1,151969	0,675084
414	2,587757	2,249585	1,965711	1,648543	1,151966	0,675083
415	2,587728	2,249565	1,965697	1,648534	1,151962	0,675081
416	2,587699	2,249545	1,965683	1,648525	1,151958	0,67508
417	2,587671	2,249526	1,965669	1,648516	1,151954	0,675079
418	2,587642	2,249506	1,965655	1,648507	1,15195	0,675077
419	2,587614	2,249487	1,965642	1,648498	1,151946	0,675076
420	2,587586	2,249467	1,965628	1,64849	1,151942	0,675074
421	2,587558	2,249448	1,965615	1,648481	1,151939	0,675073

422	2,58753	2,249429	1,965601	1,648472	1,151935	0,675072
423	2,587502	2,24941	1,965588	1,648464	1,151931	0,67507
424	2,587474	2,249391	1,965575	1,648455	1,151927	0,675069
425	2,587447	2,249372	1,965561	1,648447	1,151924	0,675067
426	2,587419	2,249353	1,965548	1,648438	1,15192	0,675066
427	2,587392	2,249335	1,965535	1,64843	1,151916	0,675065
428	2,587365	2,249316	1,965522	1,648422	1,151913	0,675063
429	2,587338	2,249298	1,965509	1,648413	1,151909	0,675062
430	2,587311	2,249279	1,965496	1,648405	1,151905	0,675061
431	2,587284	2,249261	1,965483	1,648397	1,151902	0,675059
432	2,587258	2,249243	1,96547	1,648388	1,151898	0,675058
433	2,587231	2,249224	1,965458	1,64838	1,151895	0,675057
434	2,587205	2,249206	1,965445	1,648372	1,151891	0,675055
435	2,587179	2,249188	1,965432	1,648364	1,151887	0,675054
436	2,587152	2,24917	1,96542	1,648356	1,151884	0,675053
437	2,587126	2,249153	1,965407	1,648348	1,15188	0,675052
438	2,5871	2,249135	1,965395	1,64834	1,151877	0,67505
439	2,587075	2,249117	1,965382	1,648332	1,151873	0,675049
440	2,587049	2,2491	1,96537	1,648324	1,15187	0,675048
441	2,587023	2,249082	1,965358	1,648316	1,151866	0,675046
442	2,586998	2,249065	1,965346	1,648308	1,151863	0,675045
443	2,586973	2,249047	1,965333	1,648301	1,15186	0,675044
444	2,586948	2,24903	1,965321	1,648293	1,151856	0,675043
445	2,586922	2,249013	1,965309	1,648285	1,151853	0,675041
446	2,586897	2,248996	1,965297	1,648277	1,151849	0,67504
447	2,586873	2,248979	1,965285	1,64827	1,151846	0,675039
448	2,586848	2,248962	1,965273	1,648262	1,151843	0,675038
449	2,586823	2,248945	1,965261	1,648254	1,151839	0,675037
450	2,586799	2,248928	1,96525	1,648247	1,151836	0,675035
451	2,586774	2,248911	1,965238	1,648239	1,151833	0,675034
452	2,58675	2,248895	1,965226	1,648232	1,15183	0,675033
453	2,586726	2,248878	1,965214	1,648224	1,151826	0,675032
454	2,586702	2,248861	1,965203	1,648217	1,151823	0,675031
455	2,586678	2,248845	1,965191	1,648209	1,15182	0,675029
456	2,586654	2,248829	1,96518	1,648202	1,151817	0,675028
457	2,58663	2,248812	1,965168	1,648195	1,151813	0,675027
458	2,586606	2,248796	1,965157	1,648187	1,15181	0,675026
459	2,586583	2,24878	1,965146	1,64818	1,151807	0,675025
460	2,586559	2,248764	1,965134	1,648173	1,151804	0,675023

461	2,586536	2,248748	1,965123	1,648166	1,151801	0,675022
462	2,586513	2,248732	1,965112	1,648158	1,151797	0,675021
463	2,58649	2,248716	1,965101	1,648151	1,151794	0,67502
464	2,586466	2,2487	1,96509	1,648144	1,151791	0,675019
465	2,586443	2,248685	1,965079	1,648137	1,151788	0,675018
466	2,586421	2,248669	1,965068	1,64813	1,151785	0,675017
467	2,586398	2,248653	1,965057	1,648123	1,151782	0,675015
468	2,586375	2,248638	1,965046	1,648116	1,151779	0,675014
469	2,586353	2,248622	1,965035	1,648109	1,151776	0,675013
470	2,58633	2,248607	1,965024	1,648102	1,151773	0,675012
471	2,586308	2,248591	1,965013	1,648095	1,15177	0,675011
472	2,586285	2,248576	1,965003	1,648088	1,151767	0,67501
473	2,586263	2,248561	1,964992	1,648081	1,151764	0,675009
474	2,586241	2,248546	1,964981	1,648075	1,151761	0,675008
475	2,586219	2,248531	1,964971	1,648068	1,151758	0,675007
476	2,586197	2,248516	1,96496	1,648061	1,151755	0,675006
477	2,586175	2,248501	1,96495	1,648054	1,151752	0,675004
478	2,586154	2,248486	1,964939	1,648048	1,151749	0,675003
479	2,586132	2,248471	1,964929	1,648041	1,151746	0,675002
480	2,586111	2,248456	1,964918	1,648034	1,151743	0,675001
481	2,586089	2,248442	1,964908	1,648028	1,15174	0,675
482	2,586068	2,248427	1,964898	1,648021	1,151737	0,674999
483	2,586046	2,248412	1,964888	1,648015	1,151734	0,674998
484	2,586025	2,248398	1,964877	1,648008	1,151732	0,674997
485	2,586004	2,248383	1,964867	1,648001	1,151729	0,674996
486	2,585983	2,248369	1,964857	1,647995	1,151726	0,674995
487	2,585962	2,248355	1,964847	1,647989	1,151723	0,674994
488	2,585941	2,24834	1,964837	1,647982	1,15172	0,674993
489	2,585921	2,248326	1,964827	1,647976	1,151717	0,674992
490	2,5859	2,248312	1,964817	1,647969	1,151715	0,674991
491	2,585879	2,248298	1,964807	1,647963	1,151712	0,67499
492	2,585859	2,248284	1,964797	1,647957	1,151709	0,674989
493	2,585838	2,24827	1,964787	1,64795	1,151706	0,674988
494	2,585818	2,248256	1,964778	1,647944	1,151704	0,674987
495	2,585798	2,248242	1,964768	1,647938	1,151701	0,674986
496	2,585778	2,248228	1,964758	1,647932	1,151698	0,674985
497	2,585758	2,248214	1,964749	1,647925	1,151695	0,674984
498	2,585738	2,248201	1,964739	1,647919	1,151693	0,674983
499	2,585718	2,248187	1,964729	1,647913	1,15169	0,674982

500	2,585698	2,248173	1,96472	1,647907	1,151687	0,674981
501	2,585678	2,24816	1,96471	1,647901	1,151685	0,67498
502	2,585658	2,248146	1,964701	1,647895	1,151682	0,674979
503	2,585639	2,248133	1,964691	1,647889	1,151679	0,674978
504	2,585619	2,248119	1,964682	1,647883	1,151677	0,674977
505	2,5856	2,248106	1,964673	1,647877	1,151674	0,674976
506	2,58558	2,248093	1,964663	1,647871	1,151671	0,674975
507	2,585561	2,24808	1,964654	1,647865	1,151669	0,674974
508	2,585542	2,248066	1,964645	1,647859	1,151666	0,674973
509	2,585523	2,248053	1,964635	1,647853	1,151664	0,674972
510	2,585504	2,24804	1,964626	1,647847	1,151661	0,674971
511	2,585485	2,248027	1,964617	1,647841	1,151658	0,67497
512	2,585466	2,248014	1,964608	1,647835	1,151656	0,674969
513	2,585447	2,248001	1,964599	1,647829	1,151653	0,674968
514	2,585428	2,247988	1,96459	1,647824	1,151651	0,674967
515	2,585409	2,247976	1,964581	1,647818	1,151648	0,674966
516	2,585391	2,247963	1,964572	1,647812	1,151646	0,674966
517	2,585372	2,24795	1,964563	1,647806	1,151643	0,674965
518	2,585354	2,247937	1,964554	1,647801	1,151641	0,674964
519	2,585335	2,247925	1,964545	1,647795	1,151638	0,674963
520	2,585317	2,247912	1,964536	1,647789	1,151636	0,674962
521	2,585299	2,2479	1,964528	1,647784	1,151633	0,674961
522	2,58528	2,247887	1,964519	1,647778	1,151631	0,67496
523	2,585262	2,247875	1,96451	1,647772	1,151628	0,674959
524	2,585244	2,247862	1,964501	1,647767	1,151626	0,674958
525	2,585226	2,24785	1,964493	1,647761	1,151623	0,674957
526	2,585208	2,247838	1,964484	1,647756	1,151621	0,674956
527	2,58519	2,247825	1,964476	1,64775	1,151619	0,674956
528	2,585173	2,247813	1,964467	1,647745	1,151616	0,674955
529	2,585155	2,247801	1,964458	1,647739	1,151614	0,674954
530	2,585137	2,247789	1,96445	1,647734	1,151611	0,674953
531	2,58512	2,247777	1,964441	1,647728	1,151609	0,674952
532	2,585102	2,247765	1,964433	1,647723	1,151607	0,674951
533	2,585085	2,247753	1,964425	1,647717	1,151604	0,67495
534	2,585067	2,247741	1,964416	1,647712	1,151602	0,674949
535	2,58505	2,247729	1,964408	1,647707	1,1516	0,674949
536	2,585033	2,247717	1,9644	1,647701	1,151597	0,674948
537	2,585016	2,247706	1,964391	1,647696	1,151595	0,674947
538	2,584998	2,247694	1,964383	1,647691	1,151593	0,674946

