A Data Mining Model for Predicting Stocks that Will Outperform the IMKB Using Fundamental Analysis

Temel Analiz Kullanılarak IMKB'nin Üzerinde Getiri Sağlayan Hisselerin Tahmini İçin Bir Veri Madenciliği Modeli

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Tezin Onaylandığı Tarih   : ...11 Haziran 2007.....

Toplam Sayfa Sayısı:

Anahtar Kelimeler (Türkçe)	Anahtar Kelimeler (İngilizce)
1) Veri Madenciliği	1) Data Mining
2) Temel Analiz	2) Fundamental Analysis
3) Hisse Senedi Piyasası	3) Stock Market
4) Tahmin Yöntemleri	4) Forecasting

ACKNOWLEDGEMENT

I would like to thank to Assist. Prof. İlkay Boduroğlu for his supervision in this master thesis. I am grateful for his guidance at choosing this topic.

I would like to thank to my family for their motivating support all the time.

I would like to thank to Burcu Budak for her support and valuable ideas during thesis

ABSTRACT

A DATA MINING MODEL FOR PREDICTING STOCKS THAT WILL
OUTPERFORM IMKB USING FUNDAMENTAL ANALYSIS

There are two distinct techniques used for estimating stock market movements generally. One of them is "technical analysis", which is based on the study of factors that affect the supply and demand of a particular trading market, and the second is "fundamental analysis", which is based on firms' fundamental characteristics.

In this thesis, our goal was to pick stocks that would outperform the Istanbul Stock Exchange 100 Index (ISE 100) by a certain percentage at the end of the year the independently audited end-of-year balance sheets are announced (on or before Feb 15). We assume that we buy the selected stocks on March 1st and sell them on Dec 31st. We did not pick any stocks from the financial sector or from stocks within ISE 30 by construction.

For this purpose, a data mining model was constructed by using *only* the financial ratios that were obtained from end-of-year balance sheets. These 75 ratios are known to be some of the most important fundamental analysis factors. Moreover, 225 new synthetic variables were also constructed. Student's t-test was used in order to select the appropriate ratios for the prediction of stock prices. The ratios that passed the t-test were normalized by using the selected firms' balance sheets' data, which include the time period between 1997 and 2005. By means of Fisher's Linear Discriminant Analysis, the coefficient of each ratio is determined. Then, by a new linear discriminant analysis on the stocks that passed those processes, the second and third phases of the model were constructed to increase the precision.

According to this thesis, when a firm's end-of-year balance sheet's data pass this 3-step model, those stocks are expected to outperform ISE 100 by at least 10%.

ÖZET

Hisse senedi fiyat hareketlerini tahmin yöntemleri genel olarak ikiye ayrılmaktadır. Fiyatların belli bir piyasadaki arz ve talebini etkileyen faktörleri inceleyen "teknik analiz" ile firmanın temel özelliklerini inceleyen temel analiz başlıca hisse senedi fiyat hareketleri tahmin methodlarıdır.

Bu tezde amacımız yıl sonunda İstanbul Menkul Kıymetler Borsası 100 Endeksinden (IMKB 100) belli bir oran fazla getirecek hisseleri denetlenen yıl sonu bilançolarının açıklanmasının ardından (Şubat 15 veya daha once) seçmektir. Seçilen hisselerin 1 Mart tarihinde alınıp 31 Aralık tarihinde satıldığını varsayıyoruz. Analize girecek hisseleri seçerken finans sektörü ya da IMKB 30 hisseleri seçilmemiştir.

Bu amaçla temel analizin en büyük girdilerinden biri olan yıllık şirket bilânçolarından elde edilen çeşitli finansal oranlar kullanılarak bir veri madenciliği modeli oluşturulmuştur. Bu amaca yönelik olarak temel analizin en önemli faktörlerinden olan yaygın olarak kullanılan 75 oran seçilmiştir. Bu oranların yanı sıra 225 yeni sentetik değişken oluşturulmuştur. Hisselerin fiyatlarını tahmin etmeye uygun finansal oranları seçmek için Student t-test kullanılmıştır. Istanbul Menkul Kıymetler Borsası 100 endeksinden seçilen şirketlerin 1997 ile 2005 yılları arasındaki yıllık bilançolarından elde edilen veri kullanılarak t-testini geçen oranlar normalize edilmiştir. Fisher lineer diskriminant analizi sayesinde de her rasyonun katsayısı belirlenmiştir. Modelin doğruluğunu artırmak amacıyla bu aşamayı geçen hisse senetleri ile yeni bir Lineer Diskriminant analizi yapılarak modelin ikinci ve üçüncü aşamaları oluşturulmuştur.

Buna göre bir firmanın yeni bilanço verileri geldiği zaman bu veriler, üç adımlı modelden pozitif sonuç veriyorsa, bu hisselerin IMKB 100 endenksini en az %10 geçmesi beklenmektedir.

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LIST OF SYMBOLS / ABBREVIATIONS

μ	Mean
σ	Standard Deviation
c_v	Coefficient of Variation
ω_{LDA}	Discriminant Vector

LDA	Linear Dicriminant Analysis
MANOVA	Multivariate Analysis of Variance
VIF	Variance Inflation Factors
ISE	Istanbul Stock Exchange

R	Ratio
r	Normalized Ratio ($\mu=0$, $\sigma=1$)
V	Variable

1. INTRODUCTION

The forecasting stock market is a significant problem on finance. Stock prices affected by many correlated factors that are difficult to predict. These factors could be economical,

political and psychological. Many types of forecasting methods have been developed to find a reliable explanation of the movement of stock price. Different techniques used for estimating returns of stock market.

All these method could be categorized into two main types of analysis:

Technical Analysis
Fundamental Analysis

Fundamental Analysis involves a detailed study of a company's financial position, and is often used to provide general support for price predictions over a long term. Typically, traders using this approach have long-term investment horizons, and access to the type of data published in most company's financial reports. Fundamental analysis provides mechanisms to scrutinize a company's financial health, often in the form of financial ratios. These ratios can be compared with other companies in similar environments. (Vanstone,Finnie,Tan,2004)

Fundamental Analysis is based on the study of factors external to the trading markets which affect the supply and demand of a particular market. It is in stark contrast to technical analysis since it focuses, not on price but on factors like weather, government policies, domestic and foreign political and economic events and changing trade prospects. Fundamental analysis theorizes that by monitoring relevant supply and demand factors for a particular market, a state of current or potential disequilibrium of market conditions may be identified before the state has been reflected in the price level of that market. Fundamental analysis assumes that markets are imperfect, that information is not instantaneously assimilated or disseminated and that econometric models can be constructed to generate equilibrium prices, which may indicate that current prices are inconsistent with underlying economic conditions, and will, accordingly, change in the future. Fundamental Analysis is an approach to analyzing market behavior that stresses the study of underlying factors of supply and demand. (http://www.turtletrader.com/technical-fundamental.html,2007) Fundamental analysis is the main approach that used on this research. Stock Prices against stock market index are tried to predict by using balance sheet ratios of firms.

Technical Analysis provides a framework for studying investor behavior, and generally focuses only on price and volume data. Typically, traders using this type of approach concern themselves chiefly with timing, and are generally unaware of a company's financial health. Traders using this approach have short term investment horizons, and access to only price and exchange data. (Vanstone,Finnie,Tan,2004)

Technical Analysis operates on the theory that market prices at any given point in time reflect all known factors affecting supply and demand for a particular market. Consequently, technical analysis focuses, not on evaluating those factors directly, but on an analysis of market prices themselves. This approach theorize that a detailed analysis of, among other things, actual daily, weekly and monthly price fluctuations is the most effective means of attempting to capitalize on the future course of price movements. Technical strategies generally utilize a series of mathematical measurements and calculations designed to monitor market activity. Trading decisions are based on signals generated by charts, manual calculations, computers or their combinations.

This manner of playing the market assumes that non-random price patterns and trends exist in markets, and that these patterns can be identified and exploited. While many different methods and tools are used, the study of charts of past price and trading action is primary. (http://www.turtletrader.com/technical-fundamental.html,2007)

1.1.   IMPORTANCE OF BALANCE SHEET RATIOS

Ratios are highly important profit tools in financial analysis that help financial analysts implement plans that improve profitability, liquidity, financial structure, reordering, leverage, and interest coverage. Although ratios report mostly on past performances, they can be predictive too, and provide lead indications of potential problem areas. (http://www.va-interactive.com/inbusiness/editorial/finance/ibt/ratio_analysis.html,2007)
Fundamental Analysis is one aspect looks at the qualitative factors of a company. The other side considers tangible and quantitative factors. This means crunching and analyzing numbers from the financial statements. If used in conjunction with other methods, quantitative analysis can produce excellent results.

Ratio analysis isn't just comparing different numbers from the balance sheet, income statement, and cash flow statement. It's comparing the number against previous years, other companies, the industry, or even the economy in general. Ratios look at the relationships between individual values and relate them to how a company has performed in the past, and might perform in the future.

Financial ratio analysis uses formulas to gain insight into the company and its operations. For the balance sheet, using financial ratios can show a better idea of the company's financial condition along with its operational efficiency. It is important to note that some ratios will need information from more than one financial statement, such as from the balance sheet and the income statement.

1.2.   Data Mining in Financial Applications

Data mining is an iterative process within which progress is defined by discovery, through either automatic or manual methods. Data mining is most useful in an exploratory analysis scenario in which there are no predetermined notions about what will constitute an "interesting" outcome. Data mining is the search for new, valuable, and nontrivial information in large volumes of data. It is a cooperative effort of humans and computers. Best results are achieved by balancing the knowledge of human experts in describing problems and goals with the search capabilities of computers. (Kantardzic,2003)

Data mining aims to discover hidden knowledge, unknown patterns, and new rules from large databases that are potentially useful and ultimately understandable for making crucial decisions.

It applies data analysis and knowledge discovery techniques under acceptable computational efficiency limitations and produces a particular enumeration of patterns over the data. The insights obtained via a higher level of understanding of data can help iteratively improve business practice. (Han and Kamber, 2001)

Based on the type of knowledge that is mined, data mining can be mainly classified into the following categories:

1) Association rule mining uncovers interesting correlation patterns among a large set of data items by showing attribute-value conditions that occur together frequently. A typical example is market basket analysis, which analyzes purchasing habits of customers by finding associations between different items in customers' "shopping baskets."

2) Classification and prediction is the process of identifying a set of common features and models that describe and distinguish data classes or concepts. The models are used to predict the class of objects whose class label is unknown. A large number of classification models have been developed for predicting future trends of stock market indices and foreign exchange rates. Fisher's Linear Discriminant Analysis, used on this research, is a subset of classification.

3) Clustering analysis segments a large set of data into subsets or clusters. Each cluster is a collection of data objects that are similar to one another within the same cluster but dissimilar to objects in other clusters. In other words, objects are clustered based on the principle of maximizing the intra-class similarity while minimizing the inter-class similarity.

4) Sequential pattern and time-series mining looks for patterns where one event (or value) leads to another later event (or value). (Han and Kamber, 2001)

First, data mining needs to take ultimate applications into account. Second, data mining is dependent upon the features of data. For example, if the data are of time series, data mining techniques should reflect the features of time sequence. Third, data mining should take advantage of domain models. In finance, there are many well-developed models that provide insight into attributes that are important for specific applications. (Zhang and Zhou,2004)

A macro economical application of Fisher Linear Analysis is creating financial crisis indicator (Boduroğlu, 2007)

2. DATA STRUCTURES

2.1. Firm selection for analysis

The firms have been selected for this research from Stock Exchange indexes. After including all firms from IMKB 100 index some firms excluded from analysis.

A main exclusion criterion is removing financial firms from the analysis. Data for analysis obtained from the balance sheets of corporate. Financial firms have very different balance sheet structure and balance sheet items are different to create coherent ratios with other firms.

That research attends with not only the value of ratios but also interest with changes on ratios. Firms with strength balance sheets, have slight differences to measure. In order not to dominate the analysis, the firms that have big ratios at their balance sheet, should have excluded from the analysis. Therefore the firms at IMKB 30 index, which have relatively stronger balance sheet ratios, deduced from analysis.

Another exclusion criterion is missing data. Some firms' balance sheet ratio data has too many missing value that, can not be filled with missing value analysis. Therefore these firms with immensely missing data excluded from the analysis.

The remaining IMKB 100 firms used on the analysis are

Table 2-1 Stocks Used on the Analysis

	Stock Code	Stock Name
1	ADNAC	Adana Çimento (C)
2	AKSA	Aksa
3	ALARK	Alarko Holding
4	ALCTL	Alcatel Teletaş
5	ASELS	Aselsan
6	AYGAZ	Aygaz
7	BANVT	Banvit
8	BEKO	Beko Elektronik
9	BOLUC	Bolu Çimento
10	BRSAN	Borusan Mannesmann
11	BFREN	Bosch Fren Sistemleri
12	BOSSA	Bossa
13	BRISA	Brisa
14	CIMSA	Çimsa
15	DEVA	Deva Holding
16	DOKTS	Döktaş
17	ECILC	Eczacıbaşı İlaç
18	ECYAP	Eczacıbaşı Yapı
19	GIMA	Gima
20	IZMDC	İzmir Demir Çelik
21	KARTN	Kartonsan
22	MMART	Marmaris Martı
23	NTHOL	Net Holding
24	NTTUR	Net Turizm
25	NETAS	Netaş Telekom.
26	OTKAR	Otokar
27	PETKM	Petkim
28	PTOFS	Petrol Ofisi
29	PNSUT	Pınar Süt
30	TUDDF	T.Demir Döküm

31	TATKS	Tat Konserve
32	TIRE	Tire Kutsan
33	TRKCM	Trakya Cam

2.2. Balance sheet ratios

The balance sheet ratios that were initially considered in this work consist of 73 ratios obtained from the 1-yr balance sheets of a selected set of IMKB companies. We had 1-yr balance sheets belonging to from 1997 to 2005 from these companies. Some of these variables are dimensionless ratios, whereas the others are in units of TL. Numbers given in TL were not converted to other currencies since we shall use dicretization for all variables. The values of these 73 ratios were collected from the database of FINNET, a Turkish data provider. (www.finnet.com.tr). Some ratios obtained from FINNET removed from analysis by reason of missing values.

Ratios used on analysis are:

Table 2-2 Ratios on Analysis

Variable Number	Name of Ratio
V01	Asset Growth Rate (%)
V02	Asset Turnover
V03	Return On Assets (%)
V04	Total Assets / Marketable Securities
V05	Receivables Turnover
V06	Collection Ratio
V07	Non Paid-Up Share Probability (%)
V08	Debt/Equity Ratio (%)
V09	Beneficiation Coefficient from Debts (Times)
V10	Gross Profit Margin (%)
V11	Current Ratio
V12	Net Profit or Expenses From Other Operations
V13	Profit Margin from Other Operations (%)

V14	Long Term Assets Turnover
V15	Long Term Assets / Total Assets (%)
V16	P/E Ratio
V17	Market Capitalization / Book Value
V18	Market Capitalization
V19	Current Assets Turnover
V20	Current Assets / Total Assets (%)
V21	Deficiency Coverage Ratio
V22	Operating Profit Growth Rate (%)
V23	Operating Profit Margin (%)
V24	Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA)
V25	Non-Operating Profit / Operating Profit (%)
V26	Operating Expenses / Net Sales (%)
V27	Operating Costs / Net Sales (%)
V28	Interest Coverage
V29	Financial Loans / Equity (%)
V30	Financial Loans / Total Liabilities
V31	Financial Expenses + Profit Before Tax / Gross Sales
V32	Financial Expenses / Inventories (%)
V33	Financial Expenses / Total Costs
V34	Financial Expenses / Total Liabilities (%)
V35	Financial Expenses / Operating Costs (%)
V36	Financial Expenses / Net Sales (%)
V37	Financial Expense Growth Rate (%)
V38	Market Capitalization/Cash Flow
V39	Liquid Assets / Current Assets (%)
V40	Earning Per Share
V41	Liquid Assets/Net Working Capital
V42	Leverage Ratio (%)
V43	Short-Term Fin. Loans / Total Liabilities (%)
V44	Short-Term Liability Growth (%)
V45	Short-Term Liabilities / Net Sales (%)

V46	Short-Term Liabilities / Total Liabilities (%)
V47	Acid-Test Ratio
V48	Tangible Fixed Assets Turnover
V49	Tangible Fixed Assets/(Shareholders Equity+Long Term Liabilities)
V50	Marketable Securities Growth Rate (%)
V51	Marketable Securities / Total Assets (%)
V52	Cash Ratio
V53	Current Year Income / Shareholders Equity
V54	Current Year Income / Total Assets
V55	Net Profit Growth Rate (%)
V56	Net Profit Margin (%)
V57	Net Sales Growth Rate (%)
V58	Net Operational Capital / Net Sales (%)
V59	Net Operational Capital Growth Rate (%)
V60	Extraordinary Income / Net Sales (%)
V61	Extraordinary Expenses / Net Sales (%)
V62	Cost of Sales / Net Sales (%)
V63	Capital Sufficiency Ratio (%)
V64	Inventories Turnover
V65	Inventories / Current Assets (%)
V66	Total Financial Loans / Total Liabilities (%)
V67	Total Liabilities Growth Rate (%)
V68	Long-Term Liabilities / Total Liabilities (%)
V69	Long-Term Financial Loans / Total Liabilities (%)
V70	Profit Before Tax (Loss)/Shareholders Equity
V71	Exports / Gross Sales (%)
V72	Equity Growth Rate (%)
V73	Equity Turnover
V74	Return On Equity (%)
V75	Equity / Fixed Assets (%)

2.3. Tag structure

Grouping variable for LDA analysis obtained from stock returns. These grouping variables named as tag and defined as relative return against IMKB 100 stock index return. Tags on the analysis defined as;

$tag0 = \begin{cases} 1 & if \quad r_{stock} \geq r_{IMKB100} \\ \\ 0 & if \quad r_{stock} < r_{IMKB100} \end{cases}$	(2.1)
$tag5 = \begin{cases} 1 & if \quad r_{stock} \geq r_{IMKB100} * 1,05 \\ \\ 0 & if \quad r_{stock} < r_{IMKB100} * 1,05 \end{cases}$	(2.2)
$tag10 = \begin{cases} 1 & if \quad r_{stock} \geq r_{IMKB100} * 1,1 \\ \\ 0 & if \quad r_{stock} < r_{IMKB100} * 1,1 \end{cases}$	(2.3)

Where r_{stock} yearly return of stock, $r_{IMKB100}$ yearly return of IMKB 100 stock index;

2.4. Data Preparation

All balance sheet data obtained from data source collected on a tabular matrix. For each variable coefficient of variation value calculated with the following formula

$$c_v = \frac{\sigma}{\mu}$$

Where σ is standard deviation and μ is mean

This calculation made to prevent the domination effect of extreme values. Extreme values replaced with the next highest value to lower the coefficient of variation. With this process extreme values kept as highest value before standardization of data.

After this step missing values have filled by using SPSS' replace missing value function. Missing values completed with series mean.

As next step, ratio data are normalized so that none of the ratios will have a higher influence on the model.

2.5.   Synthetic variables

Four types of synthetic variables are created for analysis. These variables shown as V(i,j) where i denotes for number of variation and j is the year of variable. This data compose 1 row of data matrix.

2.5.1. Synthetic Variable 1

Continuous variables for each ratio discritized using 4-bin, equal-frequency form and gave them values from the set {1,2,3,4}.

These variables named as;

DV4(i,j), where i=1..75. j={1997,1998,…,2005}

2.5.2. Synthetic Variable 2

1-step Markov Chain Model is created by using synthetic variable 1, DV(i,j), with;
7 states {-3,-2,-1,0,1,2,3}

These variables named as;
BV(i,j),

and calculated with

BV(i,j)= DV4(i,j)-DV4(i-1,j-1) where i=1..75, j={1997,1998,…,2005}

2.5.3. Synthetic Variable 3

Continuous variables for each ratio discritized using 3-bin, equal-frequency form and gave them values from the set {1,2,3}.

These variables named as;

DV3(i,j), where i=1..75, j={1997,1998,…,2005}

1-step Markov Chain Model is created by using DV3(i,j), with;

5 states {-2,-1,0,1,2}

These variables named as;

CV(i,j),

and calculated with

CV(i,j)= DV3(i,j)-DV3(i-1,j-1) where i=1..75, j={1997,1998,…,2005}

2.5.4. Synthetic Variable 4

Continuous variables for each ratio discritized using 2-bin, equal-frequency form and gave them values from the set {0,1}.

These variables named as;

DV2(i,j), where i=1..75, j={1997,1998,…,2005}

2-step Markov Chain Model is created by using DV2(i,j), with;

8 states: {000, 001, 010, 011, 100, 101, 110, 111}

These variables named as;

AV(i,j),

and calculated with

AV(i,j)= (k,l,m) where;

DV2(i-2,j-2)=k, DV2(i-1,j-1)=l, DV2(i,j)=m

These 8 states replaced by discrete numbers on the analysis

{111=8, 110=7, 101=6, 100=5, 011=4, 010=3, 001=2, 000=1}

2.6. Data Matrix

New data objects created, using synthetic variable 1, synthetic variable 2, synthetic variable 3, tag0, tag5 and tag10

Each data object contains:

Name of company

Year Y, where Y= The 3rd year of the three 12-month balance sheets that we used to create AV(i,j).

BV(i,j)

CV(i,j)

DV(i,j)

Three different tags: tag0, tag5, tag10

3. STATISTICAL METHODS ON ANALYSIS

3.1.   The Student's t-Test

The t-test is a type of statistical test, more specifically a hypothesis test. Hypothesis tests are used for whether a parameter (such as the mean or the variance of a sample) is equal to a specified value or whether parameters from two distinct samples differ from one another. The statistical way to test such differences consists of several steps. First of all, a null hypothesis H0 has to be determined. Besides the null hypothesis, there is also an alternate hypothesis. After calculating a test statistic S, the probability P of having a test statistic equal or greater than the calculated value is determined. This probability differs certainly from one distribution to the other. Therefore, this probability distribution function has to be decided (t-distribution or z-distribution). Comparing the probability P with a predetermined p-value, the null hypothesis H0 is rejected or not rejected. If the probability P is smaller than the predetermined p-value, then the null hypothesis H0 is rejected, and a decision can be drawn. Otherwise, it is not possible to draw a statistical significant decision. (Costello and Kendall, 2003)

Usually, the alternate hypothesis HA, which is the complement of the null hypothesis, is the hypothesis that is actually concerned. Therefore, the alternate hypothesis is determined first. Some examples of null hypotheses and associated alternate hypotheses are given in Equation (3.1.-3.3.)

$$H_0 : \beta = 0 \text{, } H_A : \beta \neq 0 \qquad\qquad (3.1)$$

$$H_0 : \mu_x = \mu_y \text{, } H_A : \mu_x \neq \mu_y \qquad\qquad (3.2)$$

$$H_0 : \mu \leq 0 \text{, } H_A : \mu > 0 \qquad\qquad (3.3)$$

The null hypotheses and the associated alternate hypotheses given in Equation (3.1) and (3.2) are used when two-sided tests are applied. The hypotheses given in Equation (3.3) are used for a one-sided test. (Costello and Kendall, 2003)

The important point in two-sided tests is whether there is a difference between the concerned parameters. It is not important whether the parameter is greater or smaller than a fixed value. The important thing is that it is different than a fixed value. On the other hand, the direction of the difference is also important for the one-sided tests. (Costello and Kendall, 2003)

For our work in this thesis, we will use a null hypothesis and an alternate hypothesis like in the Equation (3.2), in which the means of two different groups are compared to each other. This kind of statistical test is called as the two samples t-test.

