Matrix Balancing Scenarios

Contents

Table of Scenarios

Iterations and balancing	Matrix structure (rows, columns, items):		
Sums by rows and sums by columns:	Rows defined by values in group row field.	Columns defined by values in group column field. *Starting matrix item is aggregated field1 value for row/column group.*	Columns selected from the list of data columns. *Starting matrix item is the value of the row/column item.*
Balance to sums by rows and sums by columns entered manually.	1a, 1b, 2a, 2b, 2c, 3a, 3b, 3c	Scenario 1a Params: Prg, Pcg, Fld1, Agf1, Msr, Msc	Scenario 1b Params: Prg, Mcs, Msr, Msc
Balance to sums by rows and sums by columns of the target matrix. *Target matrix item is aggregated field2 value for row/column group.*	1a, 1b, 2a, 2b, 2c, 3a, 3b, 3c	Scenario 2a Params: Prg, Pcg, Fld1, Agf1, Fld2, Agf2	n/a
Multiple 2a scenarios to get balancing coefficients for each selected field from the list of columns. Balance to sums by rows and sums by columns for target matrices. *Target matrix item is aggregated selected field value for row/column group.*	1a, 1b, 2a, 2b, 2c, 3a, 3b, 3c	Scenario 3a Params: Prg, Pcg, Fld1, Agf1, Mcs, AgMc	n/a
Field2 starting and target values used as condition on data to get starting and target matrices. Balance to sums by rows and sums by columns for target matrix.	1a, 1b, 2a, 2b, 2c, 3a, 3b, 3c	Scenario 2b Params: Prg, Pcg, Fld1, Agf1, Fld2, Sfld2, Tfld2	Scenario 3b Params: Prg, Mcs, Fld2, Sfld2, Tfld2
Multiple scenarios of the scenario in the row above (2b or 3b) to get balancing coefficients (2c or 3c). *Field2 starting value* used as condition on data to get starting matrix and set of target matrices defined by each *value between starting and target values of field2.*	1a, 1b, 2a, 2b, 2c, 3a, 3b, 3c	Scenario 2c Params: Prg, Pcg, Fld1, Agf1, Fld2, Sfld2, Tfld2	Scenario 3c Params: Prg, Mcs, Fld2, Sfld2, Tfld2

Introduction

Balancing the given matrix to given sums by rows and sums by columns using the number of iterations that described as proportional matrix rows adjustments to required sums and then proportional columns adjustments to required sums, resulted in matrix that maximized the entropy function of "usefulness", and this process get us the final balancing coefficients to multiply rows of starting matrix and the final balancing coefficients to multiply columns of starting matrix to receive the items of balancing matrix. Balancing matrix algorithm shows what most probable evolution of starting matrix will be for the given restrictions for sums by rows and sums by columns. Balancing matrix shows the values for cells that supposed to be reached as macro economical point of balance for target sums of rows and sums of columns.

There are eight scenarios of the balancing mechanism supported by http://OUReports.com .

Scenarios of balancing matrix to the sums by rows and sums by columns differ by the way of getting the starting matrix from original data and by the way of getting the target sums by rows and sums by columns: 1a, 1b, 2a, 2b, 2c, 3a, 3b, 3c.

Parameters: Prg, Pcg, Fld1, Agf1, Msr, Msc, Fld2, Agf2, Sfld2, Tfld2, Mcs, AgMc:

Prg - the group field for matrix rows

Pcg - the group field for matrix columns

Fld1 – the data field

Agf1 – the aggregation function for field1 values

Msr - manually entered sums by rows

Msc - manually entered sums by columns

Fld2 – the data field

Agf2 – the aggregation function for field2 values

Sfld2 – the starting value of field2

Tfld2 – the target value of field2

Mcs - multiple matrix columns

AgMc – the aggregation function for multiple matrix columns values

Scenarios:

1a: Starting Matrix of aggregated field1 values to balance by manually entered sums by rows and sums by columns.