539	2,584981	2,247682	1,964375	1,647686	1,15159	0,674945
540	2,584964	2,24767	1,964367	1,64768	1,151588	0,674944
541	2,584947	2,247659	1,964359	1,647675	1,151586	0,674944
542	2,584931	2,247647	1,96435	1,64767	1,151583	0,674943
543	2,584914	2,247636	1,964342	1,647665	1,151581	0,674942
544	2,584897	2,247624	1,964334	1,647659	1,151579	0,674941
545	2,58488	2,247613	1,964326	1,647654	1,151577	0,67494
546	2,584864	2,247601	1,964318	1,647649	1,151574	0,674939
547	2,584847	2,24759	1,96431	1,647644	1,151572	0,674939
548	2,584831	2,247579	1,964302	1,647639	1,15157	0,674938
549	2,584814	2,247567	1,964294	1,647634	1,151568	0,674937
550	2,584798	2,247556	1,964286	1,647629	1,151566	0,674936
551	2,584781	2,247545	1,964279	1,647624	1,151563	0,674935
552	2,584765	2,247534	1,964271	1,647619	1,151561	0,674934
553	2,584749	2,247523	1,964263	1,647614	1,151559	0,674934
554	2,584733	2,247512	1,964255	1,647609	1,151557	0,674933
555	2,584717	2,247501	1,964247	1,647604	1,151555	0,674932
556	2,584701	2,24749	1,96424	1,647599	1,151552	0,674931
557	2,584685	2,247479	1,964232	1,647594	1,15155	0,67493
558	2,584669	2,247468	1,964224	1,647589	1,151548	0,67493
559	2,584653	2,247457	1,964217	1,647584	1,151546	0,674929
560	2,584637	2,247446	1,964209	1,647579	1,151544	0,674928
561	2,584621	2,247435	1,964202	1,647574	1,151542	0,674927
562	2,584606	2,247424	1,964194	1,647569	1,15154	0,674927
563	2,58459	2,247414	1,964186	1,647565	1,151537	0,674926
564	2,584574	2,247403	1,964179	1,64756	1,151535	0,674925
565	2,584559	2,247392	1,964171	1,647555	1,151533	0,674924
566	2,584543	2,247382	1,964164	1,64755	1,151531	0,674923
567	2,584528	2,247371	1,964157	1,647545	1,151529	0,674923
568	2,584513	2,247361	1,964149	1,647541	1,151527	0,674922
569	2,584497	2,24735	1,964142	1,647536	1,151525	0,674921
570	2,584482	2,24734	1,964134	1,647531	1,151523	0,67492
571	2,584467	2,247329	1,964127	1,647527	1,151521	0,67492
572	2,584452	2,247319	1,96412	1,647522	1,151519	0,674919
573	2,584437	2,247309	1,964113	1,647517	1,151517	0,674918
574	2,584422	2,247298	1,964105	1,647513	1,151515	0,674917
575	2,584407	2,247288	1,964098	1,647508	1,151513	0,674917
576	2,584392	2,247278	1,964091	1,647503	1,151511	0,674916
577	2,584377	2,247267	1,964084	1,647499	1,151509	0,674915

578	2,584362	2,247257	1,964077	1,647494	1,151507	0,674914
579	2,584347	2,247247	1,96407	1,64749	1,151505	0,674914
580	2,584332	2,247237	1,964062	1,647485	1,151503	0,674913
581	2,584318	2,247227	1,964055	1,647481	1,151501	0,674912
582	2,584303	2,247217	1,964048	1,647476	1,151499	0,674912
583	2,584289	2,247207	1,964041	1,647471	1,151497	0,674911
584	2,584274	2,247197	1,964034	1,647467	1,151495	0,67491
585	2,58426	2,247187	1,964027	1,647463	1,151493	0,674909
586	2,584245	2,247177	1,96402	1,647458	1,151491	0,674909
587	2,584231	2,247167	1,964013	1,647454	1,151489	0,674908
588	2,584216	2,247158	1,964007	1,647449	1,151487	0,674907
589	2,584202	2,247148	1,964	1,647445	1,151485	0,674907
590	2,584188	2,247138	1,963993	1,64744	1,151483	0,674906
591	2,584174	2,247128	1,963986	1,647436	1,151481	0,674905
592	2,58416	2,247119	1,963979	1,647432	1,151479	0,674904
593	2,584145	2,247109	1,963972	1,647427	1,151477	0,674904
594	2,584131	2,247099	1,963966	1,647423	1,151475	0,674903
595	2,584117	2,24709	1,963959	1,647419	1,151473	0,674902
596	2,584103	2,24708	1,963952	1,647414	1,151472	0,674902
597	2,58409	2,247071	1,963945	1,64741	1,15147	0,674901
598	2,584076	2,247061	1,963939	1,647406	1,151468	0,6749
599	2,584062	2,247052	1,963932	1,647401	1,151466	0,6749
600	2,584048	2,247042	1,963926	1,647397	1,151464	0,674899
601	2,584034	2,247033	1,963919	1,647393	1,151462	0,674898
602	2,584021	2,247023	1,963912	1,647389	1,15146	0,674898
603	2,584007	2,247014	1,963906	1,647385	1,151459	0,674897
604	2,583994	2,247005	1,963899	1,64738	1,151457	0,674896
605	2,58398	2,246995	1,963893	1,647376	1,151455	0,674895
606	2,583967	2,246986	1,963886	1,647372	1,151453	0,674895
607	2,583953	2,246977	1,96388	1,647368	1,151451	0,674894
608	2,58394	2,246968	1,963873	1,647364	1,151449	0,674893
609	2,583926	2,246959	1,963867	1,64736	1,151448	0,674893
610	2,583913	2,246949	1,96386	1,647355	1,151446	0,674892

Lampiran 8

Nilai *Chi-Square* Tabel dapat diperolehdari perintah dalam *software* Ms.Excel yaitu "**=CHIINV(α;df)**"