3.1.1. The Two Sample t-Test with Unequal Variance

The two sample t-test is used when it is concerned whether the means of two samples (groups) are different from each other or not. The t-statistic that should be calculated differs when the variance of each group is equal or not. We used unequal variance assumption for our calculations. If we call the means of each groups as µ1, µ2, the standard deviations of each groups as s1, s2 and the number of group members as N1, N2. Then, the t-statistic calculation with unequal variance assumption is given in Equation (3.4). The related degrees of freedom υ is given in Equation (3.5). (Banks et al, 2001)

$$t = \frac{\mu_1 - \mu_2}{\sqrt{\dfrac{s_1^2}{N_1} + \dfrac{s_2^2}{N_2}}} \qquad (3.4)$$

$$v = \frac{\left(\dfrac{s_1^2}{N_1} + \dfrac{s_2^2}{N_2}\right)^2}{\dfrac{\left(\dfrac{s_1^2}{N_1}\right)^2}{\left(N_1 - 1\right)} + \dfrac{\left(\dfrac{s_2^2}{N_2}\right)^2}{\left(N_2 - 1\right)}} \qquad (3.5)$$

After calculating the t statistic S and the degrees of freedom υ, the probability of having a t statistic equal or greater than the calculated t statistic has to be determined. For this

purpose, we have to calculate the cumulative distribution of the t-distribution function. The cumulative distribution function is given in Equation (3.6). (Weisstein, 1999)

$$F = 1 - \frac{1}{2}I\left(\frac{v}{v+t^2}, \frac{v}{2}, \frac{1}{2}\right) \tag{3.6}$$

I is defined as in Equation (3.7) in which the nominator is the incomplete beta function. The definition of the beta function is also given in Equation (3.8). (Weisstein, 1999)

$$I(x, z, w) = \frac{\int_0^x t^{z-1}(1-t)^{w-1} dt}{Beta(z, w)} \tag{3.7}$$

$$Beta(z, w) = \frac{\Gamma(z)\Gamma(w)}{\Gamma(z+w)} = \frac{(z-1)!(w-1)!}{(z+w-1)!} \tag{3.8}$$

3.2.   Linear Discriminant Analysis

Linear discriminant analysis (LDA) is one of the commonly used methods for data classification. Using this technique, it is possible to reduce the dimension of the solution space of the classification problem. After the dimensionality reduction of the solution space, the data points are classified into classes. However, reducing the dimension of the problem, LDA does not change the original location of the data points; it only tries to achieve a separation between classes. (Balakrishnama and Ganapathiraju, 1998)

The main target of LDA is to maintain the maximum seperability between data points from different classes. Therefore, it is aimed to maximize the ratio of between-class variance to the within class variance. After such an optimization is made, it has to be determined a cut-off value that points out where the decision line has to be drawn in order to separate the data points into different classes. (Fukunaga,1990)

Linear Discriminant Analysis easily handles the case where the within-class frequencies are unequal and their performance has been examined on randomly generated test data.

This method maximizes the ratio of between-class variance to the within class variance in any particular data set thereby guaranteeing maximal seperability. The use of Linear Discriminant Analysis for data classification is applied to classification problem in speech recognition. (Axler,1995)

Consider a data group with n data points from two different classes that have m features. Thus, each data point i (where i = 1, 2, …, n)   is represented with m variables xj (where j = 1, 2, …, m). Applying LDA, a series of weights wj are found as a result. After normalizing each data point with the mean μj and the standard deviation sj of each variable xj , the resulting weights wj are then multiplied with the normalized data. The solution of the multiplication of the normalized data with the discriminant weights wj gives a discriminant score ti for each data point. (Lin and Chen, 2001)

$$\mu_j = \frac{\sum_{i=1}^{n} x_{ij}}{n} \tag{3.9}$$

$$s_j = \sqrt{\frac{\sum_{i=1}^{n} \left(x_{ij} - \mu_j\right)^2}{n-1}} \tag{3.10}$$

$$\vec{x}_i^{norm} = \begin{bmatrix} \dfrac{x_{i1} - \mu_1}{s_1} \\ \dfrac{x_{i2} - \mu_2}{s_2} \\ \vdots \\ \dfrac{x_{im} - \mu_m}{s_m} \end{bmatrix} \tag{3.11}$$

$$\vec{w} = \begin{bmatrix} w_1 \\ w_2 \\ \vdots \\ w_m \end{bmatrix} \tag{3.12}$$

$$t_i = \left(\vec{x}_i^{norm}\right)^T \cdot \vec{w} \tag{3.13}$$

In order to find the best set of discriminant weights that separate the data objects from different classes, one the two equivalent criteria C1 or C2 are maximized. (Duchene and Leclercq, 1998)

$$C_1 = \frac{w^T \cdot B \cdot w}{w^T \cdot T \cdot w} \tag{3.14}$$

where B is the between-class covariance matrix and T is the total covariance matrix.

$$C_2 = \frac{w^T \cdot B \cdot w}{w^T \cdot W \cdot w} \tag{3.15}$$

where W is the within covariance matrix.

Let us represent the centroids of the two classes with $\bar{\mu}_1$ and $\bar{\mu}_2$, then the between-class covariance is defined as in Equation (3.16). (Joo, 2003)

$$B = (\bar{\mu}_1 - \bar{\mu}_2) \cdot (\bar{\mu}_1 - \bar{\mu}_2)^T \tag{3.16}$$

Let us represent the data samples from the first class with $\vec{x}_1$ and the data samples from the second class with $\vec{x}_2$, then within-class covariance is defined as in Equation (3.17) and (3.18). (Joo, 2003)

$$W = S_1 + S_2 \tag{3.17}$$

$$S_k = (\bar{x}_k - \bar{\mu}_k) \cdot (\bar{x}_k - \bar{\mu}_k)^T \tag{3.18}$$

where k is the index that points the relating class.

$$T = W + B \tag{3.19}$$

Using the second criteria, in which the ratio of the between-class variance to the within-class variance is maximized, the best set of discriminant weights must satisfy the Equation (3.20).

$$W^{-1} \cdot B \cdot w_{best} = \lambda \cdot w_{best}$$ (3.20)

Solving Equation (3.20) is an eigenvalue problem where wbest is the eigenvector of W-1B associated with the largest eigenvalue λ. (Duchene and Leclercq, 1998)

Consequently, the best set discriminant weights can be expressed by the Equation (3.21). (Joo, 2003)

$$w_{best} = W^{-1} \cdot (\bar{\mu}_1 - \bar{\mu}_2)$$ (3.21)

Determining the cut-off point and the discriminant score for each data sample, each data point can be classified in a certain group. The cut-off value tc is calculated by taking the average of the mean discriminant scores of the two groups (t1 and t2). If the discriminant score for one data point is smaller than the cut-off value, it will be classified in one group. If the discriminant score is greater than the cut-off value, it will be classified to the other group. (Lin and Chen, 2001)

$$t_c = \frac{t_1 + t_2}{2}$$ (3.22)

3.3. Wilks Lambda

In statistics, Wilks' lambda distribution (named for Samuel S. Wilks), is a probability distribution used in multivariate hypothesis testing, especially with regard to the likelihood-ratio test .

Wilks' lambda is a test statistic used in multivariate analysis of variance (MANOVA) to test whether there are differences between the means of identified groups of subjects on a combination of dependent variables

Wilks' lambda performs, in the multivariate setting, with a combination of dependent variables, the same role as the F-test performs in one-way analysis of variance. Wilks' lambda is a direct measure of the proportion of variance in the combination of dependent variables that is unaccounted for by the independent variable (the grouping variable or factor) (Kent and Bibby,1979)

3.4.   Cross Validation

Cross validation is a model evaluation method that is better than residuals. The problem with residual evaluations is that an indication is not given of how well the learner will do when it is asked to make new predictions for data it has not already seen. One way to overcome this problem is to not use the entire data set when training a learner. Some of the data is removed before training begins. Then when training is done, the data that was removed can be used to test the performance of the learned model on ``new'' data. This is the basic idea for a whole class of model evaluation methods called cross validation. (http://www.cs.cmu.edu/~schneide/tut5/node42.html,2007)

3.4.1. Leave-one-out cross-validation

A commonly used method of cross validation is the "leave-one-out" method. The idea behind this method is to predict the property value for a compound from the data set, which is in turn predicted from the regression equation calculated from the data for all other compounds. For evaluation, predicted values can be used for squared correlation coefficient criteria (r2cv).

The method tends to include unnecessary components in the model, and has been provided. (Stone,1977) to be asymptotically incorrect. Furthermore, the method does not work well for data with strong clusterization, and underestimates the true predictive error. (Martens and Dardenne, 1998)

3.5. Method of Estimating the Performance of the Classifier

After a classifier is built, the performance of the model has to be tested whether the model really works or not. For this purpose, a set of rates are calculated by using the testing data that were never used during the training procedure. The results of the testing stage is reported using a simple statistical method which provides a window for the true positive rate, true negative rate, false-negative rate, false-positive rate and the success rate for the classifier under a given level of confidence.

To calculate the rates mentioned above, the confusion matrix has to be calculated at first. The structure of the confusion matrix is shown in Table3.1. The variables TP, TN, FP and FN that are used to demonstrate the confusion matrix show the number of instances that are classified as true positive, true negative, false positive and false negative. (Witten and Frank, 1999)

Table 3-1 The structure of the confusion matrix

		Predicted Class	
		0	1
Actual	0	TN	FP
Class	1	FN	TP

A true positive instance is a positive instance that is classified as positive. A false positive instance is an actually zero instance that is classified as positive. A true negative instance is a zero instance that is classified as zero. A false zero instances are a zero instance that is

classified as positive. In our case, the positive instances are forecasting tags that performs over IMKB and the zero instances are forecasting tags that perform below IMKB.

The false positive rate is the ratio that shows the proportion of the number of false positive instances to the total number of zero instances. The definition of the false positive rate is shown in Equation (3.23).

In our research predicting case 1 has more significance then case 0. Performance classifiers are measured by parameters called recall and prediction. The definition of recall is shown is equation (3.23)

$$recall = \frac{TP}{TP + FN}$$ (3.233)

Precision shows us the prediction ratio of TP compared to all predictions for case 1. It gives the success ratio for our financial decisions for investment. The definition of precision is equation (3.24)

$$precision = \frac{TP}{TP + FP}$$ (3.244)

The success rate is the ratio that shows the proportion of the number of correctly classified instances to the total number of instances. The definition of the success rate is shown in Equation (3.25).

$$sr = \frac{TP + TN}{TP + TN + FP + FN} \tag{3.255}$$

After calculating the point estimates of these rates, we can also report the Confidence Interval (CI) for each rate at 90 per cent and 95 per cent confidence levels. The upper and the lower limit of the confidence interval for each rate are calculated by using Equation (3.26). (Witten and Frank, 1999)

$$f_{up,low} = \frac{f + \frac{z^2}{2N} \pm \sqrt{\frac{f}{N} - \frac{f^2}{N} + \frac{z^2}{4N^2}}}{1 + \frac{z^2}{N}} \tag{3.266}$$

N in Equation (3.26) equal to the denominator part of the equation for each rate, and f is the point estimate for each rate. Z is the random variable that has a standard normal distribution ($\mu=0$, $\sigma=1$). The value of z determines the confidence level. In order to calculate a CI for 90 per cent confidence level, z has to be set to 1.65. In order to calculate a CI for 95 per cent confidence level, z has to be set to 1.96.

4. APPLIED METHODOLOGY AND RESULTS

4.1. Methodology

The balance sheet ratios that were considered in this work consist of 75 ratios and 225 synthetic ratios created by these ratios that are considered to be among the indicators of firms' financial situation that affect the price of stock. These 75 ratios obtained from balance sheet of firms' by calculated as described on Appendix A. It is explained in second chapter of this thesis how the ratios are used to form these synthetic ratios are calculated.

After the data table created, several statistical methods are applied to analyze the data. Application of analysis divided into 3 steps.

4.1.1. Step 1

225 synthetic ratios and the tag0, that created as described on chapter 2, enters to the first step on analysis. Student's t-test is applied to data in order to determine which of the 225 synthetic ratios will be allowed for Linear Discriminant Analysis. In order to be on the safe side, we assumed unequal variances in the two classes. Student t-test result for step 1 could be seen at Appendix B where E.V is Equal Variance.

After this step least significant valued variables, that has smaller significant than $p = 0.003$, had been chosen for analysis. These variables are BV07, BV53, CV54, AV64, AV21, CV40, AV40, BV54, AV63 and BV08.

Before the Linear Discriminant Analysis, we have to prevent the collinearity between the selected variables. Linear Regression is run to measure Collinearity Statistics. Variance inflation factors (VIF) represent the collinearity between dependent variable and selected variables. Regression repeated after variables that has VIF value greater then 2, excluded from the analysis one by one. Then we reached the following table that contain the variables that pass the student t-test and has no collinearity.

Table 4-1 Collinearity Statistics for Step 1

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.147	.197		.748	.455		
	CV54	.082	.086	.078	.960	.338	.701	1.427
	AV64	-.001	.017	-.005	-.078	.938	.933	1.072
	AV21	-.023	.020	-.095	-1.133	.259	.655	1.526
	CV40	-.129	.083	-.126	-1.555	.121	.706	1.417
	AV40	.003	.018	.014	.187	.852	.860	1.163
	AV63	-.020	.018	-.087	-1.110	.268	.751	1.331
	BV07	.090	.055	.113	1.640	.102	.973	1.028

Dependent Variable: BV08

These variables enter for classifier. The Linear Discriminant Analysis (LDA) algorithm of Fisher (1936) is used. Discriminant analysis on SPSS used to classify these variables to obtain tag. LDA assigns a set of optimal weights to the variables in such a way that all different tag value are given a scalar index value that is below a certain threshold value. The index consists of the linear combination of the ratios weighted with the optimal weights. We use the within groups as covariance matrix.

The classification Function Coefficients are calculated as follows;

Table 4-2 Classification Function Coefficients for Step 1

	tag0	
	,000	1,000
CV54	-,032	,883
AV64	,560	,364
AV40	,382	,605
AV63	,422	,579
BV07	-,283	,286
(Constant)	-3,385	-5,255

Fisher's linear discriminant functions

From this table weights of variables could calculated as (tag0.1-tag0.0)

Then the equation obtained from step 1 is;

CV54 * 0.916 + AV64 * -0.196 + AV40 * 0.223 + AV63 * 0.157 + BV07 * 0.568 – 1.870

Classification result obtained from LDA analyses are;

Table 4-3 Confusion Matrix for Step 1

			Predicted Group Membership		Total
		tag0	.000	1.000	.000
Original	Count	.000	145	11	156
		1.000	30	31	61
	%	.000	92.9	7.1	100.0
		1.000	49.2	50.8	100.0
Cross-validated	Count	.000	141	15	156
		1.000	31	30	61
	%	.000	90.4	9.6	100.0
		1.000	50.8	49.2	100.0

The first step is designed to give us a pattern (or an equation) that appears for stocks that outperform the ISE 100.

From these results we could measure the accuracy of analysis by calculating recall, precision and success ratio.

Recall value is;

$$recall = \frac{30}{31+30} = 0.492$$

Precision;

$$precision = \frac{30}{30+15} = 0.666$$

Success ratio;

$$sr = \frac{30+141}{30+141+15+31} = 0.788$$

Cross validation is done only for cross validated cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

After this step we reach some variables that affect our predictions. These ratios are;

V07: Non Paid-Up Share Probability (%)

If a company does not increase non paid-up shares and decrease the non paid –up share probability, equity capital has to be analyzed carefully. If the capital is not increasing too, it means there is a big problem about the stock. High non paid-up share probability signs equity capital increasing.

V40: Earning Per Share

By this ratio, it can be understood that whether if the owners or the shareholders are earning enough or not in Exchange of their investments. This ratio is very important for the people who think to invest to the related company. It is possible to find the profitability of

the share with dividing EPS by stock market value by using this value. This result is also one of the important guides for the investors.

V54: Current Year Income / Total Assets (%)

The rate of current year income in the total assets signs to the company's profitability. After the company decided how the Income will be used, the paid-up shares are delivered and the rest is transferred to the shareholders equity, so the rate extent affects the transfer amount.

V63: Capital Sufficiency Ratio (%)

Capital Sufficiency Ratio is a numeric ratio that shows how many risk units is compensated by one unit capital. This sufficiency is determined at the international platform. It has to be at a minimum level about 8%.

V64: Inventories Turnover

If inventories turnover is high, it shows that the stocks are optimum and the companies have possibility to get more profit with less working capital; if turnover rate is low, that might sign to some problems at the selling activities.

4.1.2. Step 2

To increase selection sensitivity, methodology is applied to the data objected that pass the first step. For all data set, sum value is calculated by using the equation obtained from step 1. Data objects over cut off value (0) selected for second step. Similar calculations applied to the 42 data objects that passed from first step by using tag5 as tag value. The second

step is designed to give us a pattern (or an equation) that appears for stocks that outperform the ISE 100 by 5% provided that the stock has passed the step 1 test.

Student's t-test is also applied to data in order to determine which of the 225 synthetic ratios will be allowed for Linear Discriminant Analysis on second step. In order to be on the safe side, we assumed unequal variances in the two classes. Student t-test result for step 2 could be seen from Appendix C

After this step least significant valued variables, that has smaller significant than $p = 0.05$, had been chosen for analysis. These variables are BV73, CV10, CV22, CV62, BV22, BV10, BV18, BV62, CV23, CV33 and CV35.

Collinearity analysis also repeated for step 2 with these variables. The variables that pass the student t-test and have no collinearity for step 2 are;

Table 4-4 Collinearity Statistics for Step 2

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.027	.031		.898	.375		
	CV22	-.043	.033	-.083	-1.308	.199	.671	1.489
	CV62	-.096	.065	-.095	-1.484	.147	.656	1.524
	BV73	.151	.056	.145	2.707	.010	.947	1.056
	BV18	-.050	.035	-.084	-1.447	.157	.806	1.240
	CV23	-.069	.057	-.081	-1.214	.233	.610	1.641
	CV33	.951	.058	.951	16.339	.000	.800	1.250

Dependent Variable: CV35

These variables enter for The Linear Discriminant Analysis classifier.

The classification Function Coefficients for step 2 are calculated as follows;

Table 4-5 Classification Function Coefficients for Step 2

	tag5	
	.000	1.000
CV62	.594	-.897
BV73	-1.143	.752
BV18	-.280	.622
(Constant)	-1.013	-.917

From this table weights of variables could calculated as (tag0.1-tag0.0)

Then the equation obtained from step 2 is;

$$CV62 * -1.491 + BV73 * 1.895 + BV18 * 0.902 + 0.096$$

Classification result obtained from LDA analyses are;

Table 4-6 Confusion Matrix for Step 2

			Predicted Group Membership		Total
		tag5	.000	1.000	.000
Original	Count	.000	13	6	19
		1.000	2	21	23
	%	.000	68.4	31.6	100.0
		1.000	8.7	91.3	100.0
Cross-validated	Count	.000	13	6	19
		1.000	3	20	23
	%	.000	68.4	31.6	100.0
		1.000	13.0	87.0	100.0

From these results we could measure the accuracy of analysis by calculating recall, precision and success ratio.

Recall value is;

$$recall = \frac{20}{20+3} = 0.87$$

Precision;

$$precision = \frac{20}{20+6} = 0.769 \qquad (3.27)$$

Success ratio;

$$sr = \frac{20+13}{20+13+6+3} = 0.785 \qquad (3.28)$$

If we compare the results with first step we could see that we increase recall value while keeping precision and success ratio stable.

Financial ratios obtained from second step are;

V18: Market Capitalization

Market capitalization represents the public consensus on the value of a company. A corporation may be bought and sold through purchases and sales of stock, which will determine the price of the company's shares. Its market capitalization is this share price multiplied by the number of shares in issue, providing a total value for the company's shares and thus for the company as a whole.

V62: Cost of Sales / Net Sales (%)

The rate of sales cost in the net cost presents the sales process efficiency. It is aspired that the rate is reducing because this rate has a relation with company profitability, net sales profit margin.

V73: Equity Turnover

Equity turnover is used to calculate the rate of return on common equity, and is a measure of how well a firm uses its stockholders' equity to generate revenue. The higher the ratio is, the more efficiently a firm is using its capital. This ratio is also known as capital turnover.

4.1.3. Step 3

We could go further to increase selection sensitivity and finding more financial ratios that affect stock price. Our methodology is applied to the data objected that pass the second step. For all data set on step 2, sum value is calculated by using the equation obtained from

step 2. Data objects over cut off value (0) selected for third step. Similar calculations applied to the 27 data objects that passed from second step by using tag10 as tag value.

The third step is designed to give us a pattern (or an equation) that appears for stocks that outperform the ISE 100 by 10% provided that the stock has passed the step 1 and 2 tests.

Student t-test result for step 3 could be seen from Appendix 4.

After this step least significant valued variables, that has smaller significant than $p = 0.01$, had been chosen for analysis. These variables are AV09, AV03, AV73, AV08, AV66, CV56, AV42, AV63 and BV03.

Collinearity analysis also repeated for step 3 with these variables. The variables that pass the student t-test and have no collinearity for step 3 are;

Table 4-7 Collinearity Statistics for Step 3

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Toleran ce	VIF
1	(Consta nt)	.695	.820		.848	.405		
	AV03	-.075	.104	-.101	-.723	.477	.744	1.344
	AV66	.082	.055	.217	1.473	.155	.672	1.489
	CV56	1.125	.258	.616	4.362	.000	.734	1.362
	AV63	-.042	.054	-.109	-.788	.439	.767	1.304

Dependent Variable: BV03

These variables enter for The Linear Discriminant Analysis classifier.

The classification Function Coefficients for step 2 are calculated as follows;

Table 4-8 Classification Function Coefficients for Step 3

	tag10	
	.000	1.000
AV03	4.534	3.676
CV56	-.722	1.154
(Constant)	-19.113	-12.397

From this table weights of variables could calculated as (tag0.1-tag0.0)

Then the equation obtained from step 3 is;

$$AV03 * -0.858 + CV56 * 1.876 + 6.716$$

Classification result obtained from LDA analyses are;

Table 4-9 Confusion Matrix for Step 3

			Predicted Group Membership		Total
		Tag10	.000	1.000	.000
Original	Count	.000	7	1	8
		1.000	5	14	19
	%	.000	87.5	12.5	100.0
		1.000	26.3	73.7	100.0
Cross-validated(a)	Count	.000	7	1	8
		1.000	5	14	19
	%	.000	87.5	12.5	100.0
		1.000	26.3	73.7	100.0

From these results we could measure the accuracy of analysis by calculating recall, precision and success ratio.

Recall value is;

$$recall = \frac{14}{14+5} = 0.736$$

Precision;

$$precision = \frac{14}{14+1} = 0.933 \tag{3.29}$$

Success ratio;

$$sr = \frac{14+7}{14+7+5+1} = 0.777 \tag{3.30}$$

If we compare the results with the following steps, we could see that precision value get a very high level. To reach this precision value we make a concession from recall and success ratio. Although precision value is the most important value to show our success, we could stop calculating stock value on step 2 to get a higher recall value and success ratio.