Scenario Parameters: Prg, Pcg, Fld1, Agf1, Msr, Msc - both group fields (for rows and columns), the field1, aggregation function for field1, and manually entered sums by rows and by columns.

Starting matrix cell defined by value of the row group field and value of the column group field, and value in the cell defined by field1 values aggregated for all records where row field value and column field value are defined by this cell.

Sample: data has field “Area” and field “Industry”, field1 has values of grant applications in dollars, the aggregation function is “Sum”. Macro economical desirable values for Areas and Industries entered. Balancing matrix cell shows amount for each Area and Industry that is the macro economical point of balance satisfying macro economical requirements for Areas and Industries.

See more samples and details in 1a Scenario.

1b: Starting Matrix of rows and selected columns to balance by manually entered sums by rows and sums by columns.

Parameters: Prg, Mcs, Msc, Msr - the group field for rows, multiple matrix columns, and manually entered sums by rows and by columns.

Starting matrix cell defined by value of the row group field value and the column name, and value in the cell defined by value of the column in the row.

Sample: data has field “Area” and separate fields for each Industry, cell has values of grant applications in dollars for Area and Industry. Macro economical desirable values for Areas and Industries entered. Balancing matrix cell shows amount for each Area and Industry that is the macro economical point of balance satisfying macro economical requirements for Areas and Industries.

See more samples and details in 1b Scenario.

2a: Starting Matrix of the aggregated field1 to balance for sums of rows and columns of the Target Matrix of the aggregated field2.

Parameters: Prg, Pcg, Fld1, Agf1, Fld2, Agf2 - both group fields for rows and columns, field1, aggregation function for field1, field2, aggregation function for field2.

Starting and target matrix cell defined by value of the row group field and value of the column group field. The value in the cell of starting matrix defined by field1 values aggregated for all records where row field value and column field value are defined by this cell. The value in the cell of target matrix defined by field2 values aggregated for all records where row field value and column field value are defined by this cell.

Sample: data has field “Area” and field “Industry”, field1 has values of Gross Domestic Product in dollars in 2010, the aggregation function is “Sum”, field2 has values of Gross Domestic Product in dollars in 2020, the aggregation function is “Sum”. Desirable sums for Areas and Industries calculated based on target matrix. Balancing matrix cell shows amount for each Area and Industry that is the macro economical point of balance satisfying macro economical requirements for Areas and Industries based on 2020. Comparison of starting, target, and especially to the balancing matrix gives to analytics the information where process developed out of natural economical point of balance.

See more samples and details in 2a Scenario.

2b: The starting value of field2 to get the Starting matrix of field1 values and target value of field2 to get the Target matrix of field1 values. Balance starting matrix to sums of rows and columns of the target matrix.

Parameters: Prg, Pcg, Fld1, Agf1, Fld2, Sfld2, Tfld2 - both group fields for rows and columns, field1, aggregation function for field1, and field2 with starting and target values.

Sample: data has field “Area” and field “Industry”, field1 has values of Gross Domestic Product in dollars, the aggregation function is “Sum”, field2 has years from 2010 to 2020. Starting field2 value 2010 used as restriction to get the aggregated field1 values for starting matrix and target value 2020 of field2 used to get the aggregated field1 values for target matrix. Desirable sums for Areas and Industries calculated based on target matrix. Balancing matrix cell shows amount for each Area and Industry that is the macro economical point of balance satisfying macro economical requirements for Areas and Industries based on 2020. Comparison of starting, target, and especially to the balancing matrix gives to analytics the information where process developed out of natural economical point of balance.

See more samples and details in 2b Scenario.

2c: Get balancing coefficients for Starting Matrix of field1 for all iterations between starting and target values of the field2. Multiple 2b scenarios.

Parameters: Prg, Pcg, Fld1, Agf1, Fld2, Sfld2, Tfld2 - both group fields for rows and columns, field1, aggregation function for field1, and field2 with starting and target values.