Chi-Square Tabel ($df = 1 - 610$)

df	Alfa (α)					
	0,005	**0,010**	**0,025**	**0,050**	**0,100**	**0,250**
1	7,879	6,635	5,024	3,841	2,706	1,323
2	10,597	9,210	7,378	5,991	4,605	2,773
3	12,838	11,345	9,348	7,815	6,251	4,108
4	14,860	13,277	11,143	9,488	7,779	5,385
5	16,750	15,086	12,833	11,070	9,236	6,626
6	18,548	16,812	14,449	12,592	10,645	7,841
7	20,278	18,475	16,013	14,067	12,017	9,037
8	21,955	20,090	17,535	15,507	13,362	10,219
9	23,589	21,666	19,023	16,919	14,684	11,389
10	25,188	23,209	20,483	18,307	15,987	12,549
11	26,757	24,725	21,920	19,675	17,275	13,701
12	28,300	26,217	23,337	21,026	18,549	14,845
13	29,819	27,688	24,736	22,362	19,812	15,984
14	31,319	29,141	26,119	23,685	21,064	17,117
15	32,801	30,578	27,488	24,996	22,307	18,245
16	34,267	32,000	28,845	26,296	23,542	19,369
17	35,718	33,409	30,191	27,587	24,769	20,489
18	37,156	34,805	31,526	28,869	25,989	21,605
19	38,582	36,191	32,852	30,144	27,204	22,718
20	39,997	37,566	34,170	31,410	28,412	23,828
21	41,401	38,932	35,479	32,671	29,615	24,935
22	42,796	40,289	36,781	33,924	30,813	26,039
23	44,181	41,638	38,076	35,172	32,007	27,141
24	45,559	42,980	39,364	36,415	33,196	28,241
25	46,928	44,314	40,646	37,652	34,382	29,339
26	48,290	45,642	41,923	38,885	35,563	30,435
27	49,645	46,963	43,195	40,113	36,741	31,528
28	50,993	48,278	44,461	41,337	37,916	32,620
29	52,336	49,588	45,722	42,557	39,087	33,711
30	53,672	50,892	46,979	43,773	40,256	34,800
31	55,003	52,191	48,232	44,985	41,422	35,887
32	56,328	53,486	49,480	46,194	42,585	36,973
33	57,648	54,776	50,725	47,400	43,745	38,058

34	58,964	56,061	51,966	48,602	44,903	39,141
35	60,275	57,342	53,203	49,802	46,059	40,223
36	61,581	58,619	54,437	50,998	47,212	41,304
37	62,883	59,893	55,668	52,192	48,363	42,383
38	64,181	61,162	56,896	53,384	49,513	43,462
39	65,476	62,428	58,120	54,572	50,660	44,539
40	66,766	63,691	59,342	55,758	51,805	45,616
41	68,053	64,950	60,561	56,942	52,949	46,692
42	69,336	66,206	61,777	58,124	54,090	47,766
43	70,616	67,459	62,990	59,304	55,230	48,840
44	71,893	68,710	64,201	60,481	56,369	49,913
45	73,166	69,957	65,410	61,656	57,505	50,985
46	74,437	71,201	66,617	62,830	58,641	52,056
47	75,704	72,443	67,821	64,001	59,774	53,127
48	76,969	73,683	69,023	65,171	60,907	54,196
49	78,231	74,919	70,222	66,339	62,038	55,265
50	79,490	76,154	71,420	67,505	63,167	56,334
51	80,747	77,386	72,616	68,669	64,295	57,401
52	82,001	78,616	73,810	69,832	65,422	58,468
53	83,253	79,843	75,002	70,993	66,548	59,534
54	84,502	81,069	76,192	72,153	67,673	60,600
55	85,749	82,292	77,380	73,311	68,796	61,665
56	86,994	83,513	78,567	74,468	69,919	62,729
57	88,236	84,733	79,752	75,624	71,040	63,793
58	89,477	85,950	80,936	76,778	72,160	64,857
59	90,715	87,166	82,117	77,931	73,279	65,919
60	91,952	88,379	83,298	79,082	74,397	66,981
61	93,186	89,591	84,476	80,232	75,514	68,043
62	94,419	90,802	85,654	81,381	76,630	69,104
63	95,649	92,010	86,830	82,529	77,745	70,165
64	96,878	93,217	88,004	83,675	78,860	71,225
65	98,105	94,422	89,177	84,821	79,973	72,285
66	99,330	95,626	90,349	85,965	81,085	73,344
67	100,554	96,828	91,519	87,108	82,197	74,403
68	101,776	98,028	92,689	88,250	83,308	75,461
69	102,996	99,228	93,856	89,391	84,418	76,519
70	104,215	100,425	95,023	90,531	85,527	77,577
71	105,432	101,621	96,189	91,670	86,635	78,634
72	106,648	102,816	97,353	92,808	87,743	79,690

73	107,862	104,010	98,516	93,945	88,850	80,747
74	109,074	105,202	99,678	95,081	89,956	81,803
75	110,286	106,393	100,839	96,217	91,061	82,858
76	111,495	107,583	101,999	97,351	92,166	83,913
77	112,704	108,771	103,158	98,484	93,270	84,968
78	113,911	109,958	104,316	99,617	94,374	86,022
79	115,117	111,144	105,473	100,749	95,476	87,077
80	116,321	112,329	106,629	101,879	96,578	88,130
81	117,524	113,512	107,783	103,010	97,680	89,184
82	118,726	114,695	108,937	104,139	98,780	90,237
83	119,927	115,876	110,090	105,267	99,880	91,289
84	121,126	117,057	111,242	106,395	100,980	92,342
85	122,325	118,236	112,393	107,522	102,079	93,394
86	123,522	119,414	113,544	108,648	103,177	94,446
87	124,718	120,591	114,693	109,773	104,275	95,497
88	125,913	121,767	115,841	110,898	105,372	96,548
89	127,106	122,942	116,989	112,022	106,469	97,599
90	128,299	124,116	118,136	113,145	107,565	98,650
91	129,491	125,289	119,282	114,268	108,661	99,700
92	130,681	126,462	120,427	115,390	109,756	100,750
93	131,871	127,633	121,571	116,511	110,850	101,800
94	133,059	128,803	122,715	117,632	111,944	102,850
95	134,247	129,973	123,858	118,752	113,038	103,899
96	135,433	131,141	125,000	119,871	114,131	104,948
97	136,619	132,309	126,141	120,990	115,223	105,997
98	137,803	133,476	127,282	122,108	116,315	107,045
99	138,987	134,642	128,422	123,225	117,407	108,093
100	140,169	135,807	129,561	124,342	118,498	109,141
101	141,351	136,971	130,700	125,458	119,589	110,189
102	142,532	138,134	131,838	126,574	120,679	111,236
103	143,712	139,297	132,975	127,689	121,769	112,284
104	144,891	140,459	134,111	128,804	122,858	113,331
105	146,070	141,620	135,247	129,918	123,947	114,378
106	147,247	142,780	136,382	131,031	125,035	115,424
107	148,424	143,940	137,517	132,144	126,123	116,471
108	149,599	145,099	138,651	133,257	127,211	117,517
109	150,774	146,257	139,784	134,369	128,298	118,563
110	151,948	147,414	140,917	135,480	129,385	119,608
111	153,122	148,571	142,049	136,591	130,472	120,654

112	154,294	149,727	143,180	137,701	131,558	121,699
113	155,466	150,882	144,311	138,811	132,643	122,744
114	156,637	152,037	145,441	139,921	133,729	123,789
115	157,808	153,191	146,571	141,030	134,813	124,834
116	158,977	154,344	147,700	142,138	135,898	125,878
117	160,146	155,496	148,829	143,246	136,982	126,923
118	161,314	156,648	149,957	144,354	138,066	127,967
119	162,481	157,800	151,084	145,461	139,149	129,011
120	163,648	158,950	152,211	146,567	140,233	130,055
121	164,814	160,100	153,338	147,674	141,315	131,098
122	165,980	161,250	154,464	148,779	142,398	132,142
123	167,144	162,398	155,589	149,885	143,480	133,185
124	168,308	163,546	156,714	150,989	144,562	134,228
125	169,471	164,694	157,839	152,094	145,643	135,271
126	170,634	165,841	158,962	153,198	146,724	136,313
127	171,796	166,987	160,086	154,302	147,805	137,356
128	172,957	168,133	161,209	155,405	148,885	138,398
129	174,118	169,278	162,331	156,508	149,965	139,440
130	175,278	170,423	163,453	157,610	151,045	140,482
131	176,438	171,567	164,575	158,712	152,125	141,524
132	177,597	172,711	165,696	159,814	153,204	142,566
133	178,755	173,854	166,816	160,915	154,283	143,608
134	179,913	174,996	167,936	162,016	155,361	144,649
135	181,070	176,138	169,056	163,116	156,440	145,690
136	182,226	177,280	170,175	164,216	157,518	146,731
137	183,382	178,421	171,294	165,316	158,595	147,772
138	184,538	179,561	172,412	166,415	159,673	148,813
139	185,693	180,701	173,530	167,514	160,750	149,854
140	186,847	181,840	174,648	168,613	161,827	150,894
141	188,001	182,979	175,765	169,711	162,904	151,934
142	189,154	184,118	176,882	170,809	163,980	152,975
143	190,306	185,256	177,998	171,907	165,056	154,015
144	191,458	186,393	179,114	173,004	166,132	155,055
145	192,610	187,530	180,229	174,101	167,207	156,094
146	193,761	188,666	181,344	175,198	168,283	157,134
147	194,912	189,802	182,459	176,294	169,358	158,174
148	196,062	190,938	183,573	177,390	170,432	159,213
149	197,211	192,073	184,687	178,485	171,507	160,252
150	198,360	193,208	185,800	179,581	172,581	161,291

