

APPENDIX D

ANOVA TABLE AND PROCEDURE - DEPENDENT VARIABLE Y

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	2	150753891980	75376945990	12.05	<.0001
Error	42	262642564725	6253394398.2		
Corrected Total	44	413396456705			

Level of Group	N	Y	
		Mean	Std Dev
1	16	416274.750	18953.787
2	12	482001.167	50745.716
3	17	337431.588	119615.914

APPENDIX E

THE BONFERRONI (DUNN) T TESTS FOR Y

Comparisons significant at the 0.05 level are indicated by ***.				
Group Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
2 – 1	65726	-9579	141032	
2 – 3	144570	70220	218919	***
1 – 2	-65726	-141032	9579	
1 – 3	78843	10157	147529	***
3 – 2	-144570	-218919	-70220	***
3 – 1	-78843	-147529	-10157	***

APPENDIX F

TUKEY'S STUDENTIZED RANGE (HSD) TEST FOR Y

Comparisons significant at the 0.05 level are indicated by ***.				
Group Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
2 – 1	65726	-7641	139094	
2 – 3	144570	72133	217006	***
1 – 2	-65726	-139094	7641	
1 – 3	78843	11925	145762	***
3 – 2	-144570	-217006	-72133	***
3 – 1	-78843	-145762	-11925	***

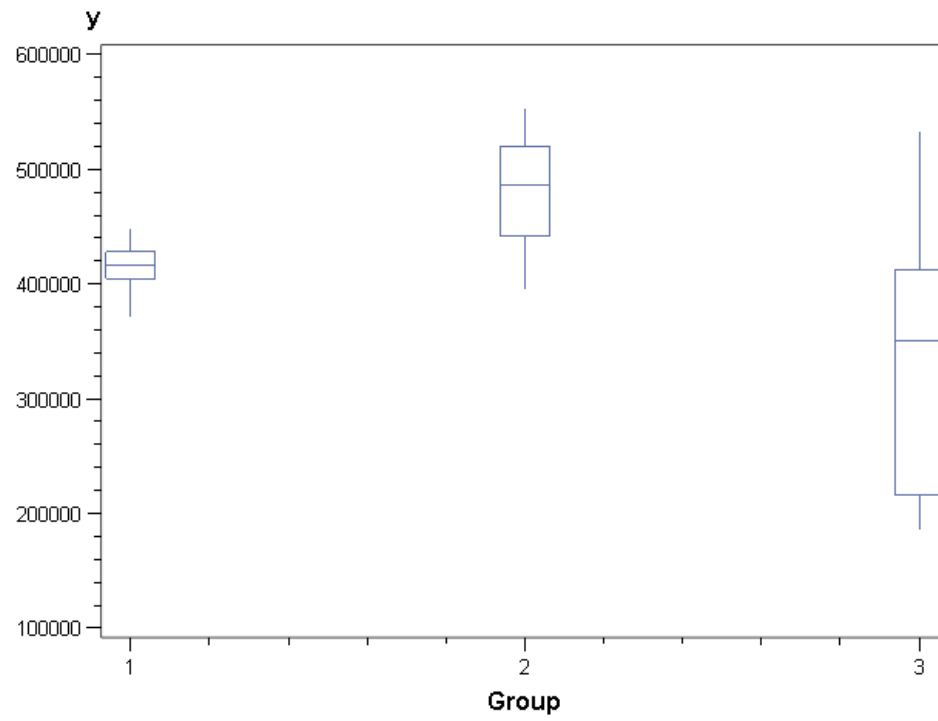
APPENDIX G

SCHEFFE'S TEST FOR Y

Comparisons significant at the 0.05 level are indicated by ***.				
Group Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
2 – 1	65726	-10908	142361	
2 – 3	144570	68907	220232	***
1 – 2	-65726	-142361	10908	
1 – 3	78843	8944	148742	***
3 – 2	-144570	-220232	-68907	***
3 – 1	-78843	-148742	-8944	***