Financial ratios obtained from third step are;

V03: Return On Assets (%) (ROA)

Return on assets tells an investor how much profit a company generated for each $1 in assets. The ROA graph is also a way to the asset intensity of a business. ROA measures a company's earnings in relation to all of the resources it had at its disposal (the shareholders' capital plus short and long-term borrowed funds). Thus, it is the most stringent and excessive test of return to shareholders. If a company has no debt, it the return on assets and return on equity figures will be the same.

V56: Net Profit Margin (%)

This number is an indication of company efficiency at cost control. If the net profit margin is higher. that means the company is effective at converting revenue into actual profit. The net profit margin is a good way of comparing companies in the same industry. since such companies are generally subject to similar business conditions. However, the net profit margins are also a good way to compare companies in different industries in order to gauge which industries are relatively more profitable.

5. CONCLUSION

A data mining model is built to make predictions for stock prices about one year in advance based on financial ratios obtained from the end-of-year balance sheets.

Model is built using balance sheet ratios of selected stocks between 1997 and 2005. Fishers' Linear discriminant analysis used to make validation of data. Leave one out method allows not to reserve data for training.

Our model is constructed by 3 steps and each step has different equations to do stock selection. We choose a stock for investment after it gives positive results from all 3 equations.

The first step is designed to give us a pattern (or an equation) that appears for stocks that outperform the ISE 100.

Positive values obtained from first step enters second step similarly.

The second step is designed to give us a pattern (or an equation) that appears for stocks that outperform the ISE 100 by 5% provided that the stock has passed the step 1 test.

Positive values from both step enters the third step of analysis.

The third step is designed to give us a pattern (or an equation) that appears for stocks that outperform the ISE 100 by 10% provided that the stock has passed the step 1 and 2 tests.

When new balance sheet data announced, the financial ratios easily calculated and these values entered to the build model step by step.

According to this thesis, when a firm's end-of-year balance sheet's data pass this 3-step model, those stocks are expected to outperform ISE 100 by at least 10%.

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7. APPENDIX

7.1.   APPENDIX A (Calculation of Ratios)

Table 7-1 Calculation of Ratios

Variable	Financial Ratio Name	Financial Ratio Calculation
V01	Asset Growth Rate (%)	([TOTAL ASSETS]-Previous Year's[TOTAL ASSETS])/Absolute Value(Previous Year's[TOTAL ASSETS])*100
V02	Asset Turnover	[NET SALES]/[TOTAL ASSETS]
V03	Return On Assets (%)	[CURRENT YEAR'S PROFIT OR LOSS]/[TOTAL ASSETS]*100
V04	Total Assets / Marketable Securities	[TOTAL ASSETS]/[MARKETABLE SECURITIES]
V05	Receivables Turnover	[NET SALES]/[Short-Term Receivables]
V06	Collection Ratio	365/([NET SALES]/[Short-Term Receivables])
V07	Non Paid-Up Share Probability (%)	([Revaluation Of Tangible Fixed Assets]+[Issue Premium]+[Extraordinary Reserves])/[Capital Stock]*100
V08	Debt/Equity Ratio (%)	([SHORT-TERM LIABILITIES]+[LONG-TERM LIABILITIES])/[EQUITY]*100
V09	Beneficiation Coefficient from Debts (Times)	1/((([EQUAL STOCK]-[Revaluation Of Tangible Fixed Assets])/([TOTAL ASSETS]-[Revaluation Of Tangible Fixed

		Assets]))*([OPERATING PROFIT or LOSS]/([PROFIT OR LOSS FOR THE PERIOD]+[FINANCIAL EXPENSES (-)])))
V10	Gross Profit Margin (%)	[GROSS SALES PROFIT or LOSS]/[NET SALES]*100
V11	Current Ratio	[CURRENT ASSETS]/[SHORT-TERM LIABILITIES]
V12	Net Profit or Expenses From Other Operations	([INCOME FROM OTHER OPERATIONS]-[LOSS and EXPENSES FROM OTHER OPERATIONS (-)])/[NET SALES]
V13	Profit Margin from Other Operations (%)	[INCOME FROM OTHER OPERATIONS]/[NET SALES]*100
V14	Long Term Assets Turnover	[NET SALES]/[LONG-TERM ASSETS]
V15	Long Term Assets / Total Assets (%)	[LONG-TERM ASSETS]/[TOTAL ASSETS]*100
V16	P/E Ratio	End-of -Period Market Capitalization/(Last Yearly Balance Sheet[CURRENT YEAR INCOME or LOSS]-Previous Year's[CURRENT YEAR INCOME or LOSS]+[CURRENT YEAR INCOME or LOSS]
V17	Market Capitalization / Book Value	Market Capitalization / Book Value
V18	Market Capitalization	Market Capitalization
V19	Current Assets Turnover	[NET SALES]/[CURRENT

ASSETS]

Code	Name	Formula
V20	Current Assets / Total Assets (%)	[CURRENT ASSETS]/[TOTAL ASSETS]*100
V21	Deficiency Coverage Ratio	((([SHORT TERM LIABILITIES]+[LONG TERM LIABILITIES])-([Liquid Assets]+[Marketable Securities]+[Short-Term Receivables]+[Other short-Term Receivables]))/[Inventories]
V22	Operating Profit Growth Rate (%)	([OPERATING PROFIT or LOSS]-Previous Year's[OPERATING PROFIT or LOSS])/Absolute Value(Previous Year's[OPERATING PROFIT or LOSS)*100
V23	Operating Profit Margin (%)	[OPERATING PROFIT or LOSS]/[NET SALES]*100
V24	Earnings Before Interest. Tax. Depreciation and Amortization (EBITDA)	(OPERATING PROFIT or LOSS]+[AMORTIZATION EXPENSES . DEPLETION ALLOWANCE])/[NET SALES]
V25	Non-Operating Profit / Operating Profit (%)	[NON-OPERATING PROFIT]/[OPERATING PROFIT or LOSS]*100
V26	Operating Expenses / Net Sales (%)	[OPERATING EXPENSES(-)]/[NET SALES]*100
V27	Operating Costs / Net Sales (%)	([SALES COST (-)]+[OPERATING EXPENSES (-)]+[NON OPERATING EXPENSES]+[FINANCIAL EXPENSES (-)])/[NET SALES]*100

Code	Name	Formula
V28	Interest Coverage	((([CURRENT YEAR INCOME or LOSS]+[FINANCIAL EXPENSES (-)])/[FINANCIAL EXPENSES(-)])-1
V29	Financial Loans / Equity (%)	([Financial Debts]+[Financial Debts])/[EQUITY]*100
V30	Financial Loans / Total Liabilities	[Financial Debts]/([SHORT-TERM DEBTS]+[LONG-TERM DEBTS])
V31	Financial Expenses + Profit Before Tax / Gross Sales	((([FINANCIAL EXPENSES (-)]+[CURRENT YEAR PROFIT or LOSS])/[NET SALES])*100
V32	Financial Expenses / Inventories (%)	([FINANCIAL EXPENSES (-)]/[Inventories])*100
V33	Financial Expenses / Total Costs	[FINANCIAL EXPENSES (-)]/([SALES COST(-)]+[OPERATING EXPENSES (-)]+[NON-OPERATING EXPENSES and LOSS]+[EXTRAORDINARY EXPENSES and LOSS]+[FINANCIAL EXPENSES (-)])*100
V34	Financial Expenses / Total Liabilities (%)	[FINANSMAN GIDERLERI (-)]/([KISA VADELI BORCLAR]+[UZUN VADELI BORCLAR])*100
V35	Financial Expenses / Operating Costs (%)	[FINANCIAL EXPENSES (-)]/([SALES COST (-)]+[FINANCIAL EXPENSES (-)]+[OPERATING EXPENSES (-)]+[NON-OPERATING EXPENSES and LOSS])*100

V36	Financial Expenses / Net Sales (%)	([FINANCIAL EXPENSES (-)]/[NET SALES])*100
V37	Financial Expense Growth Rate (%)	((([FINANCIAL EXPENSES (-)]-Previous Year's[FINANCIAL EXPENSES(-)])/Absolute Value(Previous Year's[FINANCIAL EXPENSES(-)]))*100
V38	Market Capitalization/Cash Flow	Market Value / (FOUR QUARTERS(CURRENT YEAR NET PROFIT or PROFIT)-(FOUR QUARTERS(AMORTIZATION EXPENSES). DEPLETION ALLOWANCE))
V39	Liquid Assets / Current Assets (%)	[Liquid Assets]/[CURRENT ASSETS]*100
V40	Earning Per Share	[CURRENT YEAR NET PROFIT or LOSS]/([Share Quantity])
V41	Liquid Assets/Net Working Capital	([Liquid Assets]+[Marketable Securities]+[Short-Term Receivables]+[Other short-Term Receivables])/([CURRENT ASSETS]-[SHORT-TERM LIABILITIES))
V42	Leverage Ratio (%)	([SHORT-TERM LIABILITIES]+[LONG TERM LIABILITIES])/[TOTAL ASSETS)]*100
V43	Short-Term Fin. Loans / Total Liabilities (%)	[Financial Debts]/([SHORT TERM LIABILITIES]+[LONG TERM LIABILITIES])*100
V44	Short-Term Liability Growth (%)	([SHORT TERM LIABILITIES]-

		Previous Year's [SHORT TERM LIABILITIES])/Absolute Value(Previous Year's[SHORT TERM LIABILITIES])*100
V45	Short-Term Liabilities / Net Sales (%)	([SHORT TERM LIABILITIES]/[NET SALES])*100
V46	Short-Term Liabilities / Total Liabilities (%)	[SHORT TERM LIABILITIES]/([SHORT TERM LIABILITIES]+[LONG TERM LIABILITIES])*100
V47	Acid-Test Ratio	([Liquid Assets]+[Marketable Securities]+[Short Term Receivables]+[Other Short Term Receivables])/[SHORT TERM LIABILITIES]
V48	Tangible Fixed Assets Turnover	[NET SALES]/Average[Tangible Fixed Assets]
V49	Tangible Fixed Assets/(Shareholders Equity+Long Term Liabilities)	[Tangible Fixed Assets]/([EQUITY]+[LONG TERM LIABILITIES])
V50	Marketable Securities Growth Rate (%)	([Marketable Securities]-revious Year's[Marketable Securities])/Absolute Value(Previous Year's[Marketable Securities])*100
V51	Marketable Securities / Total Assets (%)	([Marketable Securities]/[TOTAL ASSETS])*100
V52	Cash Ratio	([Liquid Assets]+[Marketable Securities])/[SHORT TERM LIABILITIES]
V53	Current Year Income / Shareholders Equity	[Current Year Profit]/[EQUITY]

V54	Current Year Income / Total Assets	[Current Year Profit]/[TOTAL ASSETS]
V55	Net Profit Growth Rate (%)	([CURRENT YEAR PROFIT or LOSS]-Previous Year's[CURRENT YEAR PROFIT or LOSS])/Absolute Value(Previous Year's[CURRENT YEAR PROFIT or LOSS])*100
V56	Net Profit Margin (%)	[CURRENT YEAR PROFIT or LOSS]/[NET SALES]*100
V57	Net Sales Growth Rate (%)	([NET SALES]-Previous Year's[NET SALES])/Absolute Value(Previous Year's[NET SALES])*100
V58	Net Operational Capital / Net Sales (%)	([CURRENT ASSETS]-[SHORT TERM LIABILITIES])/[NET SALES]*100
V59	Net Operational Capital Growth Rate (%)	(((([CURRENT ASSETS]-[SHORT TERM LIABILITIES])-(Previous Year's[CURRENT ASSETS]-Previous Year's[SHORT TERM LIABILITIES]))/Absolute Value(Previous Year's[CURRENT ASSETS]-Previous Year's[SHORT TERM LIABILITIES]))*100
V60	Extraordinary Income / Net Sales (%)	[EXTRAORDINARY INCOME and PROFIT]/[NET SALES]/*100
V61	Extraordinary Expenses / Net Sales (%)	[EXTRAORDINARY INCOME and LOSS]/[NET SALES]*100
V62	Cost of Sales / Net Sales (%)	[SALES COST (-)]/[NET SALES]*100

V63	Capital Sufficiency Ratio (%)	[EQUITY]/[TOTAL ASSETS]*100
V64	Inventories Turnover	[NET SALES]/[Inventories]
V65	Inventories / Current Assets (%)	[Inventories]/[CURRENT ASSETS]*100
V66	Total Financial Loans / Total Liabilities (%)	(([Financial Debt]+[Financial Debt])/([SHORT TERM LIABILITIES]+[LONG TERM LIABILITIES]))*100
V67	Total Liabilities Growth Rate (%)	(([SHORT TERM LIABILITIES]+[LONG TERM LIABILITIES])-(Previous Year's[SHORT TERM LIABILITIES]+Previous Year's[LONG TERM LIABILITIES]))/(Absolute Value(Previous Year's[SHORT TERM LIABILITIES]+Previous Year's[LONG TERM LIABILITIES]))*100
V68	Long-Term Liabilities / Total Liabilities (%)	[LONG TERM LIABILITIES]/([LONG TERM LIABILITIES]+[SHORT TERM LIABILITIES])*100
V69	Long-Term Financial Loans / Total Liabilities (%)	[Financial Debts]/([SHORT TERM LIABILITIES]+[LONG TERM LIABILITIES])*100
V70	Profit Before Tax (Loss)/Shareholders Equity	[PROFIT/LOSS BEFORE TAX]/[EQUITY]
V71	Exports / Gross Sales (%)	[Overseas Sales]/[GROSS SALES]*100
V72	Equity Growth Rate (%)	([EQUITY]-Previous Year's[EQUITY])/Absolute

		Value(Previous Year's[EQUITY])*100
V73	Equity Turnover	[NET SALES]/[EQUITY]
V74	Return On Equity (%)	[CURRENT YEAR PROFIT or LOSS]/[EQUITY]*100
V75	Equity / Fixed Assets (%)	[NET SALES]/([CURRENT ASSETS]-[SHORT TERM LIABILITIES])

7.2. APPENDIX B (t–Test Result for Step 1)

Table 7-2 t-Test Result for Step 1

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CV01	E.V. assumed	0.468	0.49	0.724	215	0.47	0.102	0.142	-0.18	0.381
	E.V. not assumed			0.737	113.79	0.463	0.102	0.139	-0.17	0.378
CV02	E.V. assumed	0.574	0.45	1.739	215	0.083	0.156	0.09	-0.02	0.333
	E.V. not assumed			1.785	115.8	0.077	0.156	0.087	-0.02	0.329
CV03	E.V. assumed	0.161	0.69	2.083	215	0.038	0.21	0.101	0.011	0.409
	E.V. not assumed			2.041	105.3	0.044	0.21	0.103	0.006	0.414
CV05	E.V. assumed	0.614	0.43	0.925	215	0.356	0.073	0.079	-0.08	0.23
	E.V. not assumed			0.919	108.13	0.36	0.073	0.08	-0.09	0.232
CV06	E.V. assumed	0.614	0.43	-0.93	215	0.356	-0.073	0.079	-0.23	0.083
	E.V. not assumed			-0.92	108.13	0.36	-0.073	0.08	-0.23	0.085
CV07	E.V. assumed	31.12	0	2.378	215	0.018	0.254	0.107	0.043	0.464
	E.V. not assumed			2.939	180.1	0.004	0.254	0.086	0.083	0.424
CV08	E.V. assumed	1.331	0.25	0.341	215	0.733	0.028	0.083	-0.14	0.193
	E.V. not assumed			0.376	136.42	0.707	0.028	0.076	-0.12	0.178
CV09	E.V. assumed	3.747	0.05	1.231	215	0.22	0.161	0.131	-0.1	0.419
	E.V. not assumed			1.335	131.19	0.184	0.161	0.121	-0.08	0.4
CV10	E.V. assumed	9.359	0	2.238	215	0.026	0.181	0.081	0.022	0.34
	E.V. not assumed			2.61	156.48	0.01	0.181	0.069	0.044	0.318
CV11	E.V. assumed	0.027	0.87	-0.04	215	0.966	-0.004	0.084	-0.17	0.163
	E.V. not assumed			-0.04	102.05	0.967	-0.004	0.087	-0.18	0.17
CV12	E.V. assumed	0.233	0.63	1.571	215	0.118	0.184	0.117	-0.05	0.414
	E.V. not assumed			1.56	108.04	0.122	0.184	0.118	-0.05	0.417
CV13	E.V. assumed	0.005	0.94	1.331	215	0.185	0.145	0.109	-0.07	0.361
	E.V. not assumed			1.338	110.76	0.184	0.145	0.109	-0.07	0.361
CV14	E.V. assumed	0.604	0.44	1.731	215	0.085	0.12	0.069	-0.02	0.256
	E.V. not assumed			1.808	120.34	0.073	0.12	0.066	-0.01	0.251
CV15	E.V. assumed	0.708	0.4	-2.82	215	0.005	-0.207	0.073	-0.35	-0.06
	E.V. not assumed			-2.84	111.56	0.005	-0.207	0.073	-0.35	-0.06
CV17	E.V. assumed	1.234	0.27	1.521	215	0.13	0.197	0.129	-0.06	0.452
	E.V. not assumed			1.547	113.46	0.125	0.197	0.127	-0.06	0.449
CV18	E.V. assumed	2.758	0.1	2.117	215	0.035	0.205	0.097	0.014	0.395
	E.V. not assumed			2.063	104.09	0.042	0.205	0.099	0.008	0.402
CV19	E.V. assumed	0.337	0.56	0.544	215	0.587	0.044	0.08	-0.11	0.201
	E.V. not assumed			0.591	131.87	0.555	0.044	0.074	-0.1	0.189
CV20	E.V. assumed	0.708	0.4	2.819	215	0.005	0.207	0.073	0.062	0.351
	E.V. not assumed			2.843	111.56	0.005	0.207	0.073	0.063	0.351
CV21	E.V. assumed	0.06	0.81	-0.29	215	0.774	-0.028	0.097	-0.22	0.163
	E.V. not assumed			-0.29	108.74	0.775	-0.028	0.097	-0.22	0.164
CV22	E.V. assumed	0.182	0.67	1.742	215	0.083	0.302	0.173	-0.04	0.644
	E.V. not assumed			1.743	109.75	0.084	0.302	0.173	-0.04	0.646
CV23	E.V. assumed	0.443	0.51	2.338	215	0.02	0.222	0.095	0.035	0.41

	E.V. not assumed			2.307	106.62	0.023	0.222	0.096	0.031	0.413
CV24	E.V. assumed	0.564	0.45	2.442	215	0.015	0.239	0.098	0.046	0.431
	E.V. not assumed			2.424	108	0.017	0.239	0.098	0.044	0.434
CV25	E.V. assumed	0.06	0.81	1.675	215	0.095	0.246	0.147	-0.04	0.535
	E.V. not assumed			1.634	104.28	0.105	0.246	0.15	-0.05	0.544
CV26	E.V. assumed	0.881	0.35	-0.18	215	0.857	-0.014	0.075	-0.16	0.134
	E.V. not assumed			-0.2	140.86	0.84	-0.014	0.067	-0.15	0.119
CV27	E.V. assumed	0.299	0.59	-0.47	215	0.641	-0.051	0.11	-0.27	0.165
	E.V. not assumed			-0.48	113.47	0.636	-0.051	0.108	-0.27	0.163
CV28	E.V. assumed	0.018	0.89	2.422	215	0.016	0.299	0.124	0.056	0.543
	E.V. not assumed			2.47	114.21	0.015	0.299	0.121	0.059	0.539
CV29	E.V. assumed	0.401	0.53	-0.62	215	0.534	-0.053	0.085	-0.22	0.114
	E.V. not assumed			-0.68	134.21	0.497	-0.053	0.077	-0.21	0.1
CV30	E.V. assumed	2.062	0.15	-0.36	215	0.719	-0.033	0.091	-0.21	0.146
	E.V. not assumed			-0.33	94.238	0.74	-0.033	0.098	-0.23	0.163
CV31	E.V. assumed	0.04	0.84	2.192	215	0.029	0.235	0.107	0.024	0.446
	E.V. not assumed			2.179	108.31	0.032	0.235	0.108	0.021	0.449
CV32	E.V. assumed	4.026	0.05	1.026	215	0.306	0.108	0.105	-0.1	0.316
	E.V. not assumed			1.115	131.61	0.267	0.108	0.097	-0.08	0.3
CV33	E.V. assumed	8.637	0	2.055	215	0.041	0.209	0.102	0.009	0.409
	E.V. not assumed			2.214	129.03	0.029	0.209	0.094	0.022	0.395
CV34	E.V. assumed	10.18	0	1.586	215	0.114	0.173	0.109	-0.04	0.388
	E.V. not assumed			1.796	145.62	0.075	0.173	0.096	-0.02	0.363
CV35	E.V. assumed	7.848	0.01	2.077	215	0.039	0.209	0.1	0.011	0.407
	E.V. not assumed			2.224	127.33	0.028	0.209	0.094	0.023	0.394
CV36	E.V. assumed	9.866	0	1.403	215	0.162	0.14	0.1	-0.06	0.337
	E.V. not assumed			1.563	139.75	0.12	0.14	0.09	-0.04	0.318
CV37	E.V. assumed	0.002	0.97	0.171	215	0.865	0.031	0.183	-0.33	0.393
	E.V. not assumed			0.171	110.09	0.864	0.031	0.183	-0.33	0.394
CV38	E.V. assumed	0.026	0.87	-0.05	215	0.963	-0.007	0.153	-0.31	0.295
	E.V. not assumed			-0.05	104.87	0.964	-0.007	0.156	-0.32	0.303
CV39	E.V. assumed	5.171	0.02	1.753	215	0.081	0.19	0.108	-0.02	0.403
	E.V. not assumed			1.607	93.103	0.111	0.19	0.118	-0.05	0.424
CV40	E.V. assumed	0.016	0.9	3.544	215	0	0.379	0.107	0.168	0.59
	E.V. not assumed			3.511	107.58	0.001	0.379	0.108	0.165	0.593
CV41	E.V. assumed	1.18	0.28	0.41	215	0.682	0.048	0.118	-0.19	0.282
	E.V. not assumed			0.439	127.52	0.661	0.048	0.11	-0.17	0.267
CV42	E.V. assumed	1.299	0.26	0.6	215	0.549	0.045	0.075	-0.1	0.192
	E.V. not assumed			0.637	124.68	0.525	0.045	0.07	-0.1	0.184
CV43	E.V. assumed	2.062	0.15	-0.36	215	0.719	-0.033	0.091	-0.21	0.146
	E.V. not assumed			-0.33	94.238	0.74	-0.033	0.098	-0.23	0.163
CV44	E.V. assumed	0.598	0.44	-0.87	215	0.387	-0.15	0.173	-0.49	0.19
	E.V. not assumed			-0.86	107.14	0.393	-0.15	0.175	-0.5	0.196
CV45	E.V. assumed	7.683	0.01	-0.66	215	0.509	-0.056	0.085	-0.22	0.112
	E.V. not assumed			-0.58	86.53	0.564	-0.056	0.097	-0.25	0.137
CV46	E.V. assumed	3.446	0.07	0.503	215	0.616	0.052	0.103	-0.15	0.256
	E.V. not assumed			0.555	136.46	0.58	0.052	0.094	-0.13	0.237
CV47	E.V. assumed	3.451	0.07	0.449	215	0.654	0.044	0.098	-0.15	0.238