151	199,509	194,342	186,914	180,676	173,655	162,330
152	200,657	195,476	188,026	181,770	174,729	163,369
153	201,804	196,609	189,139	182,865	175,803	164,408
154	202,951	197,742	190,251	183,959	176,876	165,446
155	204,098	198,874	191,362	185,052	177,949	166,485
156	205,244	200,006	192,474	186,146	179,022	167,523
157	206,390	201,138	193,584	187,239	180,094	168,561
158	207,535	202,269	194,695	188,332	181,167	169,599
159	208,680	203,400	195,805	189,424	182,239	170,637
160	209,824	204,530	196,915	190,516	183,311	171,675
161	210,968	205,660	198,025	191,608	184,382	172,713
162	212,111	206,790	199,134	192,700	185,454	173,751
163	213,254	207,919	200,243	193,791	186,525	174,788
164	214,396	209,047	201,351	194,883	187,596	175,825
165	215,539	210,176	202,459	195,973	188,667	176,863
166	216,680	211,304	203,567	197,064	189,737	177,900
167	217,821	212,431	204,675	198,154	190,808	178,937
168	218,962	213,558	205,782	199,244	191,878	179,974
169	220,102	214,685	206,889	200,334	192,948	181,011
170	221,242	215,812	207,995	201,423	194,017	182,047
171	222,382	216,938	209,102	202,513	195,087	183,084
172	223,521	218,063	210,208	203,602	196,156	184,120
173	224,660	219,189	211,313	204,690	197,225	185,157
174	225,798	220,314	212,419	205,779	198,294	186,193
175	226,936	221,438	213,524	206,867	199,363	187,229
176	228,074	222,563	214,628	207,955	200,432	188,265
177	229,211	223,687	215,733	209,042	201,500	189,301
178	230,347	224,810	216,837	210,130	202,568	190,337
179	231,484	225,933	217,941	211,217	203,636	191,373
180	232,620	227,056	219,044	212,304	204,704	192,409
181	233,755	228,179	220,148	213,391	205,771	193,444
182	234,891	229,301	221,251	214,477	206,839	194,480
183	236,026	230,423	222,353	215,563	207,906	195,515
184	237,160	231,544	223,456	216,649	208,973	196,550
185	238,294	232,665	224,558	217,735	210,040	197,586
186	239,428	233,786	225,660	218,820	211,106	198,621
187	240,561	234,907	226,761	219,906	212,173	199,656
188	241,694	236,027	227,863	220,991	213,239	200,690
189	242,827	237,147	228,964	222,076	214,305	201,725

190	243,959	238,266	230,064	223,160	215,371	202,760
191	245,091	239,386	231,165	224,245	216,437	203,795
192	246,223	240,505	232,265	225,329	217,502	204,829
193	247,354	241,623	233,365	226,413	218,568	205,864
194	248,485	242,742	234,465	227,496	219,633	206,898
195	249,616	243,860	235,564	228,580	220,698	207,932
196	250,746	244,977	236,664	229,663	221,763	208,966
197	251,876	246,095	237,763	230,746	222,828	210,000
198	253,006	247,212	238,861	231,829	223,892	211,034
199	254,135	248,329	239,960	232,912	224,957	212,068
200	255,264	249,445	241,058	233,994	226,021	213,102
201	256,393	250,561	242,156	235,077	227,085	214,136
202	257,521	251,677	243,254	236,159	228,149	215,170
203	258,649	252,793	244,351	237,240	229,213	216,203
204	259,777	253,908	245,448	238,322	230,276	217,237
205	260,904	255,023	246,545	239,403	231,340	218,270
206	262,031	256,138	247,642	240,485	232,403	219,303
207	263,158	257,253	248,739	241,566	233,466	220,337
208	264,285	258,367	249,835	242,647	234,529	221,370
209	265,411	259,481	250,931	243,727	235,592	222,403
210	266,537	260,595	252,027	244,808	236,655	223,436
211	267,662	261,708	253,122	245,888	237,717	224,469
212	268,788	262,821	254,218	246,968	238,780	225,502
213	269,912	263,934	255,313	248,048	239,842	226,534
214	271,037	265,047	256,408	249,128	240,904	227,567
215	272,162	266,159	257,503	250,207	241,966	228,600
216	273,286	267,271	258,597	251,286	243,028	229,632
217	274,409	268,383	259,691	252,365	244,090	230,665
218	275,533	269,495	260,785	253,444	245,151	231,697
219	276,656	270,606	261,879	254,523	246,213	232,729
220	277,779	271,717	262,973	255,602	247,274	233,762
221	278,902	272,828	264,066	256,680	248,335	234,794
222	280,024	273,939	265,159	257,758	249,396	235,826
223	281,146	275,049	266,252	258,837	250,457	236,858
224	282,268	276,159	267,345	259,914	251,517	237,890
225	283,390	277,269	268,438	260,992	252,578	238,922
226	284,511	278,379	269,530	262,070	253,638	239,954
227	285,632	279,488	270,622	263,147	254,699	240,985
228	286,753	280,597	271,714	264,224	255,759	242,017

229	287,874	281,706	272,806	265,301	256,819	243,049
230	288,994	282,814	273,898	266,378	257,879	244,080
231	290,114	283,923	274,989	267,455	258,939	245,112
232	291,234	285,031	276,080	268,531	259,998	246,143
233	292,353	286,139	277,171	269,608	261,058	247,174
234	293,472	287,247	278,262	270,684	262,117	248,206
235	294,591	288,354	279,352	271,760	263,176	249,237
236	295,710	289,461	280,443	272,836	264,235	250,268
237	296,828	290,568	281,533	273,911	265,294	251,299
238	297,947	291,675	282,623	274,987	266,353	252,330
239	299,065	292,782	283,713	276,062	267,412	253,361
240	300,182	293,888	284,802	277,138	268,471	254,392
241	301,300	294,994	285,892	278,213	269,529	255,423
242	302,417	296,100	286,981	279,288	270,588	256,453
243	303,534	297,206	288,070	280,362	271,646	257,484
244	304,651	298,311	289,159	281,437	272,704	258,515
245	305,767	299,417	290,248	282,511	273,762	259,545
246	306,883	300,522	291,336	283,586	274,820	260,576
247	307,999	301,626	292,425	284,660	275,878	261,606
248	309,115	302,731	293,513	285,734	276,935	262,636
249	310,231	303,835	294,601	286,808	277,993	263,667
250	311,346	304,940	295,689	287,882	279,050	264,697
251	312,461	306,044	296,776	288,955	280,108	265,727
252	313,576	307,147	297,864	290,028	281,165	266,757
253	314,691	308,251	298,951	291,102	282,222	267,787
254	315,805	309,354	300,038	292,175	283,279	268,817
255	316,919	310,457	301,125	293,248	284,336	269,847
256	318,033	311,560	302,212	294,321	285,393	270,877
257	319,147	312,663	303,298	295,393	286,449	271,907
258	320,261	313,766	304,385	296,466	287,506	272,937
259	321,374	314,868	305,471	297,538	288,562	273,966
260	322,487	315,970	306,557	298,611	289,619	274,996
261	323,600	317,072	307,643	299,683	290,675	276,026
262	324,713	318,174	308,729	300,755	291,731	277,055
263	325,825	319,275	309,814	301,827	292,787	278,085
264	326,937	320,377	310,900	302,898	293,843	279,114
265	328,049	321,478	311,985	303,970	294,899	280,143
266	329,161	322,579	313,070	305,041	295,954	281,173
267	330,273	323,680	314,155	306,113	297,010	282,202