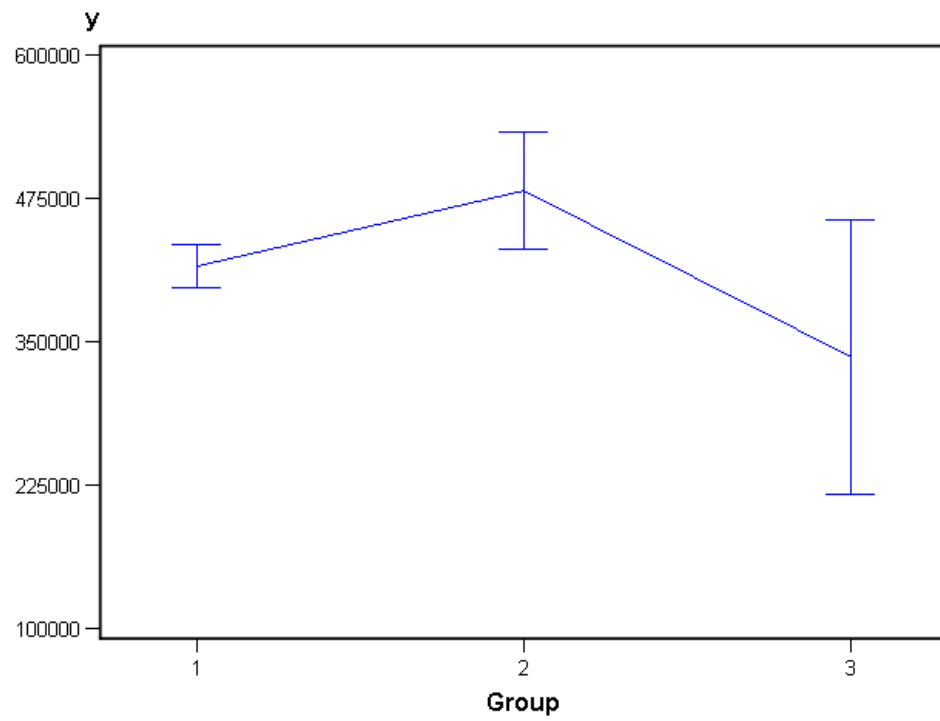
APPENDIX H

BOX AND WHISKER PLOT FOR Y



APPENDIX I

PLOT OF MEANS FOR Y



APPENDIX J1

ANALYSIS OF VARIANCE (ANOVA) TABLE AND COEFFICIENT OF DETERMINATION FOR 1960-2004 (OVERALL PERIOD)

OVERALL REGRESSION DONE INDIVIDUALLY 1960-2004 (OVERALL PERIOD)

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	396426	26642	14.88	<.0001
X1	X1	1	31.01306	91.05874	0.34	0.7351

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	463441	14341	32.32	<.0001
X2	X2	1	-77.79133	12.59042	-6.18	<.0001

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	377796	35598	10.61	<.0001
X3	X3	1	11.77478	14.59834	0.81	0.4243

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	468856	16668	28.13	<.0001
X4	X4	1	-500.54230	94.18908	-5.31	<.0001

APPENDIX J1 (Continue)

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	274577	39426	6.96	<.0001
X5	X5	1	257.47332	74.09746	3.47	0.0012

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	346545	36713	9.44	<.0001
X6	X6	1	7109.08443	4190.40544	1.70	0.0970

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	467478	13691	34.15	<.0001
X7	X7	1	-660.26251	96.19669	-6.86	<.0001

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	399732	81233	4.92	<.0001
X8	X8	1	13.99023	260.90669	0.05	0.9575

APPENDIX J1 (Continue)

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	404130	22316	18.11	<.0001
X9	X9	1	-3.36235	501.87585	-0.01	0.9947

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	338756	20300	16.69	<.0001
X10	X10	1	328.11355	80.71922	4.06	0.0002

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	192039	72142	2.66	0.0109
X11	X11	1	2.50349	0.83740	2.99	0.0046