		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error	Lower	Upper
	E.V. not assumed			0.482	127.83	0.631	0.044	0.092	-0.14	0.225
CV48	E.V. assumed	2.813	0.1	0.798	215	0.426	0.051	0.063	-0.07	0.175
	E.V. not assumed			0.866	131.46	0.388	0.051	0.058	-0.07	0.166
CV49	E.V. assumed	1.584	0.21	-1.61	215	0.109	-0.152	0.095	-0.34	0.034
	E.V. not assumed			-1.84	148.72	0.068	-0.152	0.083	-0.32	0.012
CV51	E.V. assumed	3.446	0.07	-2.48	215	0.014	-0.277	0.111	-0.5	-0.06
	E.V. not assumed			-2.47	108	0.015	-0.277	0.112	-0.5	-0.05
CV52	E.V. assumed	0.365	0.55	0.526	215	0.6	0.045	0.085	-0.12	0.213
	E.V. not assumed			0.504	100.71	0.616	0.045	0.089	-0.13	0.222
CV53	E.V. assumed	0.003	0.95	2.833	215	0.005	0.33	0.116	0.1	0.559
	E.V. not assumed			2.851	111	0.005	0.33	0.116	0.101	0.559
CV54	E.V. assumed	3.263	0.07	3.976	215	0	0.409	0.103	0.206	0.612
	E.V. not assumed			3.704	95.759	0	0.409	0.11	0.19	0.628
CV55	E.V. assumed	1.048	0.31	2.142	215	0.033	0.396	0.185	0.032	0.761
	E.V. not assumed			2.081	103.47	0.04	0.396	0.19	0.019	0.774
CV56	E.V. assumed	0.809	0.37	1.36	215	0.175	0.148	0.109	-0.07	0.363
	E.V. not assumed			1.437	123.27	0.153	0.148	0.103	-0.06	0.352
CV57	E.V. assumed	1.696	0.19	0.856	215	0.393	0.12	0.14	-0.16	0.395
	E.V. not assumed			0.809	98.265	0.42	0.12	0.148	-0.17	0.413
CV58	E.V. assumed	0.398	0.53	-0.14	215	0.892	-0.011	0.079	-0.17	0.145
	E.V. not assumed			-0.13	100.47	0.897	-0.011	0.082	-0.17	0.153
CV59	E.V. assumed	1.622	0.2	0.804	215	0.422	0.137	0.171	-0.2	0.474
	E.V. not assumed			0.838	119.53	0.404	0.137	0.164	-0.19	0.462
CV60	E.V. assumed	1.68	0.2	0.858	215	0.392	0.104	0.121	-0.14	0.343
	E.V. not assumed			0.902	121.94	0.369	0.104	0.115	-0.12	0.332
CV61	E.V. assumed	3.136	0.08	0.721	215	0.472	0.088	0.121	-0.15	0.327
	E.V. not assumed			0.781	130.69	0.436	0.088	0.112	-0.13	0.309
CV62	E.V. assumed	9.359	0	-2.24	215	0.026	-0.181	0.081	-0.34	-0.02
	E.V. not assumed			-2.61	156.48	0.01	-0.181	0.069	-0.32	-0.04
CV63	E.V. assumed	1.295	0.26	-0.41	215	0.68	-0.032	0.078	-0.19	0.121
	E.V. not assumed			-0.45	130.86	0.655	-0.032	0.072	-0.17	0.11
CV64	E.V. assumed	0.065	0.8	0.415	215	0.679	0.042	0.101	-0.16	0.242
	E.V. not assumed			0.435	121.47	0.664	0.042	0.097	-0.15	0.233
CV65	E.V. assumed	0.81	0.37	-0.32	215	0.751	-0.028	0.09	-0.21	0.148
	E.V. not assumed			-0.34	125.85	0.735	-0.028	0.084	-0.2	0.138
CV66	E.V. assumed	2.177	0.14	-1.49	215	0.137	-0.137	0.092	-0.32	0.044
	E.V. not assumed			-1.36	92.33	0.177	-0.137	0.1	-0.34	0.063
CV67	E.V. assumed	0.003	0.95	-0.68	215	0.496	-0.111	0.163	-0.43	0.211
	E.V. not assumed			-0.68	108.52	0.499	-0.111	0.164	-0.44	0.214
CV68	E.V. assumed	3.446	0.07	-0.5	215	0.616	-0.052	0.103	-0.26	0.152
	E.V. not assumed			-0.56	136.46	0.58	-0.052	0.094	-0.24	0.133
CV69	E.V. assumed	0.308	0.58	-1.29	215	0.198	-0.118	0.091	-0.3	0.062
	E.V. not assumed			-1.34	118.17	0.184	-0.118	0.088	-0.29	0.057
CV70	E.V. assumed	0.353	0.55	2.049	215	0.042	0.236	0.115	0.009	0.463
	E.V. not assumed			2.091	114.34	0.039	0.236	0.113	0.012	0.459
CV71	E.V. assumed	0.064	0.8	0.188	215	0.851	0.014	0.072	-0.13	0.155
	E.V. not assumed			0.187	108.16	0.852	0.014	0.072	-0.13	0.157
CV72	E.V. assumed	1.84	0.18	0.49	215	0.625	0.073	0.149	-0.22	0.368

	E.V. not assumed			0.459	96.587	0.647	0.073	0.16	-0.24	0.39
CV73	E.V. assumed	2.082	0.15	1.213	215	0.226	0.078	0.064	-0.05	0.204
	E.V. not assumed			1.424	158.97	0.156	0.078	0.055	-0.03	0.185
CV74	E.V. assumed	0.084	0.77	1.978	215	0.049	0.219	0.111	0.001	0.438
	E.V. not assumed			1.918	103.14	0.058	0.219	0.114	-0.01	0.446
CV75	E.V. assumed	0.273	0.6	0.328	215	0.743	0.04	0.122	-0.2	0.28
	E.V. not assumed			0.321	105.04	0.749	0.04	0.124	-0.21	0.286
AV01	E.V. assumed	1.998	0.16	-2.13	215	0.034	-0.772	0.362	-1.49	-0.06
	E.V. not assumed			-2.21	117.91	0.029	-0.772	0.349	-1.46	-0.08
AV02	E.V. assumed	1.701	0.19	0.188	215	0.851	0.089	0.471	-0.84	1.016
	E.V. not assumed			0.192	113.75	0.848	0.089	0.462	-0.83	1.004
AV03	E.V. assumed	0	1	2.312	215	0.022	0.998	0.432	0.147	1.849
	E.V. not assumed			2.314	109.79	0.023	0.998	0.431	0.143	1.853
AV05	E.V. assumed	0.171	0.68	-0.27	215	0.786	-0.128	0.471	-1.06	0.8
	E.V. not assumed			-0.27	110.87	0.785	-0.128	0.468	-1.06	0.8
AV06	E.V. assumed	0	1	0.028	215	0.978	0.013	0.473	-0.92	0.946
	E.V. not assumed			0.028	109.16	0.978	0.013	0.474	-0.93	0.953
AV07	E.V. assumed	4.011	0.05	2.206	215	0.028	0.961	0.436	0.103	1.82
	E.V. not assumed			2.122	101.47	0.036	0.961	0.453	0.063	1.859
AV08	E.V. assumed	0.041	0.84	-2.4	215	0.017	-1.151	0.48	-2.1	-0.21
	E.V. not assumed			-2.38	108.02	0.019	-1.151	0.484	-2.11	-0.19
AV09	E.V. assumed	2.423	0.12	0.368	215	0.713	0.16	0.434	-0.7	1.016
	E.V. not assumed			0.356	102.23	0.723	0.16	0.45	-0.73	1.052
AV10	E.V. assumed	0.072	0.79	0.514	215	0.608	0.247	0.481	-0.7	1.194
	E.V. not assumed			0.513	109.24	0.609	0.247	0.481	-0.71	1.201
AV11	E.V. assumed	0.627	0.43	2.452	215	0.015	1.168	0.477	0.229	2.107
	E.V. not assumed			2.476	111.88	0.015	1.168	0.472	0.233	2.103
AV12	E.V. assumed	0.963	0.33	0.288	215	0.774	0.127	0.44	-0.74	0.994
	E.V. not assumed			0.293	114.06	0.77	0.127	0.432	-0.73	0.982
AV13	E.V. assumed	3.342	0.07	-0.42	215	0.672	-0.199	0.469	-1.12	0.726
	E.V. not assumed			-0.44	115.89	0.664	-0.199	0.457	-1.11	0.706
AV14	E.V. assumed	1.416	0.24	-0.69	215	0.493	-0.334	0.486	-1.29	0.625
	E.V. not assumed			-0.7	113.11	0.487	-0.334	0.479	-1.28	0.615
AV15	E.V. assumed	0.611	0.44	-0.62	215	0.533	-0.301	0.482	-1.25	0.65
	E.V. not assumed			-0.62	106.36	0.54	-0.301	0.49	-1.27	0.67
AV17	E.V. assumed	0.004	0.95	-1.01	215	0.316	-0.411	0.409	-1.22	0.395
	E.V. not assumed			-1.02	111.86	0.312	-0.411	0.405	-1.21	0.391
AV18	E.V. assumed	0.001	0.98	-0.95	215	0.342	-0.428	0.45	-1.32	0.459
	E.V. not assumed			-0.96	110.92	0.341	-0.428	0.448	-1.32	0.459
AV19	E.V. assumed	1.111	0.29	-0.13	215	0.898	-0.061	0.477	-1	0.879
	E.V. not assumed			-0.13	113.57	0.897	-0.061	0.469	-0.99	0.867
AV20	E.V. assumed	0.511	0.48	0.433	215	0.665	0.209	0.483	-0.74	1.16
	E.V. not assumed			0.428	106.84	0.67	0.209	0.489	-0.76	1.178
AV21	E.V. assumed	1.171	0.28	-3.49	215	0.001	-1.608	0.461	-2.52	-0.7
	E.V. not assumed			-3.58	115.77	0.001	-1.608	0.449	-2.5	-0.72
AV22	E.V. assumed	0.956	0.33	-0.09	215	0.926	-0.03	0.322	-0.66	0.605
	E.V. not assumed			-0.09	103.01	0.929	-0.03	0.332	-0.69	0.629
AV23	E.V. assumed	0.872	0.35	2.14	215	0.034	0.98	0.458	0.077	1.883

		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std Error	Lower	Upper
	E.V. not assumed			2.107	106.3	0.037	0.98	0.465	0.058	1.902
AV24	E.V. assumed	0.616	0.43	1.265	215	0.207	0.585	0.462	-0.33	1.496
	E.V. not assumed			1.246	106.28	0.216	0.585	0.469	-0.35	1.515
AV25	E.V. assumed	0.003	0.96	-0.89	215	0.377	-0.359	0.406	-1.16	0.441
	E.V. not assumed			-0.88	109.38	0.379	-0.359	0.407	-1.17	0.447
AV26	E.V. assumed	0.071	0.79	-1.35	215	0.179	-0.652	0.484	-1.61	0.301
	E.V. not assumed			-1.35	109.59	0.181	-0.652	0.484	-1.61	0.307
AV27	E.V. assumed	1.214	0.27	-2.61	215	0.01	-1.137	0.436	-2	-0.28
	E.V. not assumed			-2.54	104.4	0.012	-1.137	0.447	-2.02	-0.25
AV28	E.V. assumed	0.934	0.34	2.616	215	0.01	1.137	0.435	0.28	1.993
	E.V. not assumed			2.658	113.31	0.009	1.137	0.428	0.29	1.984
AV29	E.V. assumed	0.077	0.78	-1.23	215	0.22	-0.592	0.482	-1.54	0.357
	E.V. not assumed			-1.23	109.1	0.223	-0.592	0.483	-1.55	0.365
AV30	E.V. assumed	0.1	0.75	-1.5	215	0.135	-0.694	0.463	-1.61	0.218
	E.V. not assumed			-1.48	106.7	0.142	-0.694	0.469	-1.62	0.236
AV31	E.V. assumed	2.038	0.16	0.539	215	0.59	0.247	0.458	-0.66	1.149
	E.V. not assumed			0.527	104.55	0.6	0.247	0.469	-0.68	1.176
AV32	E.V. assumed	0.47	0.49	-2.28	215	0.024	-1.031	0.452	-1.92	-0.14
	E.V. not assumed			-2.24	105.88	0.027	-1.031	0.46	-1.94	-0.12
AV33	E.V. assumed	0.847	0.36	-1.59	215	0.113	-0.735	0.462	-1.65	0.176
	E.V. not assumed			-1.56	105.46	0.122	-0.735	0.471	-1.67	0.2
AV34	E.V. assumed	0.001	0.97	-1.77	215	0.078	-0.799	0.451	-1.69	0.09
	E.V. not assumed			-1.77	108.84	0.08	-0.799	0.453	-1.7	0.098
AV35	E.V. assumed	0.647	0.42	-1.54	215	0.125	-0.716	0.464	-1.63	0.2
	E.V. not assumed			-1.52	106.01	0.132	-0.716	0.472	-1.65	0.22
AV36	E.V. assumed	1.45	0.23	-1.39	215	0.167	-0.643	0.464	-1.56	0.272
	E.V. not assumed			-1.36	105.1	0.178	-0.643	0.474	-1.58	0.297
AV37	E.V. assumed	0.034	0.85	-0.79	215	0.429	-0.259	0.327	-0.9	0.386
	E.V. not assumed			-0.78	107.17	0.435	-0.259	0.331	-0.92	0.397
AV38	E.V. assumed	0.179	0.67	-0.82	215	0.416	-0.32	0.393	-1.1	0.454
	E.V. not assumed			-0.83	112.92	0.41	-0.32	0.387	-1.09	0.447
AV39	E.V. assumed	4.341	0.04	0.034	215	0.973	0.015	0.439	-0.85	0.88
	E.V. not assumed			0.035	117.84	0.972	0.015	0.424	-0.83	0.855
AV40	E.V. assumed	0.326	0.57	3.186	215	0.002	1.404	0.441	0.536	2.273
	E.V. not assumed			3.225	112.37	0.002	1.404	0.435	0.542	2.267
AV41	E.V. assumed	0.099	0.75	-1.68	215	0.094	-0.746	0.444	-1.62	0.129
	E.V. not assumed			-1.69	110.8	0.094	-0.746	0.441	-1.62	0.129
AV42	E.V. assumed	0.028	0.87	-2.79	215	0.006	-1.359	0.487	-2.32	-0.4
	E.V. not assumed			-2.77	107.87	0.007	-1.359	0.491	-2.33	-0.39
AV43	E.V. assumed	0.1	0.75	-1.5	215	0.135	-0.694	0.463	-1.61	0.218
	E.V. not assumed			-1.48	106.7	0.142	-0.694	0.469	-1.62	0.236
AV44	E.V. assumed	5.517	0.02	-1.28	215	0.201	-0.428	0.334	-1.09	0.23
	E.V. not assumed			-1.36	125.21	0.175	-0.428	0.314	-1.05	0.193
AV45	E.V. assumed	1.79	0.18	-2.62	215	0.01	-1.207	0.461	-2.12	-0.3
	E.V. not assumed			-2.67	113.93	0.009	-1.207	0.453	-2.1	-0.31
AV46	E.V. assumed	0.435	0.51	-0.34	215	0.738	-0.156	0.465	-1.07	0.76
	E.V. not assumed			-0.33	107.28	0.741	-0.156	0.47	-1.09	0.775
AV47	E.V. assumed	0.45	0.5	2.633	215	0.009	1.248	0.474	0.314	2.183

	E.V. not assumed			2.662	112.21	0.009	1.248	0.469	0.319	2.177
AV48	E.V. assumed	1.534	0.22	-2.35	215	0.02	-1.118	0.476	-2.06	-0.18
	E.V. not assumed			-2.38	112.25	0.019	-1.118	0.471	-2.05	-0.19
AV49	E.V. assumed	0.19	0.66	0.357	215	0.722	0.164	0.459	-0.74	1.067
	E.V. not assumed			0.354	108.2	0.724	0.164	0.461	-0.75	1.078
AV51	E.V. assumed	0.134	0.71	0.355	215	0.723	0.157	0.442	-0.71	1.028
	E.V. not assumed			0.354	108.95	0.724	0.157	0.443	-0.72	1.036
AV52	E.V. assumed	3.681	0.06	1.739	215	0.083	0.825	0.474	-0.11	1.759
	E.V. not assumed			1.795	117.09	0.075	0.825	0.46	-0.09	1.735
AV53	E.V. assumed	1.349	0.25	0.926	215	0.356	0.407	0.44	-0.46	1.274
	E.V. not assumed			0.955	116.95	0.342	0.407	0.426	-0.44	1.251
AV54	E.V. assumed	0.155	0.69	1.443	215	0.151	0.632	0.438	-0.23	1.494
	E.V. not assumed			1.437	108.81	0.153	0.632	0.439	-0.24	1.502
AV55	E.V. assumed	1.757	0.19	0.996	215	0.32	0.31	0.311	-0.3	0.922
	E.V. not assumed			1.037	119.5	0.302	0.31	0.298	-0.28	0.901
AV56	E.V. assumed	0.064	0.8	2.644	215	0.009	1.178	0.446	0.3	2.057
	E.V. not assumed			2.628	108.29	0.01	1.178	0.448	0.29	2.067
AV57	E.V. assumed	2.06	0.15	0.25	215	0.803	0.088	0.352	-0.61	0.781
	E.V. not assumed			0.262	121.81	0.794	0.088	0.335	-0.58	0.751
AV58	E.V. assumed	1.623	0.2	2.914	215	0.004	1.409	0.484	0.456	2.362
	E.V. not assumed			2.974	114.36	0.004	1.409	0.474	0.47	2.348
AV59	E.V. assumed	0.274	0.6	0.845	215	0.399	0.305	0.361	-0.41	1.017
	E.V. not assumed			0.857	112.63	0.394	0.305	0.356	-0.4	1.011
AV60	E.V. assumed	0.464	0.5	0.954	215	0.341	0.402	0.422	-0.43	1.234
	E.V. not assumed			0.967	112.76	0.336	0.402	0.416	-0.42	1.227
AV61	E.V. assumed	1.603	0.21	1.149	215	0.252	0.498	0.433	-0.36	1.352
	E.V. not assumed			1.124	104.8	0.264	0.498	0.443	-0.38	1.376
AV62	E.V. assumed	0	0.98	-0.56	215	0.575	-0.27	0.482	-1.22	0.679
	E.V. not assumed			-0.56	110.03	0.575	-0.27	0.481	-1.22	0.682
AV63	E.V. assumed	0.266	0.61	3.215	215	0.002	1.557	0.484	0.602	2.512
	E.V. not assumed			3.175	106.89	0.002	1.557	0.491	0.585	2.53
AV64	E.V. assumed	4.279	0.04	-3.48	215	0.001	-1.552	0.446	-2.43	-0.67
	E.V. not assumed			-3.63	119.92	0	-1.552	0.428	-2.4	-0.7
AV65	E.V. assumed	0.91	0.34	1.977	215	0.049	0.908	0.459	0.003	1.814
	E.V. not assumed			1.941	105.69	0.055	0.908	0.468	-0.02	1.836
AV66	E.V. assumed	0.117	0.73	-0.83	215	0.409	-0.386	0.466	-1.3	0.533
	E.V. not assumed			-0.83	108.74	0.411	-0.386	0.468	-1.31	0.541
AV67	E.V. assumed	4.341	0.04	-2.2	215	0.029	-0.754	0.343	-1.43	-0.08
	E.V. not assumed			-2.33	123.8	0.022	-0.754	0.324	-1.4	-0.11
AV68	E.V. assumed	0.662	0.42	0.434	215	0.665	0.201	0.462	-0.71	1.112
	E.V. not assumed			0.428	106.62	0.669	0.201	0.469	-0.73	1.13
AV69	E.V. assumed	0.001	0.98	-1.75	215	0.081	-0.831	0.475	-1.77	0.105
	E.V. not assumed			-1.75	109.11	0.083	-0.831	0.476	-1.78	0.112
AV70	E.V. assumed	1.805	0.18	1.712	215	0.088	0.762	0.445	-0.12	1.639
	E.V. not assumed			1.76	116.06	0.081	0.762	0.433	-0.1	1.62
AV71	E.V. assumed	1.254	0.26	1.442	215	0.151	0.687	0.477	-0.25	1.627
	E.V. not assumed			1.461	112.69	0.147	0.687	0.47	-0.25	1.62
AV72	E.V. assumed	1.894	0.17	-0.31	215	0.758	-0.108	0.349	-0.8	0.58

		F	Sig	t	df	Sig(2-tailed)	Mean Diff	Std Error	Lower	Upper
	E.V. not assumed			-0.32	121.65	0.747	-0.108	0.332	-0.77	0.551
AV73	E.V. assumed	0.195	0.66	-2	215	0.046	-0.962	0.48	-1.91	-0.02
	E.V. not assumed			-2.02	111	0.046	-0.962	0.477	-1.91	-0.02
AV74	E.V. assumed	2.076	0.15	1.916	215	0.057	0.833	0.435	-0.02	1.691
	E.V. not assumed			1.977	117.14	0.05	0.833	0.421	-0	1.668
AV75	E.V. assumed	1.872	0.17	-1.24	215	0.218	-0.551	0.446	-1.43	0.328
	E.V. not assumed			-1.27	115.11	0.208	-0.551	0.436	-1.41	0.312
BV01	E.V. assumed	0.689	0.41	0.527	215	0.598	0.1	0.19	-0.27	0.475
	E.V. not assumed			0.545	117.35	0.587	0.1	0.184	-0.26	0.465
BV02	E.V. assumed	0.029	0.87	1.69	215	0.092	0.179	0.106	-0.03	0.387
	E.V. not assumed			1.791	124.17	0.076	0.179	0.1	-0.02	0.377
BV03	E.V. assumed	1.923	0.17	1.817	215	0.071	0.258	0.142	-0.02	0.538
	E.V. not assumed			1.68	94.522	0.096	0.258	0.154	-0.05	0.563
BV05	E.V. assumed	0.724	0.4	1.262	215	0.208	0.129	0.102	-0.07	0.331
	E.V. not assumed			1.33	122.74	0.186	0.129	0.097	-0.06	0.321
BV06	E.V. assumed	0.445	0.51	-1.29	215	0.199	-0.129	0.1	-0.33	0.068
	E.V. not assumed			-1.38	126.68	0.171	-0.129	0.094	-0.32	0.056
BV07	E.V. assumed	31.03	0	2.911	215	0.004	0.405	0.139	0.131	0.68
	E.V. not assumed			3.829	203.9	0	0.405	0.106	0.197	0.614
BV08	E.V. assumed	2.423	0.12	2.636	215	0.009	0.292	0.111	0.074	0.511
	E.V. not assumed			3.153	166.6	0.002	0.292	0.093	0.109	0.475
BV09	E.V. assumed	5.166	0.02	1.012	215	0.313	0.184	0.182	-0.17	0.542
	E.V. not assumed			1.149	146.48	0.252	0.184	0.16	-0.13	0.5
BV10	E.V. assumed	2.006	0.16	2.91	215	0.004	0.297	0.102	0.096	0.498
	E.V. not assumed			3.049	121.14	0.003	0.297	0.097	0.104	0.49
BV11	E.V. assumed	0.019	0.89	1.125	215	0.262	0.133	0.118	-0.1	0.365
	E.V. not assumed			1.07	99.343	0.287	0.133	0.124	-0.11	0.378
BV12	E.V. assumed	0.175	0.68	1.613	215	0.108	0.261	0.162	-0.06	0.581
	E.V. not assumed			1.55	101.26	0.124	0.261	0.169	-0.07	0.596
BV13	E.V. assumed	0.031	0.86	1.298	215	0.196	0.184	0.142	-0.1	0.463
	E.V. not assumed			1.283	106.98	0.202	0.184	0.143	-0.1	0.468
BV14	E.V. assumed	0.241	0.62	2.692	215	0.008	0.256	0.095	0.069	0.443
	E.V. not assumed			2.748	114.36	0.007	0.256	0.093	0.071	0.44
BV15	E.V. assumed	5.592	0.02	-2.05	215	0.041	-0.197	0.096	-0.39	-0.01
	E.V. not assumed			-2.35	148.84	0.02	-0.197	0.084	-0.36	-0.03
BV17	E.V. assumed	0.052	0.82	1.364	215	0.174	0.255	0.187	-0.11	0.622
	E.V. not assumed			1.382	112.65	0.17	0.255	0.184	-0.11	0.62
BV18	E.V. assumed	2.98	0.09	2.123	215	0.035	0.279	0.131	0.02	0.538
	E.V. not assumed			1.975	95.518	0.051	0.279	0.141	-0	0.559
BV19	E.V. assumed	1.542	0.22	0.495	215	0.621	0.053	0.108	-0.16	0.266
	E.V. not assumed			0.502	112.66	0.617	0.053	0.107	-0.16	0.265
BV20	E.V. assumed	5.186	0.02	1.87	215	0.063	0.18	0.096	-0.01	0.37
	E.V. not assumed			2.107	143.66	0.037	0.18	0.086	0.011	0.349
BV21	E.V. assumed	0.446	0.51	-0.09	215	0.932	-0.011	0.133	-0.27	0.251
	E.V. not assumed			-0.09	113.99	0.931	-0.011	0.131	-0.27	0.247
BV22	E.V. assumed	0.021	0.89	2.244	215	0.026	0.553	0.246	0.067	1.039
	E.V. not assumed			2.226	107.79	0.028	0.553	0.248	0.061	1.045
BV23	E.V. assumed	0.241	0.62	1.984	215	0.048	0.251	0.126	0.002	0.5