268	331,384	324,780	315,240	307,184	298,065	283,231
269	332,495	325,881	316,325	308,255	299,121	284,260
270	333,606	326,981	317,409	309,326	300,176	285,289
271	334,717	328,081	318,494	310,397	301,231	286,318
272	335,827	329,181	319,578	311,467	302,286	287,347
273	336,938	330,281	320,662	312,538	303,341	288,376
274	338,048	331,380	321,746	313,608	304,396	289,405
275	339,158	332,480	322,829	314,678	305,451	290,434
276	340,268	333,579	323,913	315,749	306,505	291,463
277	341,377	334,678	324,996	316,819	307,560	292,492
278	342,487	335,776	326,079	317,888	308,614	293,520
279	343,596	336,875	327,163	318,958	309,669	294,549
280	344,705	337,974	328,246	320,028	310,723	295,577
281	345,813	339,072	329,328	321,097	311,777	296,606
282	346,922	340,170	330,411	322,167	312,831	297,634
283	348,030	341,268	331,493	323,236	313,885	298,663
284	349,139	342,365	332,576	324,305	314,939	299,691
285	350,247	343,463	333,658	325,374	315,993	300,720
286	351,354	344,560	334,740	326,443	317,047	301,748
287	352,462	345,658	335,822	327,512	318,100	302,776
288	353,569	346,755	336,904	328,580	319,154	303,804
289	354,677	347,852	337,986	329,649	320,207	304,832
290	355,784	348,948	339,067	330,717	321,260	305,860
291	356,891	350,045	340,148	331,786	322,314	306,888
292	357,997	351,141	341,230	332,854	323,367	307,916
293	359,104	352,237	342,311	333,922	324,420	308,944
294	360,210	353,334	343,392	334,990	325,473	309,972
295	361,316	354,429	344,472	336,058	326,526	311,000
296	362,422	355,525	345,553	337,125	327,578	312,028
297	363,528	356,621	346,634	338,193	328,631	313,055
298	364,634	357,716	347,714	339,260	329,684	314,083
299	365,739	358,811	348,794	340,328	330,736	315,111
300	366,844	359,906	349,874	341,395	331,789	316,138
301	367,950	361,001	350,954	342,462	332,841	317,166
302	369,054	362,096	352,034	343,529	333,893	318,193
303	370,159	363,191	353,114	344,596	334,945	319,221
304	371,264	364,285	354,194	345,663	335,997	320,248
305	372,368	365,379	355,273	346,730	337,049	321,276
306	373,472	366,474	356,352	347,796	338,101	322,303

307	374,576	367,568	357,432	348,863	339,153	323,330
308	375,680	368,661	358,511	349,929	340,205	324,357
309	376,784	369,755	359,590	350,995	341,256	325,385
310	377,888	370,849	360,669	352,062	342,308	326,412
311	378,991	371,942	361,747	353,128	343,359	327,439
312	380,094	373,035	362,826	354,194	344,411	328,466
313	381,197	374,128	363,904	355,260	345,462	329,493
314	382,300	375,221	364,983	356,325	346,513	330,520
315	383,403	376,314	366,061	357,391	347,564	331,547
316	384,505	377,407	367,139	358,456	348,616	332,574
317	385,608	378,499	368,217	359,522	349,667	333,601
318	386,710	379,592	369,295	360,587	350,717	334,627
319	387,812	380,684	370,372	361,652	351,768	335,654
320	388,914	381,776	371,450	362,718	352,819	336,681
321	390,016	382,868	372,527	363,783	353,870	337,707
322	391,117	383,960	373,605	364,847	354,920	338,734
323	392,219	385,051	374,682	365,912	355,971	339,761
324	393,320	386,143	375,759	366,977	357,021	340,787
325	394,421	387,234	376,836	368,042	358,072	341,814
326	395,522	388,325	377,913	369,106	359,122	342,840
327	396,623	389,416	378,990	370,171	360,172	343,867
328	397,724	390,507	380,066	371,235	361,222	344,893
329	398,824	391,598	381,143	372,299	362,272	345,919
330	399,924	392,689	382,219	373,363	363,322	346,946
331	401,025	393,779	383,295	374,427	364,372	347,972
332	402,125	394,870	384,372	375,491	365,422	348,998
333	403,225	395,960	385,448	376,555	366,472	350,024
334	404,324	397,050	386,524	377,619	367,521	351,050
335	405,424	398,140	387,599	378,682	368,571	352,077
336	406,523	399,230	388,675	379,746	369,620	353,103
337	407,623	400,319	389,751	380,809	370,670	354,129
338	408,722	401,409	390,826	381,873	371,719	355,155
339	409,821	402,498	391,902	382,936	372,768	356,181
340	410,920	403,588	392,977	383,999	373,818	357,207
341	412,018	404,677	394,052	385,062	374,867	358,232
342	413,117	405,766	395,127	386,125	375,916	359,258
343	414,215	406,855	396,202	387,188	376,965	360,284
344	415,314	407,944	397,277	388,251	378,014	361,310
345	416,412	409,032	398,351	389,314	379,063	362,336

346	417,510	410,121	399,426	390,376	380,112	363,361
347	418,608	411,209	400,500	391,439	381,160	364,387
348	419,705	412,297	401,575	392,501	382,209	365,412
349	420,803	413,386	402,649	393,564	383,258	366,438
350	421,900	414,474	403,723	394,626	384,306	367,464
351	422,998	415,562	404,797	395,688	385,354	368,489
352	424,095	416,649	405,871	396,750	386,403	369,515
353	425,192	417,737	406,945	397,812	387,451	370,540
354	426,289	418,824	408,019	398,874	388,499	371,565
355	427,386	419,912	409,093	399,936	389,548	372,591
356	428,482	420,999	410,166	400,997	390,596	373,616
357	429,579	422,086	411,240	402,059	391,644	374,641
358	430,675	423,173	412,313	403,121	392,692	375,667
359	431,771	424,260	413,386	404,182	393,740	376,692
360	432,867	425,347	414,459	405,244	394,787	377,717
361	433,963	426,434	415,532	406,305	395,835	378,742
362	435,059	427,520	416,605	407,366	396,883	379,767
363	436,155	428,607	417,678	408,427	397,931	380,792
364	437,250	429,693	418,751	409,488	398,978	381,817
365	438,346	430,779	419,823	410,549	400,026	382,842
366	439,441	431,865	420,896	411,610	401,073	383,867
367	440,536	432,951	421,968	412,671	402,120	384,892
368	441,631	434,037	423,041	413,732	403,168	385,917
369	442,726	435,123	424,113	414,792	404,215	386,942
370	443,821	436,208	425,185	415,853	405,262	387,967
371	444,915	437,294	426,257	416,913	406,309	388,992
372	446,010	438,379	427,329	417,974	407,356	390,016
373	447,104	439,464	428,401	419,034	408,403	391,041
374	448,199	440,550	429,473	420,094	409,450	392,066
375	449,293	441,635	430,544	421,154	410,497	393,091
376	450,387	442,719	431,616	422,214	411,544	394,115
377	451,481	443,804	432,687	423,274	412,591	395,140
378	452,574	444,889	433,759	424,334	413,637	396,164
379	453,668	445,974	434,830	425,394	414,684	397,189
380	454,761	447,058	435,901	426,454	415,730	398,213
381	455,855	448,142	436,972	427,513	416,777	399,238
382	456,948	449,227	438,043	428,573	417,823	400,262
383	458,041	450,311	439,114	429,632	418,870	401,287
384	459,134	451,395	440,185	430,692	419,916	402,311