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	159760	53370	2.99	0.0046
X12	X12	1	2.73828	0.58329	4.69	<.0001

APPENDIX J1 (Continue)

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	223681	49800	4.49	<.0001
X13	X13	1	0.26501	0.07077	3.74	0.0005

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	-953786	215214	-4.43	<.0001
X14	X14	1	38.24635	6.05486	6.32	<.0001

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	597399	59152	10.10	<.0001
X15	X15	1	-111983	33414	-3.35	0.0017

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	641256	29356	21.84	<.0001
X16	X16	1	-1064.06855	125.41627	-8.48	<.0001

APPENDIX J1 (Continue)

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	644360	43550	14.80	<.0001
X17	X17	1	-1044.21892	183.04663	-5.70	<.0001

APPENDIX K1

REGRESSION ON SELECTED VARIABLES: 1960-2004 (OVERALL PERIOD)

(X2, X4, X5, X7, X10, X11, X12, X13, X14, X15, X16, X17)

Number of Observations Read	52
Number of Observations Used	45
Number of Observations with Missing Values	7

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	12	4.112465E11	34270539060	510.08	<.0001
Error	32	2149987988	67187125		
Corrected Total	44	4.133965E11			

Root MSE	8196.77526	<u>R-Square</u>	<u>0.9948</u>
Dependent Mean	404017	Adj R-Sq	0.9928
Coeff Var	2.02882		

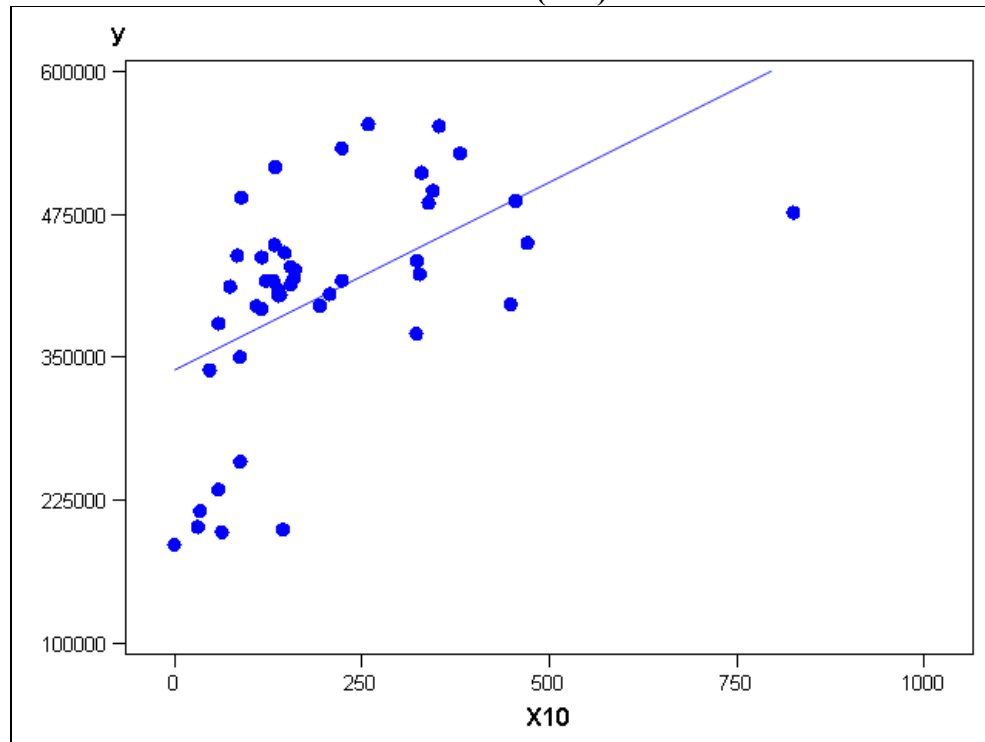
APPENDIX K2

PARAMETER ESTIMATES FOR 1960-2004
(OVERALL PERIOD)