	E.V. not assumed			1.957	106.59	0.053	0.251	0.128	-0	0.505
BV24	E.V. assumed	0.029	0.87	3.082	215	0.002	0.381	0.124	0.137	0.625
	E.V. not assumed			3.066	108.42	0.003	0.381	0.124	0.135	0.628
BV25	E.V. assumed	0.242	0.62	1.862	215	0.064	0.366	0.197	-0.02	0.754
	E.V. not assumed			1.802	102.74	0.074	0.366	0.203	-0.04	0.769
BV26	E.V. assumed	0.071	0.79	-1.23	215	0.219	-0.101	0.082	-0.26	0.061
	E.V. not assumed			-1.36	136.22	0.176	-0.101	0.074	-0.25	0.046
BV27	E.V. assumed	0.145	0.7	-0.09	215	0.931	-0.012	0.14	-0.29	0.264
	E.V. not assumed			-0.09	109.07	0.932	-0.012	0.14	-0.29	0.266
BV28	E.V. assumed	0.135	0.71	2.413	215	0.017	0.417	0.173	0.076	0.757
	E.V. not assumed			2.577	126.45	0.011	0.417	0.162	0.097	0.737
BV29	E.V. assumed	0.616	0.43	0.338	215	0.735	0.038	0.114	-0.19	0.262
	E.V. not assumed			0.345	113.83	0.731	0.038	0.112	-0.18	0.26
BV30	E.V. assumed	0.072	0.79	-1.02	215	0.31	-0.128	0.125	-0.38	0.12
	E.V. not assumed			-1.01	108.23	0.314	-0.128	0.126	-0.38	0.122
BV31	E.V. assumed	2.987	0.09	2.852	215	0.005	0.387	0.136	0.119	0.654
	E.V. not assumed			3.029	124.86	0.003	0.387	0.128	0.134	0.64
BV32	E.V. assumed	7.637	0.01	1.118	215	0.265	0.157	0.14	-0.12	0.433
	E.V. not assumed			1.266	145.65	0.207	0.157	0.124	-0.09	0.401
BV33	E.V. assumed	10.81	0	1.861	215	0.064	0.234	0.126	-0.01	0.483
	E.V. not assumed			2.141	151.38	0.034	0.234	0.109	0.018	0.451
BV34	E.V. assumed	7.767	0.01	2.037	215	0.043	0.279	0.137	0.009	0.549
	E.V. not assumed			2.282	141.68	0.024	0.279	0.122	0.037	0.521
BV35	E.V. assumed	9.708	0	1.778	215	0.077	0.222	0.125	-0.02	0.467
	E.V. not assumed			2.035	149.45	0.044	0.222	0.109	0.006	0.437
BV36	E.V. assumed	9.871	0	1.476	215	0.141	0.186	0.126	-0.06	0.434
	E.V. not assumed			1.715	155.05	0.088	0.186	0.108	-0.03	0.4
BV37	E.V. assumed	0.002	0.96	-0.02	215	0.984	-0.005	0.258	-0.51	0.503
	E.V. not assumed			-0.02	113.75	0.984	-0.005	0.253	-0.51	0.496
BV38	E.V. assumed	0.002	0.97	0.914	215	0.362	0.193	0.211	-0.22	0.61
	E.V. not assumed			0.919	110.92	0.36	0.193	0.21	-0.22	0.61
BV39	E.V. assumed	3.381	0.07	2.311	215	0.022	0.334	0.144	0.049	0.618
	E.V. not assumed			2.216	100.94	0.029	0.334	0.151	0.035	0.632
BV40	E.V. assumed	0.194	0.66	3.054	215	0.003	0.437	0.143	0.155	0.719
	E.V. not assumed			3.068	110.61	0.003	0.437	0.142	0.155	0.719
BV41	E.V. assumed	1.593	0.21	1.12	215	0.264	0.188	0.168	-0.14	0.519
	E.V. not assumed			1.218	132.03	0.225	0.188	0.154	-0.12	0.494
BV42	E.V. assumed	2.485	0.12	2.513	215	0.013	0.24	0.096	0.052	0.428
	E.V. not assumed			2.964	160.92	0.003	0.24	0.081	0.08	0.4
BV43	E.V. assumed	0.072	0.79	-1.02	215	0.31	-0.128	0.125	-0.38	0.12
	E.V. not assumed			-1.01	108.23	0.314	-0.128	0.126	-0.38	0.122
BV44	E.V. assumed	0.584	0.45	-1.31	215	0.193	-0.317	0.242	-0.79	0.161
	E.V. not assumed			-1.31	109.59	0.194	-0.317	0.242	-0.8	0.164
BV45	E.V. assumed	1.277	0.26	-0.91	215	0.367	-0.105	0.116	-0.33	0.123
	E.V. not assumed			-0.84	94.115	0.406	-0.105	0.126	-0.35	0.144
BV46	E.V. assumed	1.964	0.16	0.983	215	0.327	0.123	0.125	-0.12	0.37
	E.V. not assumed			1.1	141.2	0.273	0.123	0.112	-0.1	0.345
BV47	E.V. assumed	1.289	0.26	0.635	215	0.526	0.08	0.126	-0.17	0.327

		F	Sig	t	df	Sig (2-tailed)	Mean Diff	Std Error Diff	Lower	Upper
	E.V. not assumed			0.647	113.92	0.519	0.08	0.123	-0.16	0.324
BV48	E.V. assumed	0.001	0.98	0.609	215	0.543	0.056	0.092	-0.13	0.238
	E.V. not assumed			0.615	111.83	0.54	0.056	0.091	-0.13	0.237
BV49	E.V. assumed	3.525	0.06	-1.37	215	0.171	-0.165	0.12	-0.4	0.072
	E.V. not assumed			-1.59	152.22	0.115	-0.165	0.104	-0.37	0.041
BV51	E.V. assumed	0.644	0.42	-2.12	215	0.035	-0.297	0.14	-0.57	-0.02
	E.V. not assumed			-2.16	114.35	0.033	-0.297	0.138	-0.57	-0.03
BV52	E.V. assumed	3.671	0.06	0.18	215	0.857	0.018	0.103	-0.18	0.221
	E.V. not assumed			0.16	88.419	0.873	0.018	0.116	-0.21	0.248
BV53	E.V. assumed	0.379	0.54	3.957	215	0	0.622	0.157	0.312	0.932
	E.V. not assumed			3.856	104.09	0	0.622	0.161	0.302	0.942
BV54	E.V. assumed	0.067	0.8	3.307	215	0.001	0.492	0.149	0.199	0.786
	E.V. not assumed			3.2	102.73	0.002	0.492	0.154	0.187	0.797
BV55	E.V. assumed	2.085	0.15	1.824	215	0.07	0.471	0.258	-0.04	0.98
	E.V. not assumed			1.756	101.64	0.082	0.471	0.268	-0.06	1.003
BV56	E.V. assumed	0.257	0.61	1.598	215	0.111	0.223	0.14	-0.05	0.498
	E.V. not assumed			1.734	131.18	0.085	0.223	0.129	-0.03	0.477
BV57	E.V. assumed	2.42	0.12	0.987	215	0.325	0.189	0.192	-0.19	0.567
	E.V. not assumed			0.935	98.689	0.352	0.189	0.202	-0.21	0.591
BV58	E.V. assumed	0.008	0.93	0.122	215	0.903	0.012	0.099	-0.18	0.207
	E.V. not assumed			0.122	109.38	0.903	0.012	0.099	-0.19	0.209
BV59	E.V. assumed	0.089	0.77	0.279	215	0.781	0.065	0.232	-0.39	0.523
	E.V. not assumed			0.278	109.56	0.781	0.065	0.232	-0.4	0.525
BV60	E.V. assumed	1.03	0.31	0.895	215	0.372	0.154	0.173	-0.19	0.495
	E.V. not assumed			0.949	124.4	0.345	0.154	0.163	-0.17	0.477
BV61	E.V. assumed	1.06	0.3	0.397	215	0.692	0.066	0.167	-0.26	0.395
	E.V. not assumed			0.417	122.08	0.677	0.066	0.158	-0.25	0.38
BV62	E.V. assumed	1.336	0.25	-2.92	215	0.004	-0.291	0.1	-0.49	-0.09
	E.V. not assumed			-3.01	117.49	0.003	-0.291	0.096	-0.48	-0.1
BV63	E.V. assumed	3.505	0.06	-2.32	215	0.021	-0.221	0.095	-0.41	-0.03
	E.V. not assumed			-2.83	175.5	0.005	-0.221	0.078	-0.38	-0.07
BV64	E.V. assumed	0.42	0.52	-0.33	215	0.741	-0.043	0.129	-0.3	0.212
	E.V. not assumed			-0.34	114.93	0.736	-0.043	0.126	-0.29	0.208
BV65	E.V. assumed	2.269	0.13	0.64	215	0.523	0.076	0.119	-0.16	0.311
	E.V. not assumed			0.738	152.11	0.462	0.076	0.103	-0.13	0.281
BV66	E.V. assumed	0.705	0.4	-1.69	215	0.093	-0.192	0.114	-0.42	0.032
	E.V. not assumed			-1.64	103.16	0.104	-0.192	0.117	-0.43	0.041
BV67	E.V. assumed	0.441	0.51	-0.71	215	0.479	-0.158	0.223	-0.6	0.281
	E.V. not assumed			-0.72	113.58	0.472	-0.158	0.219	-0.59	0.276
BV68	E.V. assumed	1.708	0.19	-0.94	215	0.348	-0.117	0.124	-0.36	0.128
	E.V. not assumed			-1.05	139.48	0.297	-0.117	0.112	-0.34	0.104
BV69	E.V. assumed	0.581	0.45	-0.58	215	0.562	-0.071	0.123	-0.31	0.17
	E.V. not assumed			-0.61	120.75	0.544	-0.071	0.117	-0.3	0.161
BV70	E.V. assumed	0.007	0.93	1.973	215	0.05	0.303	0.153	0	0.605
	E.V. not assumed			1.995	112.13	0.048	0.303	0.152	0.002	0.603
BV71	E.V. assumed	1.038	0.31	0.261	215	0.795	0.029	0.11	-0.19	0.245
	E.V. not assumed			0.279	127.39	0.78	0.029	0.102	-0.17	0.231
BV72	E.V. assumed	3.38	0.07	0.365	215	0.715	0.075	0.204	-0.33	0.477

	E.V. not assumed			0.34	95.689	0.734	0.075	0.219	-0.36	0.51
BV73	E.V. assumed	2.152	0.14	2.13	215	0.034	0.204	0.096	0.015	0.394
	E.V. not assumed			2.552	167.24	0.012	0.204	0.08	0.046	0.363
BV74	E.V. assumed	1.547	0.22	2.894	215	0.004	0.437	0.151	0.139	0.734
	E.V. not assumed			2.718	97.193	0.008	0.437	0.161	0.118	0.756
BV75	E.V. assumed	0.113	0.74	-0.31	215	0.757	-0.054	0.175	-0.4	0.29
	E.V. not assumed			-0.3	104.2	0.763	-0.054	0.179	-0.41	0.301

7.3. APPENDIX C (t-Test Results for Step 2)

Table 7-3 t-Test Result for Step 2

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CV01	E.V. assumed	.030	.864	.856	40	.397	.211	.246	-.286	.707
	E.V. not assumed			.871	39.988	.389	.211	.242	-.278	.699
CV02	E.V. assumed	2.719	.107	.568	40	.573	.096	.169	-.246	.438
	E.V. not assumed			.592	37.712	.557	.096	.162	-.232	.425
CV03	E.V. assumed	6.558	.014	1.404	40	.168	.277	.197	-.122	.675
	E.V. not assumed			1.454	38.865	.154	.277	.190	-.108	.662
CV05	E.V. assumed	.907	.347	.439	40	.663	.096	.219	-.346	.538
	E.V. not assumed			.431	34.724	.669	.096	.223	-.357	.549
CV06	E.V. assumed	.907	.347	-.439	40	.663	-.096	.219	-.538	.346
	E.V. not assumed			-.431	34.724	.669	-.096	.223	-.549	.357
CV07	E.V. assumed	.003	.954	-1.831	40	.075	-.297	.162	-.626	.031
	E.V. not assumed			-1.893	39.084	.066	-.297	.157	-.615	.020
CV08	E.V. assumed	.881	.354	.769	40	.446	.105	.137	-.171	.382
	E.V. not assumed			.764	37.309	.450	.105	.138	-.174	.384
CV09	E.V. assumed	3.998	.052	-.264	40	.793	-.062	.234	-.534	.411
	E.V. not assumed			-.257	32.196	.799	-.062	.241	-.552	.429
CV10	E.V. assumed	.362	.551	2.580	40	.014	.419	.162	.091	.747
	E.V. not assumed			2.509	32.689	.017	.419	.167	.079	.758
CV11	E.V. assumed	.042	.839	-.578	40	.566	-.105	.182	-.473	.263
	E.V. not assumed			-.582	39.286	.564	-.105	.181	-.471	.261
CV12	E.V. assumed	.685	.413	-.868	40	.390	-.220	.253	-.731	.292
	E.V. not assumed			-.858	36.260	.397	-.220	.256	-.739	.300
CV13	E.V. assumed	.030	.863	-.321	40	.750	-.071	.221	-.518	.376
	E.V. not assumed			-.323	39.305	.749	-.071	.220	-.515	.373
CV14	E.V. assumed	.000	.990	.516	40	.609	.087	.169	-.254	.428
	E.V. not assumed			.510	36.512	.613	.087	.170	-.259	.433
CV15	E.V. assumed	4.272	.045	-1.443	40	.157	-.227	.157	-.544	.091
	E.V. not assumed			-1.492	39.084	.144	-.227	.152	-.534	.081
CV17	E.V. assumed	1.617	.211	-.037	40	.971	-.009	.249	-.513	.495
	E.V. not assumed			-.036	33.522	.972	-.009	.256	-.529	.511
CV18	E.V. assumed	.351	.557	1.404	40	.168	.277	.197	-.122	.675
	E.V. not assumed			1.384	35.710	.175	.277	.200	-.129	.683
CV19	E.V. assumed	2.676	.110	-.686	40	.496	-.105	.153	-.415	.205
	E.V. not assumed			-.668	32.872	.509	-.105	.158	-.426	.215
CV20	E.V. assumed	4.272	.045	1.443	40	.157	.227	.157	-.091	.544
	E.V. not assumed			1.492	39.084	.144	.227	.152	-.081	.534

CV21	E.V. assumed	.976	.329	.042	40	.967	.009	.219	-.433	.451
	E.V. not assumed			.040	30.190	.968	.009	.227	-.455	.473
CV22	E.V. assumed	.234	.631	2.488	40	.017	.785	.315	.147	1.423
	E.V. not assumed			2.499	39.127	.017	.785	.314	.150	1.420
CV23	E.V. assumed	3.135	.084	2.032	40	.049	.400	.197	.002	.799
	E.V. not assumed			2.040	39.059	.048	.400	.196	.003	.797
CV24	E.V. assumed	7.624	.009	1.710	40	.095	.348	.203	-.063	.759
	E.V. not assumed			1.745	39.989	.089	.348	.199	-.055	.751
CV25	E.V. assumed	.059	.809	-.416	40	.680	-.114	.275	-.670	.441
	E.V. not assumed			-.420	39.685	.676	-.114	.272	-.665	.436
CV26	E.V. assumed	2.804	.102	.758	40	.453	.114	.151	-.191	.419
	E.V. not assumed			.725	28.522	.475	.114	.158	-.209	.438
CV27	E.V. assumed	.443	.509	.442	40	.661	.089	.202	-.319	.498
	E.V. not assumed			.432	33.836	.669	.089	.207	-.331	.510
CV28	E.V. assumed	4.086	.050	-1.531	40	.134	-.387	.253	-.897	.124
	E.V. not assumed			-1.500	34.514	.143	-.387	.258	-.910	.137
CV29	E.V. assumed	1.807	.186	-.467	40	.643	-.078	.167	-.415	.259
	E.V. not assumed			-.440	24.999	.664	-.078	.177	-.442	.287
CV30	E.V. assumed	.357	.554	-1.453	40	.154	-.314	.216	-.750	.123
	E.V. not assumed			-1.394	29.409	.174	-.314	.225	-.773	.146
CV31	E.V. assumed	.239	.628	.342	40	.734	.078	.228	-.382	.538
	E.V. not assumed			.338	36.492	.737	.078	.230	-.389	.544
CV32	E.V. assumed	.033	.857	.742	40	.463	.149	.201	-.257	.554
	E.V. not assumed			.739	38.048	.464	.149	.201	-.259	.556
CV33	E.V. assumed	.112	.739	2.028	40	.049	.341	.168	.001	.681
	E.V. not assumed			2.032	38.842	.049	.341	.168	.002	.680
CV34	E.V. assumed	.176	.677	.701	40	.487	.149	.212	-.280	.578
	E.V. not assumed			.691	35.910	.494	.149	.215	-.288	.585
CV35	E.V. assumed	.112	.739	2.028	40	.049	.341	.168	.001	.681
	E.V. not assumed			2.032	38.842	.049	.341	.168	.002	.680
CV36	E.V. assumed	.454	.504	1.489	40	.144	.254	.171	-.091	.599
	E.V. not assumed			1.496	39.154	.143	.254	.170	-.089	.597
CV37	E.V. assumed	.016	.900	-.473	40	.639	-.201	.426	-1.062	.659
	E.V. not assumed			-.472	38.294	.639	-.201	.426	-1.065	.662
CV38	E.V. assumed	1.528	.224	-1.001	40	.323	-.295	.295	-.891	.301
	E.V. not assumed			-.987	35.839	.330	-.295	.299	-.902	.311
CV39	E.V. assumed	.539	.467	-.116	40	.908	-.027	.236	-.504	.449
	E.V. not assumed			-.114	35.096	.910	-.027	.240	-.515	.460
CV40	E.V. assumed	.115	.736	.725	40	.473	.172	.237	-.307	.650
	E.V. not assumed			.706	33.099	.485	.172	.243	-.323	.666
CV41	E.V. assumed	.049	.827	.742	40	.463	.149	.201	-.257	.554
	E.V. not assumed			.757	39.980	.453	.149	.196	-.248	.546
CV42	E.V. assumed	1.224	.275	1.168	40	.250	.149	.127	-.109	.406

				t	df	Sig.				
	E.V. not assumed			1.143	34.207	.261	.149	.130	-.116	.413
CV43	E.V. assumed	.357	.554	-1.453	40	.154	-.314	.216	-.750	.123
	E.V. not assumed			-1.394	29.409	.174	-.314	.225	-.773	.146
CV44	E.V. assumed	1.070	.307	-.329	40	.744	-.128	.390	-.915	.659
	E.V. not assumed			-.322	34.063	.750	-.128	.398	-.938	.681
CV45	E.V. assumed	.603	.442	-.701	40	.487	-.149	.212	-.578	.280
	E.V. not assumed			-.721	39.568	.475	-.149	.206	-.566	.268
CV46	E.V. assumed	.063	.803	-.298	40	.767	-.053	.176	-.409	.304
	E.V. not assumed			-.302	39.875	.764	-.053	.174	-.404	.299
CV47	E.V. assumed	.002	.962	.171	40	.865	.034	.201	-.371	.440
	E.V. not assumed			.168	35.440	.867	.034	.204	-.380	.448
CV48	E.V. assumed	.183	.671	.066	40	.947	.009	.138	-.269	.288
	E.V. not assumed			.067	39.948	.947	.009	.136	-.265	.283
CV49	E.V. assumed	.198	.659	.523	40	.604	.080	.153	-.230	.390
	E.V. not assumed			.536	39.794	.595	.080	.149	-.222	.382
CV51	E.V. assumed	3.999	.052	-1.718	40	.094	-.382	.222	-.832	.067
	E.V. not assumed			-1.757	39.932	.087	-.382	.217	-.822	.057
CV52	E.V. assumed	.078	.781	-.426	40	.672	-.062	.145	-.355	.231
	E.V. not assumed			-.428	38.973	.671	-.062	.144	-.354	.230
CV53	E.V. assumed	.033	.856	.943	40	.351	.206	.218	-.235	.647
	E.V. not assumed			.932	36.438	.357	.206	.221	-.242	.654
CV54	E.V. assumed	.650	.425	1.145	40	.259	.249	.218	-.191	.690
	E.V. not assumed			1.154	39.478	.255	.249	.216	-.188	.686
CV55	E.V. assumed	5.870	.020	1.598	40	.118	.556	.348	-.147	1.260
	E.V. not assumed			1.662	38.078	.105	.556	.335	-.121	1.233
CV56	E.V. assumed	.253	.618	.597	40	.554	.128	.215	-.306	.562
	E.V. not assumed			.591	36.591	.558	.128	.217	-.312	.568
CV57	E.V. assumed	.136	.714	.677	40	.502	.236	.348	-.468	.939
	E.V. not assumed			.674	37.819	.504	.236	.349	-.472	.943
CV58	E.V. assumed	.147	.703	.000	40	1.000	.000	.170	-.343	.343
	E.V. not assumed			.000	36.800	1.000	.000	.171	-.347	.347
CV59	E.V. assumed	.168	.684	1.818	40	.077	.568	.312	-.063	1.198
	E.V. not assumed			1.823	38.902	.076	.568	.311	-.062	1.197
CV60	E.V. assumed	.500	.484	.122	40	.904	.027	.225	-.428	.483
	E.V. not assumed			.119	32.813	.906	.027	.232	-.444	.499
CV61	E.V. assumed	2.131	.152	1.107	40	.275	.245	.221	-.202	.692
	E.V. not assumed			1.054	27.432	.301	.245	.232	-.232	.721
CV62	E.V. assumed	.362	.551	-2.580	40	.014	-.419	.162	-.747	-.091
	E.V. not assumed			-2.509	32.689	.017	-.419	.167	-.758	-.079
CV63	E.V. assumed	1.224	.275	-.485	40	.630	-.062	.127	-.319	.196
	E.V. not assumed			-.475	34.207	.638	-.062	.130	-.326	.203
CV64	E.V. assumed	4.695	.036	.797	40	.430	.140	.175	-.214	.494
	E.V. not assumed			.834	36.962	.410	.140	.167	-.200	.479