385	460,227	452,479	441,256	431,751	420,962	403,335
386	461,320	453,562	442,326	432,811	422,009	404,360
387	462,413	454,646	443,397	433,870	423,055	405,384
388	463,505	455,730	444,467	434,929	424,101	406,408
389	464,598	456,813	445,538	435,988	425,147	407,432
390	465,690	457,897	446,608	437,047	426,193	408,457
391	466,782	458,980	447,678	438,106	427,239	409,481
392	467,874	460,063	448,748	439,165	428,284	410,505
393	468,966	461,146	449,818	440,223	429,330	411,529
394	470,058	462,229	450,888	441,282	430,376	412,553
395	471,150	463,312	451,958	442,341	431,422	413,577
396	472,241	464,395	453,027	443,399	432,467	414,601
397	473,333	465,477	454,097	444,458	433,513	415,625
398	474,424	466,560	455,167	445,516	434,558	416,649
399	475,515	467,642	456,236	446,574	435,604	417,673
400	476,606	468,724	457,305	447,632	436,649	418,697
401	477,697	469,807	458,375	448,691	437,694	419,721
402	478,788	470,889	459,444	449,749	438,740	420,745
403	479,879	471,971	460,513	450,807	439,785	421,768
404	480,970	473,053	461,582	451,865	440,830	422,792
405	482,060	474,135	462,651	452,923	441,875	423,816
406	483,151	475,216	463,720	453,980	442,920	424,840
407	484,241	476,298	464,789	455,038	443,965	425,863
408	485,331	477,379	465,857	456,096	445,010	426,887
409	486,422	478,461	466,926	457,153	446,055	427,910
410	487,512	479,542	467,994	458,211	447,100	428,934
411	488,601	480,623	469,063	459,268	448,144	429,958
412	489,691	481,704	470,131	460,326	449,189	430,981
413	490,781	482,785	471,200	461,383	450,234	432,005
414	491,871	483,866	472,268	462,440	451,278	433,028
415	492,960	484,947	473,336	463,497	452,323	434,052
416	494,049	486,028	474,404	464,554	453,367	435,075
417	495,139	487,109	475,472	465,611	454,412	436,098
418	496,228	488,189	476,540	466,668	455,456	437,122
419	497,317	489,269	477,607	467,725	456,501	438,145
420	498,406	490,350	478,675	468,782	457,545	439,168
421	499,495	491,430	479,743	469,839	458,589	440,192
422	500,583	492,510	480,810	470,895	459,633	441,215
423	501,672	493,590	481,878	471,952	460,677	442,238

424	502,760	494,670	482,945	473,009	461,721	443,261
425	503,849	495,750	484,012	474,065	462,765	444,285
426	504,937	496,830	485,080	475,122	463,809	445,308
427	506,025	497,910	486,147	476,178	464,853	446,331
428	507,113	498,989	487,214	477,234	465,897	447,354
429	508,201	500,069	488,281	478,290	466,941	448,377
430	509,289	501,148	489,348	479,347	467,985	449,400
431	510,377	502,227	490,414	480,403	469,028	450,423
432	511,465	503,306	491,481	481,459	470,072	451,446
433	512,552	504,386	492,548	482,515	471,116	452,469
434	513,640	505,465	493,614	483,571	472,159	453,492
435	514,727	506,544	494,681	484,626	473,203	454,515
436	515,815	507,622	495,747	485,682	474,246	455,538
437	516,902	508,701	496,814	486,738	475,290	456,560
438	517,989	509,780	497,880	487,793	476,333	457,583
439	519,076	510,858	498,946	488,849	477,376	458,606
440	520,163	511,937	500,012	489,905	478,419	459,629
441	521,250	513,015	501,079	490,960	479,463	460,652
442	522,336	514,094	502,144	492,015	480,506	461,674
443	523,423	515,172	503,210	493,071	481,549	462,697
444	524,509	516,250	504,276	494,126	482,592	463,720
445	525,596	517,328	505,342	495,181	483,635	464,742
446	526,682	518,406	506,408	496,236	484,678	465,765
447	527,768	519,484	507,473	497,291	485,721	466,787
448	528,854	520,562	508,539	498,346	486,764	467,810
449	529,940	521,639	509,604	499,401	487,807	468,833
450	531,026	522,717	510,670	500,456	488,849	469,855
451	532,112	523,794	511,735	501,511	489,892	470,878
452	533,198	524,872	512,800	502,566	490,935	471,900
453	534,283	525,949	513,865	503,621	491,977	472,922
454	535,369	527,026	514,931	504,675	493,020	473,945
455	536,454	528,104	515,996	505,730	494,062	474,967
456	537,540	529,181	517,061	506,784	495,105	475,990
457	538,625	530,258	518,125	507,839	496,147	477,012
458	539,710	531,335	519,190	508,893	497,190	478,034
459	540,795	532,411	520,255	509,947	498,232	479,057
460	541,880	533,488	521,320	511,002	499,274	480,079
461	542,965	534,565	522,384	512,056	500,317	481,101
462	544,050	535,641	523,449	513,110	501,359	482,123

463	545,135	536,718	524,513	514,164	502,401	483,146
464	546,219	537,794	525,578	515,218	503,443	484,168
465	547,304	538,871	526,642	516,272	504,485	485,190
466	548,388	539,947	527,706	517,326	505,527	486,212
467	549,473	541,023	528,771	518,380	506,569	487,234
468	550,557	542,099	529,835	519,434	507,611	488,256
469	551,641	543,175	530,899	520,488	508,653	489,278
470	552,725	544,251	531,963	521,541	509,695	490,300
471	553,809	545,327	533,027	522,595	510,737	491,322
472	554,893	546,403	534,090	523,649	511,779	492,344
473	555,977	547,479	535,154	524,702	512,820	493,366
474	557,060	548,554	536,218	525,756	513,862	494,388
475	558,144	549,630	537,282	526,809	514,904	495,410
476	559,228	550,705	538,345	527,862	515,945	496,432
477	560,311	551,781	539,409	528,916	516,987	497,454
478	561,394	552,856	540,472	529,969	518,028	498,476
479	562,478	553,931	541,536	531,022	519,070	499,497
480	563,561	555,006	542,599	532,075	520,111	500,519
481	564,644	556,081	543,662	533,128	521,152	501,541
482	565,727	557,156	544,725	534,181	522,194	502,563
483	566,810	558,231	545,788	535,234	523,235	503,584
484	567,893	559,306	546,851	536,287	524,276	504,606
485	568,975	560,381	547,914	537,340	525,317	505,628
486	570,058	561,455	548,977	538,393	526,359	506,650
487	571,141	562,530	550,040	539,446	527,400	507,671
488	572,223	563,604	551,103	540,499	528,441	508,693
489	573,306	564,679	552,166	541,551	529,482	509,714
490	574,388	565,753	553,228	542,604	530,523	510,736
491	575,470	566,828	554,291	543,656	531,564	511,757
492	576,552	567,902	555,354	544,709	532,605	512,779
493	577,634	568,976	556,416	545,761	533,645	513,801
494	578,716	570,050	557,478	546,814	534,686	514,822
495	579,798	571,124	558,541	547,866	535,727	515,843
496	580,880	572,198	559,603	548,918	536,768	516,865
497	581,962	573,272	560,665	549,970	537,808	517,886
498	583,044	574,346	561,727	551,023	538,849	518,908
499	584,125	575,419	562,789	552,075	539,890	519,929
500	585,207	576,493	563,852	553,127	540,930	520,950
501	586,288	577,566	564,913	554,1788221	541,971	521,972

502	587,369	578,640	565,975	555,2307843	543,011	522,993
503	588,451	579,713	567,037	556,2826946	544,052	524,014
504	589,532	580,787	568,099	557,3345534	545,092	525,036
505	590,613	581,860	569,161	558,3863607	546,133	526,057
506	591,694	582,933	570,222	559,4381167	547,173	527,078
507	592,775	584,006	571,284	560,4898215	548,213	528,099
508	593,856	585,079	572,346	561,5414753	549,253	529,121
509	594,936	586,152	573,407	562,5930782	550,294	530,142
510	596,017	587,225	574,468	563,6446304	551,334	531,163
511	597,098	588,298	575,530	564,6961321	552,374	532,184
512	598,178	589,371	576,591	565,7475833	553,414	533,205
513	599,259	590,443	577,652	566,7989843	554,454	534,226
514	600,339	591,516	578,714	567,8503351	555,494	535,247
515	601,420	592,588	579,775	568,901636	556,534	536,268
516	602,500	593,661	580,836	569,952887	557,574	537,289
517	603,580	594,733	581,897	571,0040883	558,614	538,310
518	604,660	595,806	582,958	572,0552401	559,654	539,331
519	605,740	596,878	584,019	573,1063426	560,694	540,352
520	606,820	597,950	585,079	574,1573957	561,733	541,373
521	607,900	599,022	586,140	575,2083998	562,773	542,394
522	608,979	600,094	587,201	576,2593548	563,813	543,415
523	610,059	601,166	588,262	577,3102611	564,852	544,436
524	611,139	602,238	589,322	578,3611186	565,892	545,457
525	612,218	603,310	590,383	579,4119276	566,932	546,478
526	613,298	604,382	591,443	580,4626882	567,971	547,498
527	614,377	605,453	592,504	581,5134005	569,011	548,519
528	615,456	606,525	593,564	582,5640647	570,050	549,540
529	616,536	607,597	594,624	583,6146809	571,090	550,561
530	617,615	608,668	595,684	584,6652492	572,129	551,581
531	618,694	609,739	596,745	585,7157698	573,168	552,602
532	619,773	610,811	597,805	586,7662428	574,208	553,623
533	620,852	611,882	598,865	587,8166684	575,247	554,644
534	621,931	612,953	599,925	588,8670466	576,286	555,664
535	623,010	614,025	600,985	589,9173776	577,326	556,685
536	624,088	615,096	602,045	590,9676616	578,365	557,706
537	625,167	616,167	603,105	592,0178986	579,404	558,726
538	626,245	617,238	604,164	593,0680888	580,443	559,747
539	627,324	618,309	605,224	594,1182324	581,482	560,767
540	628,402	619,379	606,284	595,1683294	582,521	561,788