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
<u>Intercept</u>	<u>Intercept</u>	<u>1</u>	<u>379995</u>	<u>95257</u>	<u>3.99</u>	<u>0.0004</u>
X2	X2	1	-36.30808	24.97891	-1.45	0.1558
X4	X4	1	<u>417.34725</u>	<u>192.54163</u>	<u>2.17</u>	<u>0.0377</u>
X5	X5	1	-11.86036	75.19391	-0.16	0.8757
X7	X7	1	<u>-446.88992</u>	<u>121.79582</u>	<u>-3.67</u>	<u>0.0009</u>
X10	X10	1	-25.09578	81.90635	-0.31	0.7613
X11	X11	1	<u>-5.58682</u>	<u>1.16657</u>	<u>-4.79</u>	<u><.0001</u>
X12	X12	1	<u>6.37308</u>	<u>1.11712</u>	<u>5.70</u>	<u><.0001</u>
X13	X13	1	<u>0.50293</u>	<u>0.09592</u>	<u>5.24</u>	<u><.0001</u>
X14	X14	1	0.14739	2.60571	0.06	0.9552
X15	X15	1	<u>-217838</u>	<u>36062</u>	<u>-6.04</u>	<u><.0001</u>
X16	X16	1	<u>2754.71038</u>	<u>516.63079</u>	<u>5.33</u>	<u><.0001</u>
X17	X17	1	<u>-2734.05840</u>	<u>483.42594</u>	<u>-5.66</u>	<u><.0001</u>

APPENDIX K3

PLOT OF EMPLOYMENT (Y) AGAINST REAL RAND WORKING PROFITS (X10)



APPENDIX K4

Actual (Observed) Employment Vs Predicted Employment

Predicted Employment	Actual (Observed) Employment
436374.643740789	437265
443604.523325964	448153
439423.984452318	441372
429041.74490446	428792
427739.368260641	426723
417956.577891271	419510
410833.12780553	413908
398589.245072586	404189
404989.386734291	408626
399745.312219671	403811
420183.038298194	416846
420200.681923937	416785
403283.338820117	405102
425863.795388159	422635
395682.006904809	396084
371779.206064993	370595
402655.143258722	395007
422427.333922632	416951
439108.320773309	434422
455088.240688891	449702
475770.095816381	476398
485639.768819138	486429
488186.477284445	484888
500620.762316381	495504
515680.933381923	511282
526669.10163814	527947
539260.09273271	551935
532351.629206751	553549
527070.404973059	532559

APPENDIX K4 (Continue)

Predicted Employment	Actual (Observed) Employment
513989.102647012	516077
493542.447641576	489541
447678.703604373	438822
422154.614644671	411686
398534.557409359	394508
399526.019663188	392327
379353.355773141	379432
353070.931351136	350050
339390.085695409	338658
251230.34412602	258821
238923.041622772	234206
188456.749012324	215450
205454.02320323	201698
204420.380211369	199311
203306.214489698	197059
185898.142284479	186132

APPENDIX L1

REGRESSION ON SELECTED VARIABLES ONLY FOR PERIOD 1

(X2, X4, X5, X7, X10, X11, X12, X13, X14, X15, X16, X17)

Model: Linear_Regression_Model

Dependent Variable: y

Number of Observations Read	16
-----------------------------	----

Number of Observations Used	16
-----------------------------	----

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	12	5388321866	449026822	3651.84	<.0001
Error	3	368877	122959		
Corrected Total	15	5388690743			

Root MSE	350.65510	<u>R-Square</u>	<u>0.9999</u>
Dependent Mean	416275	Adj R-Sq	0.9997
Coeff Var	0.08424		