		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
CV65	E.V. assumed	.183	.671	-.697	40	.490	-.096	.138	-.375	.182
	E.V. not assumed			-.708	39.948	.483	-.096	.136	-.370	.178
CV66	E.V. assumed	.001	.978	-1.631	40	.111	-.314	.192	-.702	.075
	E.V. not assumed			-1.590	33.312	.121	-.314	.197	-.715	.088
CV67	E.V. assumed	1.390	.245	-.655	40	.516	-.243	.370	-.991	.505
	E.V. not assumed			-.634	31.215	.531	-.243	.383	-1.023	.538
CV68	E.V. assumed	.063	.803	.298	40	.767	.053	.176	-.304	.409
	E.V. not assumed			.302	39.875	.764	.053	.174	-.299	.404
CV69	E.V. assumed	.741	.394	1.831	40	.075	.297	.162	-.031	.626
	E.V. not assumed			1.824	37.901	.076	.297	.163	-.033	.628
CV70	E.V. assumed	.205	.653	.918	40	.364	.224	.244	-.269	.718
	E.V. not assumed			.919	38.525	.364	.224	.244	-.270	.718
CV71	E.V. assumed	.148	.702	-.501	40	.619	-.071	.142	-.357	.215
	E.V. not assumed			-.492	35.076	.626	-.071	.144	-.364	.222
CV72	E.V. assumed	2.490	.122	.581	40	.565	.174	.299	-.431	.779
	E.V. not assumed			.596	39.772	.554	.174	.292	-.416	.764
CV73	E.V. assumed	1.311	.259	.483	40	.632	.053	.109	-.168	.273
	E.V. not assumed			.469	32.674	.642	.053	.112	-.176	.281
CV74	E.V. assumed	1.165	.287	.958	40	.344	.224	.234	-.249	.697
	E.V. not assumed			.967	39.629	.339	.224	.232	-.244	.693
CV75	E.V. assumed	.007	.936	.419	40	.678	.096	.229	-.368	.560
	E.V. not assumed			.422	39.511	.675	.096	.228	-.364	.556
AV01	E.V. assumed	.242	.626	.132	40	.896	.085	.641	-1.210	1.380
	E.V. not assumed			.131	36.747	.897	.085	.647	-1.227	1.396
AV02	E.V. assumed	1.180	.284	1.222	40	.229	1.098	.899	-.718	2.914
	E.V. not assumed			1.232	39.464	.225	1.098	.892	-.704	2.901
AV03	E.V. assumed	2.619	.113	.236	40	.815	.135	.572	-1.021	1.291
	E.V. not assumed			.228	30.809	.821	.135	.593	-1.074	1.344
AV05	E.V. assumed	.705	.406	.453	40	.653	.414	.915	-1.435	2.263
	E.V. not assumed			.450	37.417	.655	.414	.921	-1.451	2.279
AV06	E.V. assumed	.876	.355	-.253	40	.801	-.238	.939	-2.136	1.660
	E.V. not assumed			-.252	37.322	.803	-.238	.946	-2.154	1.678
AV07	E.V. assumed	.453	.505	.697	40	.490	.670	.962	-1.275	2.615
	E.V. not assumed			.694	37.832	.492	.670	.966	-1.286	2.627
AV08	E.V. assumed	.102	.751	-.064	40	.949	-.059	.928	-1.935	1.816
	E.V. not assumed			-.064	37.882	.949	-.059	.932	-1.946	1.827
AV09	E.V. assumed	1.285	.264	1.045	40	.302	.957	.916	-.894	2.807
	E.V. not assumed			1.054	39.538	.298	.957	.908	-.879	2.792
AV10	E.V. assumed	.322	.573	-.049	40	.961	-.046	.932	-1.930	1.838
	E.V. not assumed			-.049	39.294	.961	-.046	.926	-1.919	1.828
AV11	E.V. assumed	7.493	.009	-1.116	40	.271	-.879	.788	-2.471	.713
	E.V. not assumed			-1.162	37.871	.253	-.879	.756	-2.410	.652
AV12	E.V. assumed	.009	.927	-.225	40	.823	-.204	.905	-2.032	1.625

	E.V. not assumed			-.224	37.628	.824	-.204	.909	-2.045	1.638
AV13	E.V. assumed	1.219	.276	-.867	40	.391	-.787	.908	-2.622	1.048
	E.V. not assumed			-.873	39.368	.388	-.787	.902	-2.611	1.037
AV14	E.V. assumed	8.791	.005	1.769	40	.085	1.535	.868	-.219	3.290
	E.V. not assumed			1.825	39.284	.076	1.535	.841	-.166	3.236
AV15	E.V. assumed	.433	.514	-.097	40	.923	-.098	1.016	-2.153	1.956
	E.V. not assumed			-.097	38.985	.923	-.098	1.013	-2.147	1.951
AV17	E.V. assumed	4.337	.044	-1.932	40	.060	-1.469	.760	-3.006	.068
	E.V. not assumed			-1.977	39.925	.055	-1.469	.743	-2.971	.033
AV18	E.V. assumed	.197	.660	-1.188	40	.242	-1.071	.902	-2.893	.751
	E.V. not assumed			-1.192	38.978	.241	-1.071	.899	-2.889	.747
AV19	E.V. assumed	.697	.409	.738	40	.465	.611	.827	-1.061	2.283
	E.V. not assumed			.745	39.554	.461	.611	.820	-1.047	2.269
AV20	E.V. assumed	.433	.514	.097	40	.923	.098	1.016	-1.956	2.153
	E.V. not assumed			.097	38.985	.923	.098	1.013	-1.951	2.147
AV21	E.V. assumed	.070	.792	-.113	40	.911	-.094	.832	-1.775	1.588
	E.V. not assumed			-.113	38.758	.911	-.094	.831	-1.774	1.586
AV22	E.V. assumed	1.382	.247	1.306	40	.199	.780	.598	-.428	1.988
	E.V. not assumed			1.284	35.326	.207	.780	.608	-.453	2.014
AV23	E.V. assumed	.001	.974	.251	40	.803	.208	.828	-1.465	1.882
	E.V. not assumed			.252	38.856	.802	.208	.826	-1.463	1.879
AV24	E.V. assumed	2.194	.146	-.853	40	.399	-.753	.882	-2.536	1.030
	E.V. not assumed			-.866	39.907	.392	-.753	.870	-2.511	1.005
AV25	E.V. assumed	5.642	.022	.018	40	.986	.016	.893	-1.789	1.821
	E.V. not assumed			.018	33.651	.986	.016	.915	-1.843	1.875
AV26	E.V. assumed	.334	.567	-.175	40	.862	-.178	1.019	-2.237	1.881
	E.V. not assumed			-.176	38.997	.861	-.178	1.015	-2.232	1.875
AV27	E.V. assumed	3.277	.078	.937	40	.354	.771	.823	-.892	2.435
	E.V. not assumed			.958	39.956	.344	.771	.805	-.856	2.398
AV28	E.V. assumed	5.425	.025	-.994	40	.326	-.693	.698	-2.104	.717
	E.V. not assumed			-1.043	36.211	.304	-.693	.665	-2.041	.655
AV29	E.V. assumed	.376	.543	.253	40	.801	.220	.867	-1.532	1.971
	E.V. not assumed			.256	39.512	.800	.220	.860	-1.518	1.958
AV30	E.V. assumed	2.337	.134	.815	40	.420	.673	.825	-.995	2.340
	E.V. not assumed			.836	39.829	.408	.673	.805	-.954	2.299
AV31	E.V. assumed	1.094	.302	.143	40	.887	.124	.862	-1.618	1.865
	E.V. not assumed			.142	36.966	.888	.124	.869	-1.638	1.885
AV32	E.V. assumed	1.047	.312	.646	40	.522	.584	.903	-1.242	2.409
	E.V. not assumed			.653	39.739	.517	.584	.893	-1.222	2.389
AV33	E.V. assumed	.350	.558	.603	40	.550	.572	.949	-1.347	2.491
	E.V. not assumed			.605	39.062	.549	.572	.946	-1.340	2.484
AV34	E.V. assumed	1.487	.230	.749	40	.458	.686	.916	-1.165	2.538
	E.V. not assumed			.755	39.499	.455	.686	.909	-1.151	2.524

AV35	E.V. assumed	.350	.558	.603	40	.550	.572	.949	-1.347	2.491
	E.V. not assumed			.605	39.062	.549	.572	.946	-1.340	2.484
AV36	E.V. assumed	.703	.407	.774	40	.444	.721	.931	-1.162	2.603
	E.V. not assumed			.779	39.390	.440	.721	.925	-1.150	2.591
AV37	E.V. assumed	.017	.898	.356	40	.724	.243	.681	-1.134	1.619
	E.V. not assumed			.356	38.372	.724	.243	.682	-1.137	1.622
AV38	E.V. assumed	.257	.615	-.620	40	.539	-.451	.727	-1.920	1.019
	E.V. not assumed			-.625	39.455	.536	-.451	.722	-1.910	1.008
AV39	E.V. assumed	.211	.649	-.686	40	.497	-.579	.844	-2.285	1.127
	E.V. not assumed			-.683	37.748	.499	-.579	.848	-2.296	1.139
AV40	E.V. assumed	.063	.803	.303	40	.763	.167	.550	-.946	1.280
	E.V. not assumed			.300	36.138	.766	.167	.558	-.964	1.298
AV41	E.V. assumed	.027	.871	.080	40	.936	.062	.770	-1.494	1.618
	E.V. not assumed			.080	37.635	.937	.062	.774	-1.506	1.629
AV42	E.V. assumed	.141	.709	.118	40	.906	.108	.908	-1.727	1.942
	E.V. not assumed			.119	38.832	.906	.108	.906	-1.724	1.940
AV43	E.V. assumed	2.337	.134	.815	40	.420	.673	.825	-.995	2.340
	E.V. not assumed			.836	39.829	.408	.673	.805	-.954	2.299
AV44	E.V. assumed	1.001	.323	1.098	40	.279	.588	.536	-.494	1.671
	E.V. not assumed			1.076	34.443	.290	.588	.547	-.522	1.699
AV45	E.V. assumed	.660	.421	-.594	40	.556	-.510	.859	-2.247	1.227
	E.V. not assumed			-.588	36.750	.560	-.510	.868	-2.270	1.249
AV46	E.V. assumed	.019	.891	1.384	40	.174	1.334	.964	-.613	3.282
	E.V. not assumed			1.378	37.800	.176	1.334	.968	-.626	3.294
AV47	E.V. assumed	6.245	.017	-1.037	40	.306	-.886	.854	-2.611	.840
	E.V. not assumed			-1.071	39.193	.291	-.886	.827	-2.558	.787
AV48	E.V. assumed	1.389	.245	1.052	40	.299	.883	.840	-.814	2.581
	E.V. not assumed			1.064	39.783	.294	.883	.830	-.794	2.561
AV49	E.V. assumed	.037	.849	-.148	40	.883	-.137	.931	-2.018	1.743
	E.V. not assumed			-.147	38.090	.884	-.137	.933	-2.026	1.751
AV51	E.V. assumed	.197	.659	-1.104	40	.276	-.993	.900	-2.812	.826
	E.V. not assumed			-1.100	38.012	.278	-.993	.903	-2.821	.835
AV52	E.V. assumed	.383	.539	-.453	40	.653	-.378	.834	-2.063	1.308
	E.V. not assumed			-.457	39.609	.650	-.378	.826	-2.048	1.293
AV53	E.V. assumed	.025	.876	-.162	40	.872	-.119	.737	-1.608	1.370
	E.V. not assumed			-.161	38.177	.873	-.119	.738	-1.613	1.375
AV54	E.V. assumed	.089	.767	-.087	40	.931	-.055	.629	-1.326	1.216
	E.V. not assumed			-.088	39.795	.930	-.055	.621	-1.311	1.201
AV55	E.V. assumed	1.211	.278	.600	40	.552	.359	.598	-.850	1.569
	E.V. not assumed			.592	35.837	.558	.359	.607	-.872	1.591
AV56	E.V. assumed	.641	.428	.284	40	.778	.185	.652	-1.132	1.502
	E.V. not assumed			.279	34.992	.782	.185	.664	-1.162	1.532
AV57	E.V. assumed	.012	.914	.319	40	.751	.197	.616	-1.049	1.442

		F	Sig.	t	df	Sig.	Mean	Std Error	Lower	Upper
	E.V. not assumed			.319	38.271	.752	.197	.617	-1.053	1.446
AV58	E.V. assumed	11.490	.002	-1.387	40	.173	-1.005	.725	-2.469	.460
	E.V. not assumed			-1.471	33.468	.151	-1.005	.683	-2.394	.384
AV59	E.V. assumed	.521	.474	1.579	40	.122	1.108	.702	-.310	2.526
	E.V. not assumed			1.560	36.418	.127	1.108	.710	-.331	2.547
AV60	E.V. assumed	1.744	.194	.801	40	.428	.675	.842	-1.028	2.378
	E.V. not assumed			.790	35.886	.435	.675	.854	-1.058	2.408
AV61	E.V. assumed	.002	.962	-.045	40	.964	-.041	.907	-1.875	1.792
	E.V. not assumed			-.045	38.015	.964	-.041	.910	-1.884	1.801
AV62	E.V. assumed	.036	.851	.239	40	.812	.222	.927	-1.651	2.095
	E.V. not assumed			.240	38.843	.812	.222	.925	-1.649	2.093
AV63	E.V. assumed	.073	.788	.111	40	.913	.103	.931	-1.779	1.985
	E.V. not assumed			.110	37.991	.913	.103	.934	-1.789	1.995
AV64	E.V. assumed	.037	.848	.342	40	.734	.233	.683	-1.146	1.613
	E.V. not assumed			.339	37.281	.736	.233	.688	-1.160	1.627
AV65	E.V. assumed	1.951	.170	-.380	40	.706	-.371	.976	-2.344	1.603
	E.V. not assumed			-.383	39.496	.704	-.371	.969	-2.329	1.588
AV66	E.V. assumed	1.072	.307	.347	40	.731	.304	.878	-1.470	2.079
	E.V. not assumed			.352	39.975	.726	.304	.864	-1.441	2.050
AV67	E.V. assumed	.977	.329	-.614	40	.543	-.373	.607	-1.601	.855
	E.V. not assumed			-.606	36.013	.548	-.373	.616	-1.622	.876
AV68	E.V. assumed	.019	.891	-1.384	40	.174	-1.334	.964	-3.282	.613
	E.V. not assumed			-1.378	37.800	.176	-1.334	.968	-3.294	.626
AV69	E.V. assumed	.131	.720	-.030	40	.977	-.027	.929	-1.905	1.850
	E.V. not assumed			-.029	37.723	.977	-.027	.933	-1.918	1.863
AV70	E.V. assumed	2.234	.143	.165	40	.870	.121	.734	-1.362	1.605
	E.V. not assumed			.162	34.012	.873	.121	.751	-1.404	1.647
AV71	E.V. assumed	.015	.905	1.092	40	.281	1.041	.954	-.886	2.969
	E.V. not assumed			1.091	38.412	.282	1.041	.954	-.890	2.973
AV72	E.V. assumed	.038	.845	1.514	40	.138	.984	.650	-.330	2.298
	E.V. not assumed			1.515	38.615	.138	.984	.650	-.330	2.298
AV73	E.V. assumed	3.690	.062	1.223	40	.228	1.025	.838	-.669	2.719
	E.V. not assumed			1.240	39.874	.222	1.025	.827	-.646	2.697
AV74	E.V. assumed	5.801	.021	.474	40	.638	.332	.700	-1.083	1.746
	E.V. not assumed			.456	29.765	.652	.332	.728	-1.156	1.820
AV75	E.V. assumed	.252	.618	.344	40	.733	.288	.839	-1.408	1.985
	E.V. not assumed			.344	38.653	.733	.288	.838	-1.408	1.985
BV01	E.V. assumed	3.444	.071	.426	40	.673	.167	.392	-.626	.960
	E.V. not assumed			.442	38.474	.661	.167	.378	-.598	.932
BV02	E.V. assumed	1.193	.281	.769	40	.447	.174	.226	-.283	.631
	E.V. not assumed			.780	39.930	.440	.174	.223	-.277	.624
BV03	E.V. assumed	2.489	.123	1.099	40	.278	.346	.314	-.290	.981
	E.V. not assumed			1.125	39.893	.267	.346	.307	-.275	.966

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
BV05	E.V. assumed	.095	.759	1.586	40	.121	.384	.242	-.106	.874
	E.V. not assumed			1.584	38.333	.121	.384	.243	-.107	.876
BV06	E.V. assumed	.147	.703	-1.223	40	.229	-.288	.236	-.765	.188
	E.V. not assumed			-1.222	38.368	.229	-.288	.236	-.766	.189
BV07	E.V. assumed	2.066	.158	-1.715	40	.094	-.316	.184	-.688	.056
	E.V. not assumed			-1.721	38.984	.093	-.316	.183	-.687	.055
BV08	E.V. assumed	.148	.702	.336	40	.738	.043	.129	-.218	.305
	E.V. not assumed			.328	33.613	.745	.043	.132	-.226	.313
BV09	E.V. assumed	.147	.703	-.853	40	.399	-.229	.268	-.771	.313
	E.V. not assumed			-.861	39.581	.394	-.229	.266	-.766	.308
BV10	E.V. assumed	.116	.735	2.436	40	.019	.620	.255	.106	1.135
	E.V. not assumed			2.402	35.881	.022	.620	.258	.096	1.144
BV11	E.V. assumed	.010	.921	.302	40	.764	.078	.257	-.442	.598
	E.V. not assumed			.297	35.053	.768	.078	.262	-.454	.610
BV12	E.V. assumed	.685	.413	-.958	40	.344	-.307	.320	-.954	.340
	E.V. not assumed			-.939	34.485	.354	-.307	.327	-.970	.357
BV13	E.V. assumed	.430	.516	-.601	40	.551	-.167	.278	-.728	.394
	E.V. not assumed			-.592	35.403	.558	-.167	.282	-.740	.406
BV14	E.V. assumed	.157	.694	.359	40	.722	.078	.217	-.360	.516
	E.V. not assumed			.366	40.000	.716	.078	.213	-.352	.508
BV15	E.V. assumed	.024	.879	-.420	40	.676	-.069	.163	-.399	.261
	E.V. not assumed			-.415	35.924	.681	-.069	.166	-.404	.267
BV17	E.V. assumed	8.908	.005	-.328	40	.744	-.124	.376	-.884	.637
	E.V. not assumed			-.313	28.110	.756	-.124	.394	-.931	.684
BV18	E.V. assumed	.001	.974	2.285	40	.028	.636	.278	.073	1.199
	E.V. not assumed			2.285	38.511	.028	.636	.278	.073	1.200
BV19	E.V. assumed	1.607	.212	-.224	40	.824	-.053	.235	-.527	.422
	E.V. not assumed			-.231	39.448	.819	-.053	.228	-.513	.408
BV20	E.V. assumed	.000	.991	.146	40	.885	.025	.173	-.324	.374
	E.V. not assumed			.145	37.988	.885	.025	.173	-.325	.376
BV21	E.V. assumed	.551	.462	-.283	40	.779	-.078	.275	-.634	.479
	E.V. not assumed			-.268	26.872	.791	-.078	.290	-.673	.517
BV22	E.V. assumed	.043	.837	2.386	40	.022	1.185	.497	.181	2.189
	E.V. not assumed			2.396	39.068	.021	1.185	.495	.185	2.186
BV23	E.V. assumed	.377	.543	.637	40	.528	.199	.313	-.433	.831
	E.V. not assumed			.639	38.864	.527	.199	.312	-.432	.830
BV24	E.V. assumed	5.183	.028	1.096	40	.279	.295	.269	-.249	.839
	E.V. not assumed			1.131	39.312	.265	.295	.261	-.232	.823
BV25	E.V. assumed	4.702	.036	.593	40	.557	.208	.351	-.502	.918
	E.V. not assumed			.622	36.079	.538	.208	.335	-.470	.887
BV26	E.V. assumed	.000	.987	-.467	40	.643	-.078	.167	-.415	.259
	E.V. not assumed			-.454	32.426	.653	-.078	.172	-.427	.271
BV27	E.V. assumed	.106	.747	.819	40	.418	.247	.302	-.363	.857

		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std Error Diff	Lower	Upper
	E.V. not assumed			.820	38.840	.417	.247	.301	-.362	.856
BV28	E.V. assumed	9.081	.004	-1.073	40	.290	-.346	.322	-.996	.305
	E.V. not assumed			-1.009	24.765	.323	-.346	.342	-1.051	.360
BV29	E.V. assumed	3.362	.074	-.482	40	.632	-.103	.213	-.534	.328
	E.V. not assumed			-.455	25.313	.653	-.103	.226	-.569	.363
BV30	E.V. assumed	2.463	.124	-.025	40	.980	-.007	.273	-.559	.545
	E.V. not assumed			-.024	31.725	.981	-.007	.282	-.582	.568
BV31	E.V. assumed	.364	.550	.974	40	.336	.252	.259	-.271	.774
	E.V. not assumed			.971	38.038	.338	.252	.259	-.273	.777
BV32	E.V. assumed	.860	.359	.253	40	.801	.062	.244	-.431	.555
	E.V. not assumed			.244	30.750	.808	.062	.253	-.454	.577
BV33	E.V. assumed	.005	.944	.463	40	.646	.096	.207	-.323	.515
	E.V. not assumed			.459	36.810	.649	.096	.209	-.328	.521
BV34	E.V. assumed	.001	.971	.885	40	.381	.192	.217	-.247	.631
	E.V. not assumed			.877	36.836	.386	.192	.219	-.252	.636
BV35	E.V. assumed	.005	.944	.463	40	.646	.096	.207	-.323	.515
	E.V. not assumed			.459	36.810	.649	.096	.209	-.328	.521
BV36	E.V. assumed	.001	.975	-.204	40	.840	-.043	.213	-.475	.388
	E.V. not assumed			-.201	35.689	.842	-.043	.217	-.483	.396
BV37	E.V. assumed	.022	.884	-.237	40	.814	-.140	.590	-1.332	1.052
	E.V. not assumed			-.237	38.557	.814	-.140	.590	-1.333	1.053
BV38	E.V. assumed	3.629	.064	-.904	40	.371	-.366	.405	-1.184	.452
	E.V. not assumed			-.872	30.579	.390	-.366	.420	-1.223	.491
BV39	E.V. assumed	1.427	.239	-.107	40	.915	-.037	.341	-.726	.653
	E.V. not assumed			-.105	34.266	.917	-.037	.349	-.745	.672
BV40	E.V. assumed	.074	.787	.862	40	.394	.259	.300	-.347	.865
	E.V. not assumed			.833	30.985	.411	.259	.310	-.375	.892
BV41	E.V. assumed	.530	.471	.310	40	.758	.096	.310	-.530	.722
	E.V. not assumed			.318	39.808	.752	.096	.302	-.514	.706
BV42	E.V. assumed	.800	.376	.686	40	.496	.105	.153	-.205	.415
	E.V. not assumed			.668	32.872	.509	.105	.158	-.215	.426
BV43	E.V. assumed	2.463	.124	-.025	40	.980	-.007	.273	-.559	.545
	E.V. not assumed			-.024	31.725	.981	-.007	.282	-.582	.568
BV44	E.V. assumed	.068	.796	.071	40	.944	.039	.551	-1.075	1.153
	E.V. not assumed			.070	38.061	.944	.039	.553	-1.080	1.158
BV45	E.V. assumed	2.131	.152	-1.509	40	.139	-.410	.271	-.958	.139
	E.V. not assumed			-1.550	39.739	.129	-.410	.264	-.944	.125
BV46	E.V. assumed	1.587	.215	.463	40	.646	.096	.207	-.323	.515
	E.V. not assumed			.480	38.760	.634	.096	.200	-.309	.501
BV47	E.V. assumed	.001	.978	-.430	40	.670	-.114	.266	-.652	.424
	E.V. not assumed			-.421	34.260	.677	-.114	.272	-.667	.438
BV48	E.V. assumed	.456	.503	-.463	40	.646	-.096	.207	-.515	.323
	E.V. not assumed			-.469	39.814	.642	-.096	.205	-.510	.318