541	629,481	620,450	607,344	596,2183801	583,560	562,808
542	630,559	621,521	608,403	597,2683844	584,599	563,829
543	631,637	622,592	609,463	598,3183426	585,638	564,849
544	632,715	623,662	610,522	599,3682548	586,677	565,870
545	633,793	624,733	611,581	600,4181211	587,716	566,890
546	634,871	625,803	612,641	601,4679416	588,755	567,911
547	635,949	626,873	613,700	602,5177165	589,793	568,931
548	637,027	627,944	614,759	603,5674458	590,832	569,952
549	638,105	629,014	615,819	604,6171298	591,871	570,972
550	639,183	630,084	616,878	605,6667685	592,909	571,992
551	640,260	631,154	617,937	606,716362	593,948	573,013
552	641,338	632,224	618,996	607,7659106	594,987	574,033
553	642,415	633,294	620,055	608,8154142	596,025	575,053
554	643,493	634,364	621,114	609,864873	597,064	576,073
555	644,570	635,434	622,173	610,9142872	598,102	577,094
556	645,647	636,504	623,231	611,9636569	599,141	578,114
557	646,725	637,574	624,290	613,0129821	600,179	579,134
558	647,802	638,643	625,349	614,062263	601,218	580,154
559	648,879	639,713	626,408	615,1114998	602,256	581,175
560	649,956	640,783	627,466	616,1606925	603,294	582,195
561	651,033	641,852	628,525	617,2098413	604,333	583,215
562	652,110	642,921	629,583	618,2589462	605,371	584,235
563	653,186	643,991	630,642	619,3080074	606,409	585,255
564	654,263	645,060	631,700	620,3570251	607,447	586,275
565	655,340	646,129	632,758	621,4059992	608,485	587,295
566	656,416	647,199	633,817	622,45493	609,524	588,315
567	657,493	648,268	634,875	623,5038176	610,562	589,336
568	658,569	649,337	635,933	624,552662	611,600	590,356
569	659,646	650,406	636,991	625,6014635	612,638	591,376
570	660,722	651,475	638,049	626,6502241	613,676	592,396
571	661,798	652,544	639,108	627,6989399	614,714	593,416
572	662,875	653,612	640,166	628,7476129	615,752	594,436
573	663,951	654,681	641,223	629,7962434	616,790	595,455
574	665,027	655,750	642,281	630,8448315	617,827	596,475
575	666,103	656,819	643,339	631,8933772	618,865	597,495
576	667,179	657,887	644,397	632,9418807	619,903	598,515
577	668,255	658,956	645,455	633,990342	620,941	599,535
578	669,330	660,024	646,512	635,0387614	621,979	600,555
579	670,406	661,093	647,570	636,0871388	623,016	601,575

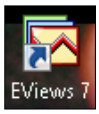
580	671,482	662,161	648,628	637,1354745	624,054	602,595
581	672,557	663,229	649,685	638,1837684	625,092	603,614
582	673,633	664,297	650,743	639,2320208	626,129	604,634
583	674,708	665,366	651,800	640,2802317	627,167	605,654
584	675,784	666,434	652,857	641,3284013	628,204	606,674
585	676,859	667,502	653,915	642,3765296	629,242	607,693
586	677,934	668,570	654,972	643,4246167	630,279	608,713
587	679,010	669,638	656,029	644,4726628	631,317	609,733
588	680,085	670,706	657,087	645,5206679	632,354	610,753
589	681,160	671,773	658,144	646,5686322	633,391	611,772
590	682,235	672,841	659,201	647,6165558	634,429	612,792
591	683,310	673,909	660,258	648,6644388	635,466	613,812
592	684,385	674,976	661,315	649,7122812	636,503	614,831
593	685,460	676,044	662,372	650,7600832	637,541	615,851
594	686,534	677,112	663,429	651,8078449	638,578	616,870
595	687,609	678,179	664,486	652,8555663	639,615	617,890
596	688,684	679,246	665,542	653,9032477	640,652	618,910
597	689,758	680,314	666,599	654,950889	641,689	619,929
598	690,833	681,381	667,656	655,9984904	642,726	620,949
599	691,907	682,448	668,713	657,046052	643,763	621,968
600	692,982	683,516	669,769	658,0935739	644,800	622,988
601	694,056	684,583	670,826	659,1410561	645,837	624,007
602	695,130	685,650	671,882	660,1884989	646,874	625,027
603	696,204	686,717	672,939	661,2359022	647,911	626,046
604	697,279	687,784	673,995	662,2832662	648,948	627,065
605	698,353	688,851	675,052	663,330591	649,985	628,085
606	699,427	689,918	676,108	664,3778766	651,022	629,104
607	700,501	690,984	677,164	665,4251232	652,059	630,124
608	701,575	692,051	678,220	666,4723309	653,096	631,143
609	702,648	693,118	679,277	667,5194997	654,132	632,162
610	703,722	694,184	680,333	668,5666298	655,169	633,182

Lampiran 9

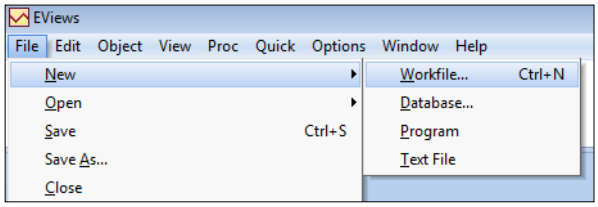
Langkah-langkah mendapatkan output hasil peramalan dengan bantuan *software* EViews:

Disini kita memakai contoh data keseluruhan

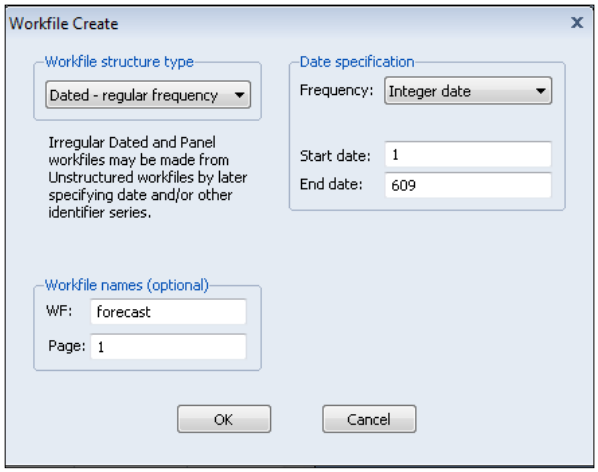
1. Buka aplikasi E-Views 7!



2. Klik File ⇨ New ⇨ Workfile...



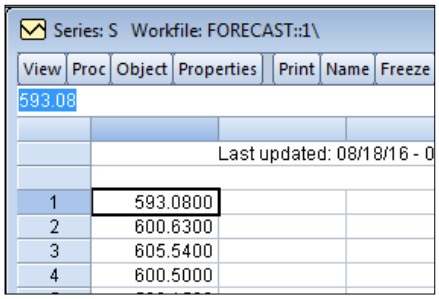
3. Pada "Workfile structure type" klik "Dated-reguler frequency" dan pada "Date specification-Frequency" klik "Integer date". Kita akan mencari peramalan data ke 609 sehingga isi start-end date seperti pada gambar dibawah ini. Isi "WF" dengan nama file yang akan disimpan, misalkan "forecast" dan isi "Page" dengan "1" karena kita hanya akan mengolah 1 data. Selanjutnya klik "OK".