APPENDIX L2

PARAMETER ESTIMATES FOR PERIOD 1

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
<u>Intercept</u>	<u>Intercept</u>	<u>1</u>	<u>442995</u>	<u>24374</u>	<u>18.18</u>	<u>0.0004</u>
X2	X2	1	69.74091	175.40808	0.40	0.7175
X4	X4	1	186.98891	400.94337	0.47	0.6727
X5	X5	1	-75.63749	56.63845	-1.34	0.2740
X7	X7	1	931.95055	398.36653	2.34	0.1013
X10	X10	1	49.87335	70.54553	0.71	0.5306
X11	X11	1	-1.53488	3.98314	-0.39	0.7257
<u>X12</u>	<u>X12</u>	<u>1</u>	<u>8.34787</u>	<u>2.61327</u>	<u>3.19</u>	<u>0.0495</u>
X13	X13	1	-0.11287	0.14973	-0.75	0.5057
X14	X14	1	0.06772	0.37129	0.18	0.8669
X15	X15	1	47177	61404	0.77	0.4982
X16	X16	1	480.56728	1711.05212	0.28	0.7971
<u>X17</u>	<u>X17</u>	<u>1</u>	<u>-3432.96383</u>	<u>1128.39308</u>	<u>-3.04</u>	<u>0.0558</u>

APPENDIX M1

REGRESSION ON SELECTED VARIABLES ONLY FOR PERIOD 2 (X2, X4, X5, X7, X10, X11, X12, X13, X14, X15, X16, X17)

Model: Linear_Regression_Model
Dependent Variable: y

Number of Observations Read	12
Number of Observations Used	12

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	28305654523	5661130905	1636.97	<.0001
Error	6	20749763	3458294		
Corrected Total	11	28326404286			

Root MSE	1859.64883	R-Square	0.9993
Dependent Mean	482001	Adj R-Sq	0.9987
Coeff Var	0.38582		

PARAMETER ESTIMATES FOR PERIOD 2

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	498471	35701	13.96	<u><.0001</u>
X2	X2	1	-18.64465	133.73056	-0.14	0.8937
X4	X4	1	602.51677	973.15863	0.62	0.5586
X5	X5	1	-43.45781	39.52370	-1.10	0.3137
X13	X13	1	0.36653	0.13505	2.71	<u>0.0349</u>
X15	X15	1	-199223	41921	-4.75	<u>0.0032</u>

APPENDIX N1

REGRESSION ON SELECTED VARIABLES ONLY FOR PERIOD 3 (X2, X4, X5, X7, X10, X11, X12, X13, X14, X15, X16, X17)

Model: Linear_Regression_Model
Dependent Variable: y y

Number of Observations Read	17
Number of Observations Used	17

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	12	2.28861E11	19071751968	1148.10	<.0001
Error	4	66446078	16611519		
Corrected Total	16	2.289275E11			

Root MSE	4075.72318	<u>R-Square</u>	<u>0.9997</u>
Dependent Mean	337432	Adj R-Sq	0.9988
Coeff Var	1.20787		

APPENDIX N2

PARAMETER ESTIMATES FOR PERIOD 3

Parameter Estimates						
Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	Intercept	1	-253372	280987	-0.90	0.4182
X2	X2	1	71.48399	30.34954	2.36	0.0781
X4	X4	1	-409.95926	198.00309	-2.07	0.1072
<u>X5</u>	<u>X5</u>	<u>1</u>	<u>643.33641</u>	<u>199.73644</u>	<u>3.22</u>	<u>0.0323</u>
	X7	1	-139.58085	383.40348	-0.36	0.7342
	X7					
X10	X10	1	-575.12555	300.82862	-1.91	0.1285
<u>X11</u>	<u>X11</u>	<u>1</u>	<u>7.23550</u>	<u>2.67412</u>	<u>2.71</u>	<u>0.0538</u>
X12	X12	1	0.86148	1.02951	0.84	0.4498
X13	X13	1	-0.46363	0.23927	-1.94	0.1247
X14	X14	1	1.19307	4.07813	0.29	0.7844
X15	X15	1	220264	99746	2.21	0.0918
X16	X16	1	-1260.35501	684.28676	-1.84	0.1393
X17	X17	1	-521.21879	381.85166	-1.36	0.2440