		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	Lower	Upper
BV49	E.V. assumed	.402	.530	-1.240	40	.222	-.261	.210	-.686	.164
	E.V. not assumed			-1.243	38.955	.221	-.261	.210	-.685	.163
BV51	E.V. assumed	.697	.409	-1.990	40	.054	-.574	.289	-1.158	.009
	E.V. not assumed			-1.975	37.231	.056	-.574	.291	-1.164	.015
BV52	E.V. assumed	.149	.702	.398	40	.692	.087	.218	-.354	.528
	E.V. not assumed			.402	39.597	.690	.087	.216	-.350	.524
BV53	E.V. assumed	.162	.690	.832	40	.410	.300	.360	-.429	1.028
	E.V. not assumed			.825	37.001	.415	.300	.364	-.437	1.036
BV54	E.V. assumed	.085	.772	.988	40	.329	.309	.313	-.323	.941
	E.V. not assumed			.977	36.402	.335	.309	.316	-.332	.950
BV55	E.V. assumed	5.622	.023	1.110	40	.274	.563	.507	-.462	1.588
	E.V. not assumed			1.155	38.154	.255	.563	.488	-.424	1.550
BV56	E.V. assumed	.256	.616	.051	40	.960	.014	.270	-.531	.559
	E.V. not assumed			.050	34.760	.960	.014	.275	-.545	.572
BV57	E.V. assumed	.619	.436	.579	40	.566	.254	.439	-.633	1.141
	E.V. not assumed			.580	38.829	.565	.254	.438	-.632	1.140
BV58	E.V. assumed	.104	.749	.891	40	.378	.183	.205	-.232	.598
	E.V. not assumed			.881	36.421	.384	.183	.208	-.238	.604
BV59	E.V. assumed	.993	.325	1.372	40	.178	.620	.452	-.293	1.533
	E.V. not assumed			1.399	39.999	.169	.620	.443	-.276	1.516
BV60	E.V. assumed	.145	.706	.107	40	.915	.037	.341	-.653	.726
	E.V. not assumed			.105	34.266	.917	.037	.349	-.672	.745
BV61	E.V. assumed	.783	.381	.061	40	.952	.018	.301	-.589	.626
	E.V. not assumed			.059	31.005	.953	.018	.311	-.617	.653
BV62	E.V. assumed	.097	.757	-2.092	40	.043	-.524	.251	-1.030	-.018
	E.V. not assumed			-2.093	38.594	.043	-.524	.250	-1.031	-.017
BV63	E.V. assumed	.049	.825	-.407	40	.686	-.053	.129	-.314	.208
	E.V. not assumed			-.409	39.189	.684	-.053	.129	-.313	.207
BV64	E.V. assumed	.227	.637	-.510	40	.613	-.103	.202	-.511	.305
	E.V. not assumed			-.505	36.695	.617	-.103	.204	-.516	.310
BV65	E.V. assumed	.741	.394	-1.831	40	.075	-.297	.162	-.626	.031
	E.V. not assumed			-1.824	37.901	.076	-.297	.163	-.628	.033
BV66	E.V. assumed	5.565	.023	-.620	40	.539	-.156	.251	-.663	.352
	E.V. not assumed			-.578	22.938	.569	-.156	.269	-.713	.401
BV67	E.V. assumed	.218	.643	-.193	40	.848	-.094	.485	-1.075	.887
	E.V. not assumed			-.190	35.060	.850	-.094	.494	-1.097	.909
BV68	E.V. assumed	1.587	.215	-.463	40	.646	-.096	.207	-.515	.323
	E.V. not assumed			-.480	38.760	.634	-.096	.200	-.501	.309
BV69	E.V. assumed	.157	.694	.845	40	.403	.183	.217	-.255	.621
	E.V. not assumed			.843	38.290	.404	.183	.217	-.256	.622
BV70	E.V. assumed	.552	.462	1.525	40	.135	.494	.324	-.161	1.150
	E.V. not assumed			1.519	37.913	.137	.494	.325	-.165	1.153
BV71	E.V. assumed	.003	.958	-.283	40	.778	-.064	.226	-.521	.393

	E.V. not assumed			-.286	39.718	.776	-.064	.224	-.516	.388
BV72	E.V. assumed	.819	.371	.692	40	.493	.314	.453	-.602	1.229
	E.V. not assumed			.701	39.837	.487	.314	.447	-.590	1.217
BV73	E.V. assumed	.010	.923	2.503	40	.017	.394	.157	.076	.711
	E.V. not assumed			2.550	39.999	.015	.394	.154	.082	.706
BV74	E.V. assumed	1.213	.277	1.065	40	.293	.380	.357	-.341	1.101
	E.V. not assumed			1.080	39.899	.287	.380	.352	-.331	1.091
BV75	E.V. assumed	.134	.716	.234	40	.816	.071	.304	-.543	.684
	E.V. not assumed			.235	39.032	.816	.071	.302	-.541	.683

7.4. APPENDIX D (t–Test Results for Step 3)

Table 7-4 t-Test Results for Step 3

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CV01	E.V. assumed	.104	.749	1.934	25	.065	.605	.313	-.039	1.250
	E.V. not assumed			2.285	19.845	.033	.605	.265	.052	1.158
CV02	E.V. assumed	2.200	.151	-.080	25	.937	-.020	.248	-.531	.491
	E.V. not assumed			-.101	23.151	.921	-.020	.196	-.425	.385
CV03	E.V. assumed	9.194	.006	1.214	25	.236	.349	.287	-.243	.940
	E.V. not assumed			1.608	24.665	.121	.349	.217	-.098	.796
CV05	E.V. assumed	.029	.866	-.250	25	.805	-.072	.290	-.669	.525
	E.V. not assumed			-.260	14.489	.799	-.072	.278	-.668	.523
CV06	E.V. assumed	.029	.866	.250	25	.805	.072	.290	-.525	.669
	E.V. not assumed			.260	14.489	.799	.072	.278	-.523	.668
CV07	E.V. assumed	.742	.397	-.928	25	.362	-.230	.248	-.741	.281
	E.V. not assumed			-1.175	23.151	.252	-.230	.196	-.635	.175
CV08	E.V. assumed	1.975	.172	.000	25	1.000	.000	.169	-.347	.347
	E.V. not assumed			.000	18.000	1.000	.000	.108	-.227	.227
CV09	E.V. assumed	.201	.658	.498	25	.623	.125	.251	-.392	.642
	E.V. not assumed			.633	23.321	.533	.125	.198	-.283	.533
CV10	E.V. assumed	.019	.891	.069	25	.946	.013	.192	-.382	.408
	E.V. not assumed			.068	12.948	.947	.013	.194	-.406	.432
CV11	E.V. assumed	.575	.455	.209	25	.836	.053	.252	-.467	.572
	E.V. not assumed			.222	15.302	.827	.053	.237	-.451	.556
CV12	E.V. assumed	.326	.573	-1.018	25	.319	-.303	.297	-.915	.310
	E.V. not assumed			-1.248	21.684	.225	-.303	.242	-.806	.201
CV13	E.V. assumed	2.546	.123	-.450	25	.657	-.125	.278	-.697	.447
	E.V. not assumed			-.590	24.435	.561	-.125	.212	-.562	.312
CV14	E.V. assumed	.492	.489	.447	25	.658	.105	.235	-.379	.590
	E.V. not assumed			.459	13.987	.653	.105	.229	-.387	.597
CV15	E.V. assumed	.980	.332	.091	25	.928	.020	.218	-.428	.468
	E.V. not assumed			.109	20.862	.914	.020	.180	-.356	.395
CV17	E.V. assumed	3.338	.080	-1.237	25	.228	-.428	.346	-1.140	.284
	E.V. not assumed			-1.047	9.716	.320	-.428	.408	-1.341	.486
CV18	E.V. assumed	.580	.454	.829	25	.415	.224	.270	-.332	.779
	E.V. not assumed			.780	11.657	.451	.224	.287	-.403	.850
CV19	E.V. assumed	9.453	.005	1.833	25	.079	.355	.194	-.044	.755
	E.V. not assumed			1.365	8.199	.209	.355	.260	-.242	.953
CV20	E.V. assumed	.980	.332	-.091	25	.928	-.020	.218	-.468	.428
	E.V. not assumed			-.109	20.862	.914	-.020	.180	-.395	.356

CV21	E.V. assumed	.036	.852	-1.111	25	.277	-.303	.272	-.864	.258
	E.V. not assumed			-1.052	11.805	.314	-.303	.288	-.931	.326
CV22	E.V. assumed	.000	.988	.640	25	.528	.276	.432	-.613	1.166
	E.V. not assumed			.636	13.049	.536	.276	.434	-.662	1.214
CV23	E.V. assumed	6.392	.018	1.920	25	.066	.493	.257	-.036	1.023
	E.V. not assumed			2.459	23.627	.022	.493	.201	.079	.908
CV24	E.V. assumed	4.368	.047	.504	25	.618	.138	.274	-.426	.702
	E.V. not assumed			.659	24.311	.516	.138	.210	-.294	.571
CV25	E.V. assumed	1.530	.228	-.143	25	.887	-.053	.367	-.808	.703
	E.V. not assumed			-.180	22.818	.859	-.053	.292	-.657	.552
CV26	E.V. assumed	2.555	.123	-.364	25	.719	-.053	.145	-.351	.245
	E.V. not assumed			-.567	18.000	.578	-.053	.093	-.248	.142
CV27	E.V. assumed	3.767	.064	-.358	25	.723	-.086	.239	-.578	.407
	E.V. not assumed			-.447	22.567	.659	-.086	.191	-.481	.310
CV28	E.V. assumed	4.772	.039	.364	25	.719	.105	.289	-.491	.701
	E.V. not assumed			.567	18.000	.578	.105	.186	-.285	.495
CV29	E.V. assumed	8.416	.008	-1.179	25	.250	-.158	.134	-.434	.118
	E.V. not assumed			-1.837	18.000	.083	-.158	.086	-.338	.023
CV30	E.V. assumed	.083	.775	-.058	25	.954	-.013	.226	-.478	.452
	E.V. not assumed			-.063	15.988	.950	-.013	.208	-.455	.429
CV31	E.V. assumed	2.396	.134	1.156	25	.259	.355	.307	-.278	.988
	E.V. not assumed			1.021	10.405	.330	.355	.348	-.416	1.126
CV32	E.V. assumed	8.284	.008	.209	25	.836	.053	.252	-.467	.572
	E.V. not assumed			.325	18.000	.749	.053	.162	-.287	.392
CV33	E.V. assumed	6.458	.018	.519	25	.608	.105	.203	-.312	.523
	E.V. not assumed			.809	18.000	.429	.105	.130	-.168	.379
CV34	E.V. assumed	5.387	.029	.000	25	1.000	.000	.238	-.491	.491
	E.V. not assumed			.000	18.000	1.000	.000	.153	-.321	.321
CV35	E.V. assumed	6.458	.018	.519	25	.608	.105	.203	-.312	.523
	E.V. not assumed			.809	18.000	.429	.105	.130	-.168	.379
CV36	E.V. assumed	3.419	.076	.000	25	1.000	.000	.206	-.425	.425
	E.V. not assumed			.000	18.000	1.000	.000	.132	-.278	.278
CV37	E.V. assumed	2.392	.135	.484	25	.632	.270	.557	-.877	1.417
	E.V. not assumed			.581	20.617	.567	.270	.464	-.697	1.236
CV38	E.V. assumed	.001	.970	-1.100	25	.282	-.421	.383	-1.210	.367
	E.V. not assumed			-1.087	12.906	.297	-.421	.387	-1.258	.416
CV39	E.V. assumed	1.241	.276	-.511	25	.614	-.145	.283	-.728	.439
	E.V. not assumed			-.615	20.743	.545	-.145	.235	-.635	.345
CV40	E.V. assumed	5.328	.030	1.715	25	.099	.474	.276	-.095	1.043
	E.V. not assumed			1.914	17.178	.072	.474	.248	-.048	.995
CV41	E.V. assumed	.624	.437	-.250	25	.805	-.072	.290	-.669	.525
	E.V. not assumed			-.332	24.717	.743	-.072	.218	-.522	.377
CV42	E.V. assumed	2.555	.123	.364	25	.719	.053	.145	-.245	.351

		F	Sig	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
	E.V. not assumed			.567	18.000	.578	.053	.093	-.142	.248
CV43	E.V. assumed	.083	.775	-.058	25	.954	-.013	.226	-.478	.452
	E.V. not assumed			-.063	15.988	.950	-.013	.208	-.455	.429
CV44	E.V. assumed	.348	.560	.520	25	.608	.257	.494	-.760	1.273
	E.V. not assumed			.550	15.039	.591	.257	.467	-.738	1.251
CV45	E.V. assumed	3.786	.063	-1.095	25	.284	-.283	.258	-.815	.249
	E.V. not assumed			-1.405	23.697	.173	-.283	.201	-.699	.133
CV46	E.V. assumed	.409	.528	-.274	25	.786	-.072	.264	-.616	.472
	E.V. not assumed			-.270	12.853	.791	-.072	.268	-.651	.507
CV47	E.V. assumed	.207	.653	1.708	25	.100	.408	.239	-.084	.900
	E.V. not assumed			1.905	17.143	.074	.408	.214	-.044	.859
CV48	E.V. assumed	.003	.960	-.672	25	.508	-.125	.186	-.508	.258
	E.V. not assumed			-.756	17.573	.460	-.125	.165	-.473	.223
CV49	E.V. assumed	.243	.626	.356	25	.725	.072	.203	-.347	.491
	E.V. not assumed			.417	19.471	.681	.072	.173	-.290	.435
CV51	E.V. assumed	6.337	.019	-1.627	25	.116	-.526	.324	-1.193	.140
	E.V. not assumed			-1.949	20.529	.065	-.526	.270	-1.089	.036
CV52	E.V. assumed	.243	.626	-.356	25	.725	-.072	.203	-.491	.347
	E.V. not assumed			-.417	19.471	.681	-.072	.173	-.435	.290
CV53	E.V. assumed	5.717	.025	1.906	25	.068	.526	.276	-.043	1.095
	E.V. not assumed			2.126	17.178	.048	.526	.248	.005	1.048
CV54	E.V. assumed	.076	.784	.505	25	.618	.151	.299	-.465	.768
	E.V. not assumed			.492	12.462	.632	.151	.308	-.517	.819
CV55	E.V. assumed	1.193	.285	1.807	25	.083	.934	.517	-.130	1.999
	E.V. not assumed			2.132	19.757	.046	.934	.438	.019	1.849
CV56	E.V. assumed	10.867	.003	2.364	25	.026	.546	.231	.070	1.022
	E.V. not assumed			2.918	21.986	.008	.546	.187	.158	.934
CV57	E.V. assumed	.030	.865	1.081	25	.290	.493	.456	-.446	1.433
	E.V. not assumed			1.056	12.574	.311	.493	.467	-.519	1.506
CV58	E.V. assumed	.383	.542	-.498	25	.623	-.125	.251	-.642	.392
	E.V. not assumed			-.476	12.054	.642	-.125	.262	-.697	.447
CV59	E.V. assumed	.621	.438	1.046	25	.305	.493	.472	-.478	1.465
	E.V. not assumed			1.042	13.116	.316	.493	.473	-.528	1.515
CV60	E.V. assumed	2.158	.154	-1.234	25	.229	-.283	.229	-.755	.189
	E.V. not assumed			-1.518	21.859	.143	-.283	.186	-.669	.104
CV61	E.V. assumed	.207	.653	-.108	25	.915	-.020	.182	-.395	.355
	E.V. not assumed			-.121	17.103	.905	-.020	.163	-.364	.325
CV62	E.V. assumed	.019	.891	-.069	25	.946	-.013	.192	-.408	.382
	E.V. not assumed			-.068	12.948	.947	-.013	.194	-.432	.406
CV63	E.V. assumed	2.555	.123	.364	25	.719	.053	.145	-.245	.351
	E.V. not assumed			.567	18.000	.578	.053	.093	-.142	.248
CV64	E.V. assumed	.982	.331	1.528	25	.139	.408	.267	-.142	.958
	E.V. not assumed			1.794	19.519	.088	.408	.227	-.067	.883

CV65	E.V. assumed	3.880	.060	-.281	25	.781	-.053	.187	-.439	.334
	E.V. not assumed			-.438	18.000	.667	-.053	.120	-.305	.200
CV66	E.V. assumed	1.881	.182	-.640	25	.528	-.138	.216	-.583	.306
	E.V. not assumed			-.769	20.703	.450	-.138	.180	-.512	.236
CV67	E.V. assumed	.005	.944	.818	25	.421	.362	.443	-.550	1.273
	E.V. not assumed			.813	13.052	.431	.362	.445	-.600	1.323
CV68	E.V. assumed	.409	.528	.274	25	.786	.072	.264	-.472	.616
	E.V. not assumed			.270	12.853	.791	.072	.268	-.507	.651
CV69	E.V. assumed	.934	.343	1.058	25	.300	.230	.218	-.218	.678
	E.V. not assumed			.922	10.164	.378	.230	.250	-.325	.786
CV70	E.V. assumed	8.365	.008	1.763	25	.090	.546	.310	-.092	1.184
	E.V. not assumed			2.382	24.963	.025	.546	.229	.074	1.018
CV71	E.V. assumed	1.315	.262	-.445	25	.660	-.092	.207	-.518	.334
	E.V. not assumed			-.348	8.705	.736	-.092	.264	-.693	.509
CV72	E.V. assumed	1.965	.173	2.058	25	.050	.816	.396	.000	1.632
	E.V. not assumed			2.654	23.865	.014	.816	.307	.181	1.450
CV73	E.V. assumed	.794	.381	.875	25	.390	.125	.143	-.169	.419
	E.V. not assumed			.853	12.537	.410	.125	.147	-.193	.443
CV74	E.V. assumed	8.365	.008	1.763	25	.090	.546	.310	-.092	1.184
	E.V. not assumed			2.382	24.963	.025	.546	.229	.074	1.018
CV75	E.V. assumed	1.394	.249	-2.537	25	.018	-.730	.288	-1.323	-.137
	E.V. not assumed			-2.408	11.867	.033	-.730	.303	-1.392	-.069
AV01	E.V. assumed	2.979	.097	.107	25	.916	.086	.800	-1.562	1.733
	E.V. not assumed			.116	15.947	.909	.086	.738	-1.480	1.651
AV02	E.V. assumed	.055	.817	.789	25	.437	1.000	1.267	-1.610	3.610
	E.V. not assumed			.766	12.399	.458	1.000	1.306	-1.836	3.836
AV03	E.V. assumed	13.643	.001	-2.615	25	.015	-1.454	.556	-2.599	-.309
	E.V. not assumed			-3.882	21.910	.001	-1.454	.375	-2.231	-.677
AV05	E.V. assumed	1.096	.305	-1.674	25	.107	-1.914	1.144	-4.270	.441
	E.V. not assumed			-1.764	14.898	.098	-1.914	1.086	-4.230	.401
AV06	E.V. assumed	1.154	.293	1.632	25	.115	1.934	1.185	-.506	4.375
	E.V. not assumed			1.725	15.012	.105	1.934	1.121	-.456	4.324
AV07	E.V. assumed	1.700	.204	1.302	25	.205	1.605	1.232	-.933	4.144
	E.V. not assumed			1.210	11.383	.251	1.605	1.327	-1.303	4.513
AV08	E.V. assumed	33.460	.000	1.938	25	.064	2.158	1.114	-.136	4.451
	E.V. not assumed			3.021	18.000	.007	2.158	.714	.657	3.659
AV09	E.V. assumed	25.423	.000	3.046	25	.005	3.329	1.093	1.078	5.580
	E.V. not assumed			4.514	22.023	.000	3.329	.737	1.800	4.858
AV10	E.V. assumed	.123	.729	.344	25	.734	.461	1.340	-2.299	3.220
	E.V. not assumed			.346	13.376	.735	.461	1.333	-2.411	3.332
AV11	E.V. assumed	14.021	.001	-1.468	25	.155	-1.711	1.165	-4.111	.690
	E.V. not assumed			-1.952	24.746	.062	-1.711	.876	-3.516	.095
AV12	E.V. assumed	2.024	.167	-.021	25	.984	-.026	1.264	-2.629	2.576

				t	df	Sig.				
	E.V. not assumed			-.019	11.044	.985	-.026	1.383	-3.068	3.015
AV13	E.V. assumed	.001	.979	-.186	25	.854	-.250	1.342	-3.014	2.514
	E.V. not assumed			-.181	12.502	.859	-.250	1.378	-3.239	2.739
AV14	E.V. assumed	9.743	.005	2.045	25	.051	2.526	1.235	-.018	5.070
	E.V. not assumed			2.436	20.233	.024	2.526	1.037	.364	4.688
AV15	E.V. assumed	5.001	.035	-1.043	25	.307	-1.480	1.420	-4.404	1.444
	E.V. not assumed			-1.108	15.230	.285	-1.480	1.335	-4.323	1.362
AV17	E.V. assumed	.383	.542	-.011	25	.991	-.013	1.172	-2.426	2.400
	E.V. not assumed			-.011	13.650	.991	-.013	1.155	-2.496	2.470
AV18	E.V. assumed	.815	.375	-1.417	25	.169	-1.658	1.170	-4.067	.751
	E.V. not assumed			-1.501	15.085	.154	-1.658	1.105	-4.011	.695
AV19	E.V. assumed	.032	.859	-.033	25	.974	-.039	1.212	-2.535	2.456
	E.V. not assumed			-.031	12.220	.975	-.039	1.258	-2.775	2.696
AV20	E.V. assumed	5.001	.035	1.043	25	.307	1.480	1.420	-1.444	4.404
	E.V. not assumed			1.108	15.230	.285	1.480	1.335	-1.362	4.323
AV21	E.V. assumed	9.824	.004	1.452	25	.159	1.553	1.069	-.650	3.755
	E.V. not assumed			1.883	24.079	.072	1.553	.824	-.149	3.254
AV22	E.V. assumed	.045	.833	.304	25	.764	.230	.757	-1.329	1.789
	E.V. not assumed			.311	13.915	.760	.230	.740	-1.358	1.818
AV23	E.V. assumed	.002	.961	.000	25	1.000	.000	1.227	-2.528	2.528
	E.V. not assumed			.000	12.860	1.000	.000	1.243	-2.689	2.689
AV24	E.V. assumed	5.103	.033	-1.102	25	.281	-1.401	1.272	-4.020	1.218
	E.V. not assumed			-1.226	17.059	.237	-1.401	1.143	-3.812	1.009
AV25	E.V. assumed	4.366	.047	.691	25	.496	.816	1.180	-1.615	3.247
	E.V. not assumed			.603	10.204	.559	.816	1.352	-2.188	3.820
AV26	E.V. assumed	1.320	.261	.592	25	.559	.842	1.422	-2.086	3.770
	E.V. not assumed			.610	14.119	.552	.842	1.381	-2.117	3.802
AV27	E.V. assumed	4.036	.055	1.360	25	.186	1.651	1.215	-.850	4.153
	E.V. not assumed			1.479	16.100	.159	1.651	1.117	-.715	4.018
AV28	E.V. assumed	.104	.749	.012	25	.991	.013	1.096	-2.245	2.271
	E.V. not assumed			.012	12.536	.991	.013	1.124	-2.425	2.451
AV29	E.V. assumed	14.264	.001	1.791	25	.085	1.993	1.113	-.299	4.285
	E.V. not assumed			2.517	24.620	.019	1.993	.792	.361	3.626
AV30	E.V. assumed	7.375	.012	1.705	25	.101	1.987	1.166	-.414	4.387
	E.V. not assumed			2.118	22.300	.046	1.987	.938	.043	3.931
AV31	E.V. assumed	.122	.730	-.315	25	.756	-.375	1.192	-2.829	2.079
	E.V. not assumed			-.302	12.157	.767	-.375	1.240	-3.073	2.323
AV32	E.V. assumed	5.799	.024	1.547	25	.134	1.947	1.259	-.645	4.540
	E.V. not assumed			1.722	17.058	.103	1.947	1.131	-.438	4.333
AV33	E.V. assumed	7.698	.010	1.835	25	.078	2.316	1.262	-.283	4.915
	E.V. not assumed			2.045	17.113	.057	2.316	1.132	-.072	4.704
AV34	E.V. assumed	7.566	.011	1.724	25	.097	2.138	1.240	-.417	4.693
	E.V. not assumed			1.917	17.038	.072	2.138	1.115	-.214	4.491