4. Isi data dengan cara, klik Object ⇨ New Object ⇨ type of object:series name:s

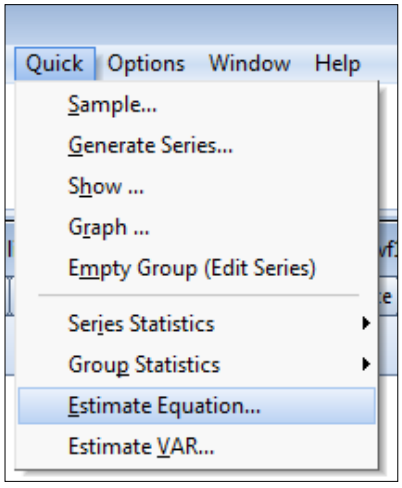
   Pada objek baru dengan nama “s” klik 2x⇨ klik edit +/- ⇨copy – paste data ⇨Klik “SAVE” ⇨Klik “OK”

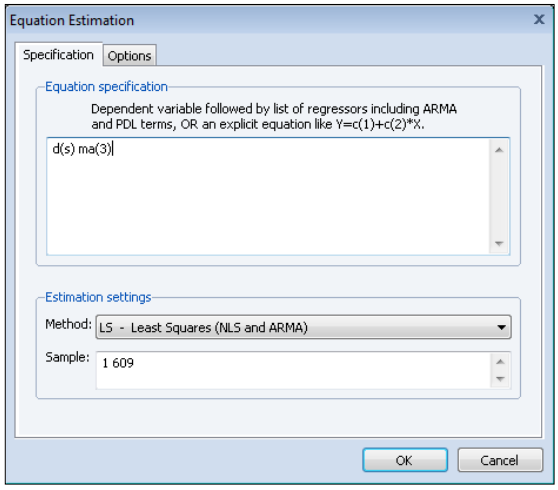
   Sehingga akan tampak seperti gambar berikut ini:



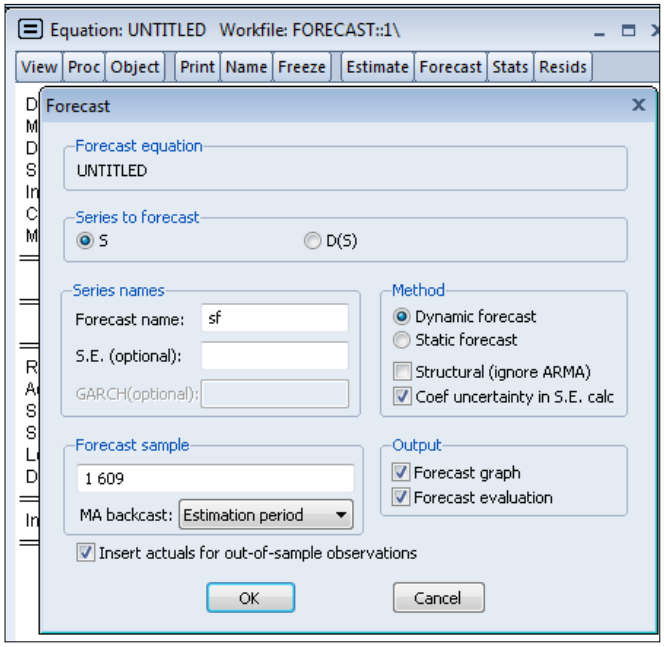
5. Disini kita memakai model terbaik ARIMA(0,1,3) pada data ketiga untuk melakukan peramalansehingga

   Klik Quick ⇨ Estimate Equation... ⇨ pada Estimate Specification ketik d(s) ma(3) dengan method LS ⇨ OK

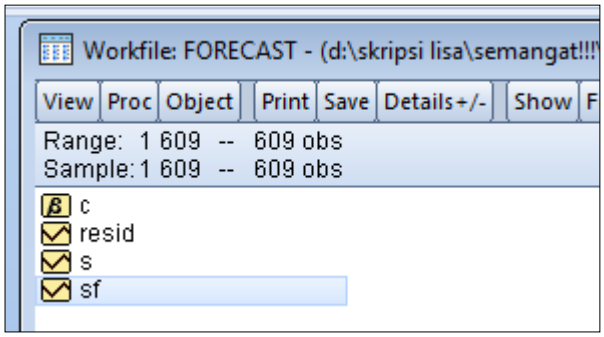




6. Selanjutnya klik Forecast ➡ method: static forecast ➡ OK

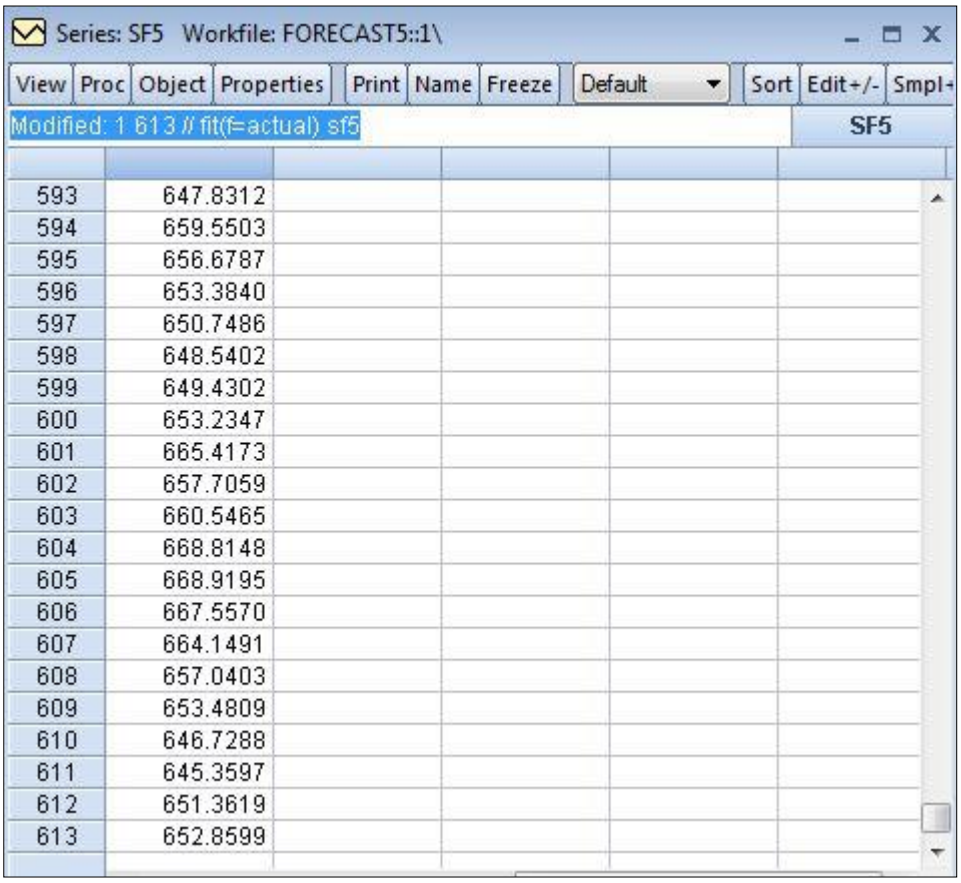


7. Untuk melihat data ramalan ke 609 dapat mengklik 2x pada data "sf"



8. Lanjutkan untuk mencari peramalan beberapa hari ke depan sampai data ke-613 dengan langkah-langkah yang sama, sehingga akan didapatkan output:

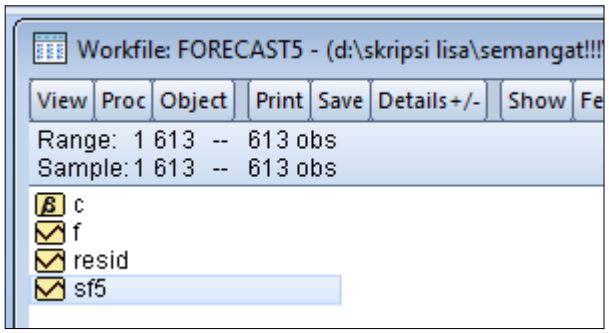
Output Hasil Peramalan tanggal 1 sampai dengan 7 April 2016



593	647.8312
594	659.5503
595	656.6787
596	653.3840
597	650.7486
598	648.5402
599	649.4302
600	653.2347
601	665.4173
602	657.7059
603	660.5465
604	668.8148
605	668.9195
606	667.5570
607	664.1491
608	657.0403
609	653.4809
610	646.7288
611	645.3597
612	651.3619
613	652.8599

Dengan grafik peramalannya tertera pada gambar 5.13. Langkah-langkah untuk mendapatkan grafiknya adalah sebagai berikut:

1. Klik 2x icon “sf5”



2. Klik View ⇨ Graph...