AV35	E.V. assumed	7.698	.010	1.835	25	.078	2.316	1.262	-.283	4.915
	E.V. not assumed			2.045	17.113	.057	2.316	1.132	-.072	4.704
AV36	E.V. assumed	6.853	.015	1.893	25	.070	2.368	1.251	-.209	4.946
	E.V. not assumed			2.100	16.938	.051	2.368	1.128	-.011	4.748
AV37	E.V. assumed	.292	.594	.848	25	.404	.816	.961	-1.164	2.796
	E.V. not assumed			.851	13.325	.410	.816	.958	-1.249	2.881
AV38	E.V. assumed	.002	.968	.512	25	.613	.526	1.028	-1.591	2.644
	E.V. not assumed			.497	12.411	.628	.526	1.059	-1.773	2.826
AV39	E.V. assumed	.617	.439	-.838	25	.410	-.980	1.170	-3.390	1.429
	E.V. not assumed			-.770	11.150	.457	-.980	1.273	-3.779	1.818
AV40	E.V. assumed	1.538	.226	.464	25	.647	.395	.850	-1.357	2.146
	E.V. not assumed			.392	9.678	.704	.395	1.007	-1.860	2.649
AV41	E.V. assumed	7.510	.011	1.749	25	.093	1.658	.948	-.295	3.611
	E.V. not assumed			2.179	22.437	.040	1.658	.761	.082	3.234
AV42	E.V. assumed	34.518	.000	1.873	25	.073	2.105	1.124	-.210	4.420
	E.V. not assumed			2.920	18.000	.009	2.105	.721	.590	3.620
AV43	E.V. assumed	7.375	.012	1.705	25	.101	1.987	1.166	-.414	4.387
	E.V. not assumed			2.118	22.300	.046	1.987	.938	.043	3.931
AV44	E.V. assumed	.170	.683	1.421	25	.168	.895	.630	-.402	2.191
	E.V. not assumed			1.276	10.700	.229	.895	.701	-.654	2.443
AV45	E.V. assumed	.014	.907	.473	25	.640	.546	1.154	-1.831	2.923
	E.V. not assumed			.472	13.164	.645	.546	1.157	-1.950	3.042
AV46	E.V. assumed	.563	.460	1.657	25	.110	2.118	1.278	-.514	4.751
	E.V. not assumed			1.664	13.342	.119	2.118	1.273	-.625	4.861
AV47	E.V. assumed	22.017	.000	-1.621	25	.118	-1.974	1.218	-4.482	.535
	E.V. not assumed			-2.180	24.922	.039	-1.974	.905	-3.838	-.109
AV48	E.V. assumed	1.924	.178	.998	25	.328	1.184	1.186	-1.259	3.628
	E.V. not assumed			1.106	16.868	.284	1.184	1.071	-1.076	3.445
AV49	E.V. assumed	.001	.981	.016	25	.988	.020	1.258	-2.571	2.610
	E.V. not assumed			.016	12.891	.988	.020	1.273	-2.732	2.772
AV51	E.V. assumed	.003	.959	-.091	25	.928	-.112	1.226	-2.637	2.413
	E.V. not assumed			-.090	12.859	.930	-.112	1.242	-2.798	2.574
AV52	E.V. assumed	4.782	.038	-1.408	25	.171	-1.618	1.149	-3.986	.749
	E.V. not assumed			-1.607	18.190	.125	-1.618	1.007	-3.732	.496
AV53	E.V. assumed	4.136	.053	.733	25	.470	.730	.996	-1.321	2.782
	E.V. not assumed			.633	10.014	.541	.730	1.154	-1.841	3.302
AV54	E.V. assumed	.050	.825	-.641	25	.527	-.559	.872	-2.355	1.236
	E.V. not assumed			-.636	12.969	.536	-.559	.880	-2.460	1.342
AV55	E.V. assumed	.187	.669	1.351	25	.189	1.066	.789	-.559	2.691
	E.V. not assumed			1.305	12.295	.216	1.066	.817	-.709	2.840
AV56	E.V. assumed	4.572	.042	-1.299	25	.206	-.993	.765	-2.568	.581
	E.V. not assumed			-1.660	23.522	.110	-.993	.599	-2.230	.243
AV57	E.V. assumed	.476	.496	.597	25	.556	.447	.749	-1.095	1.990

	E.V. not assumed			.675	17.702	.509	.447	.663	-.948	1.842
AV58	E.V. assumed	25.081	.000	-1.623	25	.117	-1.789	1.103	-4.061	.482
	E.V. not assumed			-2.530	18.000	.021	-1.789	.707	-3.276	-.303
AV59	E.V. assumed	.010	.919	.418	25	.680	.362	.866	-1.422	2.145
	E.V. not assumed			.434	14.414	.671	.362	.834	-1.421	2.145
AV60	E.V. assumed	.346	.561	.219	25	.828	.224	1.019	-1.876	2.323
	E.V. not assumed			.207	11.730	.839	.224	1.080	-2.136	2.583
AV61	E.V. assumed	1.018	.323	.465	25	.646	.586	1.259	-2.007	3.178
	E.V. not assumed			.438	11.693	.669	.586	1.336	-2.334	3.505
AV62	E.V. assumed	.007	.933	-.430	25	.671	-.566	1.316	-3.275	2.144
	E.V. not assumed			-.428	13.066	.676	-.566	1.323	-3.422	2.291
AV63	E.V. assumed	34.518	.000	-1.873	25	.073	-2.105	1.124	-4.420	.210
	E.V. not assumed			-2.920	18.000	.009	-2.105	.721	-3.620	-.590
AV64	E.V. assumed	.053	.820	.173	25	.864	.171	.991	-1.869	2.211
	E.V. not assumed			.164	11.929	.872	.171	1.041	-2.098	2.440
AV65	E.V. assumed	.049	.826	.357	25	.724	.493	1.383	-2.355	3.342
	E.V. not assumed			.352	12.847	.731	.493	1.402	-2.539	3.526
AV66	E.V. assumed	14.912	.001	2.106	25	.045	2.414	1.147	.053	4.776
	E.V. not assumed			2.975	24.464	.007	2.414	.812	.741	4.088
AV67	E.V. assumed	.032	.859	-.702	25	.489	-.507	.722	-1.993	.980
	E.V. not assumed			-.698	13.080	.497	-.507	.725	-2.072	1.059
AV68	E.V. assumed	.563	.460	-1.657	25	.110	-2.118	1.278	-4.751	.514
	E.V. not assumed			-1.664	13.342	.119	-2.118	1.273	-4.861	.625
AV69	E.V. assumed	3.899	.059	.750	25	.460	.908	1.210	-1.584	3.400
	E.V. not assumed			.821	16.357	.423	.908	1.106	-1.432	3.247
AV70	E.V. assumed	4.153	.052	-1.864	25	.074	-1.414	.759	-2.977	.148
	E.V. not assumed			-2.376	23.419	.026	-1.414	.595	-2.645	-.184
AV71	E.V. assumed	.844	.367	.735	25	.469	.980	1.335	-1.768	3.729
	E.V. not assumed			.693	11.727	.502	.980	1.414	-2.109	4.070
AV72	E.V. assumed	2.638	.117	1.946	25	.063	1.605	.825	-.094	3.304
	E.V. not assumed			2.450	22.903	.022	1.605	.655	.249	2.961
AV73	E.V. assumed	55.729	.000	2.429	25	.023	2.579	1.062	.392	4.765
	E.V. not assumed			3.787	18.000	.001	2.579	.681	1.148	4.010
AV74	E.V. assumed	4.324	.048	.060	25	.953	.046	.766	-1.531	1.623
	E.V. not assumed			.050	9.552	.961	.046	.915	-2.005	2.097
AV75	E.V. assumed	4.217	.051	.826	25	.417	.908	1.099	-1.356	3.172
	E.V. not assumed			.986	20.344	.336	.908	.921	-1.011	2.827
BV01	E.V. assumed	2.132	.157	2.088	25	.047	1.086	.520	.015	2.156
	E.V. not assumed			2.531	21.098	.019	1.086	.429	.194	1.977
BV02	E.V. assumed	4.291	.049	.844	25	.407	.263	.312	-.379	.905
	E.V. not assumed			.996	19.765	.332	.263	.264	-.289	.815
BV03	E.V. assumed	2.419	.132	2.333	25	.028	.987	.423	.116	1.858
	E.V. not assumed			2.781	20.287	.011	.987	.355	.247	1.726

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
BV05	E.V. assumed	.001	.981	1.562	25	.131	.513	.328	-.163	1.190
	E.V. not assumed			1.443	11.254	.176	.513	.356	-.268	1.294
BV06	E.V. assumed	.052	.822	-1.427	25	.166	-.461	.323	-1.125	.204
	E.V. not assumed			-1.303	11.019	.219	-.461	.354	-1.239	.317
BV07	E.V. assumed	.076	.785	-.962	25	.345	-.250	.260	-.785	.285
	E.V. not assumed			-1.116	18.946	.278	-.250	.224	-.719	.219
BV08	E.V. assumed	.871	.359	.000	25	1.000	.000	.119	-.246	.246
	E.V. not assumed			.000	18.000	1.000	.000	.076	-.161	.161
BV09	E.V. assumed	2.069	.163	.499	25	.622	.178	.356	-.555	.911
	E.V. not assumed			.696	24.800	.493	.178	.255	-.348	.704
BV10	E.V. assumed	4.291	.049	.844	25	.407	.263	.312	-.379	.905
	E.V. not assumed			.996	19.765	.332	.263	.264	-.289	.815
BV11	E.V. assumed	.437	.515	1.427	25	.166	.461	.323	-.204	1.125
	E.V. not assumed			1.493	14.662	.157	.461	.308	-.198	1.119
BV12	E.V. assumed	8.384	.008	-.491	25	.627	-.158	.321	-.820	.504
	E.V. not assumed			-.766	18.000	.454	-.158	.206	-.591	.275
BV13	E.V. assumed	4.006	.056	-.836	25	.411	-.230	.275	-.797	.337
	E.V. not assumed			-1.095	24.354	.284	-.230	.210	-.664	.204
BV14	E.V. assumed	2.095	.160	.917	25	.368	.283	.309	-.353	.918
	E.V. not assumed			1.238	24.955	.227	.283	.229	-.188	.754
BV15	E.V. assumed	.040	.844	-.519	25	.608	-.105	.203	-.523	.312
	E.V. not assumed			-.487	11.584	.636	-.105	.216	-.578	.368
BV17	E.V. assumed	3.238	.084	-.668	25	.511	-.322	.483	-1.317	.672
	E.V. not assumed			-.559	9.548	.589	-.322	.577	-1.617	.972
BV18	E.V. assumed	.441	.513	.712	25	.483	.257	.361	-.486	.999
	E.V. not assumed			.769	15.843	.453	.257	.334	-.451	.965
BV19	E.V. assumed	2.365	.137	1.395	25	.175	.408	.292	-.194	1.010
	E.V. not assumed			1.700	21.361	.104	.408	.240	-.091	.906
BV20	E.V. assumed	.072	.791	.237	25	.815	.053	.222	-.405	.510
	E.V. not assumed			.235	12.990	.818	.053	.224	-.431	.537
BV21	E.V. assumed	.245	.625	-1.395	25	.175	-.408	.292	-1.010	.194
	E.V. not assumed			-1.379	12.900	.191	-.408	.296	-1.047	.231
BV22	E.V. assumed	.433	.517	.986	25	.334	.697	.707	-.760	2.154
	E.V. not assumed			.934	11.836	.369	.697	.746	-.931	2.326
BV23	E.V. assumed	2.769	.109	.331	25	.744	.138	.418	-.722	.998
	E.V. not assumed			.408	21.948	.687	.138	.339	-.564	.841
BV24	E.V. assumed	4.219	.051	.034	25	.973	.013	.388	-.786	.812
	E.V. not assumed			.045	24.826	.964	.013	.290	-.585	.611
BV25	E.V. assumed	12.595	.002	.496	25	.625	.263	.531	-.830	1.357
	E.V. not assumed			.773	18.000	.450	.263	.341	-.453	.979
BV26	E.V. assumed	.207	.653	.108	25	.915	.020	.182	-.355	.395
	E.V. not assumed			.121	17.103	.905	.020	.163	-.325	.364
BV27	E.V. assumed	2.174	.153	-.034	25	.973	-.013	.388	-.812	.786

		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff	Std. Error Diff	Lower	Upper
	E.V. not assumed			-.045	24.826	.964	-.013	.290	-.611	.585
BV28	E.V. assumed	8.356	.008	1.334	25	.194	.349	.261	-.190	.887
	E.V. not assumed			1.718	23.829	.099	.349	.203	-.070	.768
BV29	E.V. assumed	.019	.891	-.069	25	.946	-.013	.192	-.408	.382
	E.V. not assumed			-.068	12.948	.947	-.013	.194	-.432	.406
BV30	E.V. assumed	.376	.545	-1.742	25	.094	-.493	.283	-1.077	.090
	E.V. not assumed			-1.790	14.066	.095	-.493	.276	-1.084	.097
BV31	E.V. assumed	3.771	.064	1.536	25	.137	.461	.300	-.157	1.078
	E.V. not assumed			1.889	21.838	.072	.461	.244	-.045	.966
BV32	E.V. assumed	2.200	.151	.080	25	.937	.020	.248	-.491	.531
	E.V. not assumed			.101	23.151	.921	.020	.196	-.385	.425
BV33	E.V. assumed	5.387	.029	.000	25	1.000	.000	.238	-.491	.491
	E.V. not assumed			.000	18.000	1.000	.000	.153	-.321	.321
BV34	E.V. assumed	1.520	.229	.189	25	.852	.053	.279	-.522	.627
	E.V. not assumed			.212	17.384	.835	.053	.249	-.471	.577
BV35	E.V. assumed	5.387	.029	.000	25	1.000	.000	.238	-.491	.491
	E.V. not assumed			.000	18.000	1.000	.000	.153	-.321	.321
BV36	E.V. assumed	8.728	.007	-.447	25	.658	-.105	.235	-.590	.379
	E.V. not assumed			-.697	18.000	.494	-.105	.151	-.422	.212
BV37	E.V. assumed	3.208	.085	.932	25	.360	.717	.770	-.868	2.303
	E.V. not assumed			1.125	20.930	.273	.717	.637	-.609	2.043
BV38	E.V. assumed	.750	.395	-.372	25	.713	-.191	.513	-1.247	.865
	E.V. not assumed			-.332	10.578	.746	-.191	.575	-1.462	1.080
BV39	E.V. assumed	.615	.440	-.688	25	.498	-.270	.392	-1.078	.538
	E.V. not assumed			-.775	17.610	.449	-.270	.348	-1.002	.463
BV40	E.V. assumed	2.209	.150	2.448	25	.022	.829	.339	.132	1.526
	E.V. not assumed			2.629	15.599	.019	.829	.315	.159	1.499
BV41	E.V. assumed	1.941	.176	.000	25	1.000	.000	.446	-.919	.919
	E.V. not assumed			.000	24.807	1.000	.000	.334	-.689	.689
BV42	E.V. assumed	2.555	.123	-.364	25	.719	-.053	.145	-.351	.245
	E.V. not assumed			-.567	18.000	.578	-.053	.093	-.248	.142
BV43	E.V. assumed	.376	.545	-1.742	25	.094	-.493	.283	-1.077	.090
	E.V. not assumed			-1.790	14.066	.095	-.493	.276	-1.084	.097
BV44	E.V. assumed	1.788	.193	1.109	25	.278	.809	.730	-.694	2.312
	E.V. not assumed			1.218	16.516	.240	.809	.664	-.596	2.214
BV45	E.V. assumed	1.058	.313	-2.334	25	.028	-.849	.364	-1.598	-.100
	E.V. not assumed			-2.533	16.017	.022	-.849	.335	-1.559	-.138
BV46	E.V. assumed	.000	.986	-.162	25	.873	-.053	.326	-.724	.619
	E.V. not assumed			-.164	13.616	.872	-.053	.322	-.744	.639
BV47	E.V. assumed	.449	.509	.885	25	.384	.303	.342	-.401	1.007
	E.V. not assumed			.955	15.795	.354	.303	.317	-.370	.975
BV48	E.V. assumed	.966	.335	.768	25	.450	.230	.300	-.388	.848
	E.V. not assumed			.695	10.853	.502	.230	.331	-.500	.961

BV49	E.V. assumed	.011	.919	-.043	25	.966	-.013	.306	-.644	.617
	E.V. not assumed			-.044	13.687	.966	-.013	.301	-.661	.635
BV51	E.V. assumed	.073	.790	-1.384	25	.179	-.559	.404	-1.391	.273
	E.V. not assumed			-1.251	10.832	.237	-.559	.447	-1.545	.426
BV52	E.V. assumed	.973	.333	-.471	25	.642	-.145	.307	-.778	.488
	E.V. not assumed			-.585	22.268	.565	-.145	.248	-.658	.368
BV53	E.V. assumed	3.339	.080	1.625	25	.117	.717	.441	-.192	1.626
	E.V. not assumed			2.044	22.865	.053	.717	.351	-.009	1.443
BV54	E.V. assumed	.932	.344	1.345	25	.191	.539	.401	-.287	1.366
	E.V. not assumed			1.400	14.506	.182	.539	.385	-.284	1.363
BV55	E.V. assumed	2.035	.166	1.584	25	.126	1.178	.744	-.354	2.709
	E.V. not assumed			1.886	20.231	.074	1.178	.624	-.124	2.479
BV56	E.V. assumed	8.365	.008	.956	25	.348	.296	.310	-.342	.934
	E.V. not assumed			1.291	24.963	.208	.296	.229	-.176	.768
BV57	E.V. assumed	.068	.797	1.732	25	.096	.993	.574	-.188	2.175
	E.V. not assumed			1.628	11.637	.130	.993	.610	-.341	2.328
BV58	E.V. assumed	.770	.389	-.724	25	.476	-.197	.272	-.758	.364
	E.V. not assumed			-.686	11.805	.506	-.197	.288	-.826	.431
BV59	E.V. assumed	.794	.381	1.458	25	.157	.974	.668	-.401	2.349
	E.V. not assumed			1.617	16.898	.124	.974	.602	-.297	2.245
BV60	E.V. assumed	1.401	.248	-1.474	25	.153	-.533	.362	-1.278	.212
	E.V. not assumed			-1.863	23.086	.075	-.533	.286	-1.124	.059
BV61	E.V. assumed	.492	.489	-.447	25	.658	-.105	.235	-.590	.379
	E.V. not assumed			-.459	13.987	.653	-.105	.229	-.597	.387
BV62	E.V. assumed	4.722	.039	-.642	25	.527	-.211	.328	-.886	.465
	E.V. not assumed			-.773	20.812	.448	-.211	.272	-.777	.356
BV63	E.V. assumed	2.555	.123	.364	25	.719	.053	.145	-.245	.351
	E.V. not assumed			.567	18.000	.578	.053	.093	-.142	.248
BV64	E.V. assumed	.155	.697	1.135	25	.267	.289	.255	-.236	.815
	E.V. not assumed			1.216	15.534	.242	.289	.238	-.216	.795
BV65	E.V. assumed	.223	.641	-1.414	25	.170	-.303	.214	-.743	.138
	E.V. not assumed			-1.490	14.911	.157	-.303	.203	-.736	.131
BV66	E.V. assumed	.493	.489	-.330	25	.744	-.066	.200	-.477	.345
	E.V. not assumed			-.334	13.616	.743	-.066	.197	-.489	.358
BV67	E.V. assumed	.011	.917	1.636	25	.114	1.020	.623	-.264	2.303
	E.V. not assumed			1.589	12.425	.137	1.020	.642	-.373	2.413
BV68	E.V. assumed	.000	.986	.162	25	.873	.053	.326	-.619	.724
	E.V. not assumed			.164	13.616	.872	.053	.322	-.639	.744
BV69	E.V. assumed	.271	.607	1.395	25	.175	.408	.292	-.194	1.010
	E.V. not assumed			1.379	12.900	.191	.408	.296	-.231	1.047
BV70	E.V. assumed	4.590	.042	2.003	25	.056	.809	.404	-.023	1.641
	E.V. not assumed			2.438	21.332	.024	.809	.332	.120	1.499
BV71	E.V. assumed	5.265	.030	.792	25	.436	.243	.307	-.390	.876

	E.V. not assumed			1.068	24.946	.296	.243	.228	-.226	.713
BV72	E.V. assumed	2.511	.126	2.272	25	.032	1.349	.594	.126	2.571
	E.V. not assumed			2.710	20.317	.013	1.349	.498	.311	2.386
BV73	E.V. assumed	12.942	.001	1.100	25	.282	.211	.191	-.184	.605
	E.V. not assumed			1.714	18.000	.104	.211	.123	-.047	.469
BV74	E.V. assumed	4.058	.055	1.980	25	.059	.914	.462	-.037	1.866
	E.V. not assumed			2.529	23.519	.019	.914	.362	.167	1.662
BV75	E.V. assumed	.102	.752	-1.833	25	.079	-.691	.377	-1.467	.085
	E.V. not assumed			-1.807	12.815	.094	-.691	.382	-1.518	.136