Sample: data has field “Area” and field “Industry”, field1 has values of Gross Domestic Product in dollars, the aggregation function is “Sum”, field2 has years from 2010 to 2020. Starting field2 value 2010 used as restriction to get the aggregated field1 values for starting matrix. The scenario 2b repeated for each value of the field2 up to 2020 which used to get the aggregated field1 values for each target matrix. Desirable sums for Areas and Industries calculated based on target matrix. Balancing matrix cell shows amount for each Area and Industry that is the macro economical point of balance satisfying macro economical requirements for Areas and Industries based on sums of rows and sums of columns in target matrix. Balancing coefficients shows weights of Areas and Industries in each iteration by year. The link in the starting matrix cell opens the chart of balancing matrix values by years.

See more samples and details in 2c Scenario.

3a: Get balancing coefficients for Starting Matrix of aggregated values of field1 and multiple Target Matrices of aggregated selected fields values. Multiple 2a scenarios.

Parameters: Prg, Pcg, Fld1, Agf1, Mcs, AgMc - both group fields for rows and columns, field1, aggregation function for field1, and multiple matrix columns, aggregation function for selected matrix columns.

Starting matrix of aggregated field1 values, and target matrices of each aggregated selected field values for the same groups.

Sample: data has field “Area” and field “Industry”, field1 has values of Gross Domestic Product in dollars, the aggregation function is “Sum” for year 2010 (used for calculating the starting matrix), and separate fields have values of Gross Domestic Product in dollars for each year up to 2020 (used for calculating each target matrix for each year with aggregation function “Sum”). The scenario 2a repeated for each value of the fields up to 2020 which used to get the values for each target matrix. Desirable sums for Areas and Industries calculated based on target matrix. Balancing matrix cell shows amount for each Area and Industry that is the macro economical point of balance satisfying macro economical requirements for Areas and Industries based on sums of rows and sums of columns in target matrix. Balancing coefficients shows weights of Areas and Industries in each iteration by year. The link in the starting matrix cell opens the chart of balancing matrix values by years.

See more samples and details in 3a Scenario.

3b: Starting Matrix rows and selected multiple columns to balance from starting to target values of the field2.

Parameters: Prg, Mcs, Fld2, Sfld2, Tfld2 - group field for rows, selected multiple fields for columns of the matrix, and field2 with starting and target values.

Sample: data has field “Area” and separate fields for each Industry, field2 has years from 2010 to 2020, each cell has values of Gross Domestic Product in dollars for Area and Industry in the particular year. Starting field2 value 2010 used as restriction to get the values for starting matrix and target value 2020 of field2 used to get the values for target matrix. Desirable sums for Areas and Industries calculated based on target matrix. Balancing matrix cell shows amount for each Area and Industry that is the macro economical point of balance satisfying macro economical requirements for Areas and Industries based on 2020. Comparison of starting, target, and especially to the balancing matrix gives to analytics the information where process developed out of natural economical point of balance.

See more samples and details in 3b Scenario.

3c: Get balancing coefficients for Starting Matrix rows and selected multiple columns for all iterations between starting and target of the field2 values. Multiple 3b scenarios.

Parameters: Prg, Mcs, Fld2, Sfld2, Tfld2 - group field for rows, selected multiple fields for columns of the matrix, and field2 with starting and target values.

Sample: data has field “Area” and separate fields for each Industry, field2 has years from 2010 to 2020, each cell has values of Gross Domestic Product in dollars for Area and Industry in the particular year. Starting field2 value 2010 used as restriction to get the values for starting matrix and each value of the field2 up to 2020 used to get the values for each target matrix. The scenario 3b repeated for each value of the field2 up to 2020 which used to get the values for each target matrix. Desirable sums for Areas and Industries calculated based on each target matrix. Balancing matrix cell shows amount for each Area

and Industry that is the macro economical point of balance satisfying macro economical requirements for Areas and Industries based on sums of rows and sums of columns in target matrix. Balancing coefficients shows weights of Areas and Industries in each iteration by year. The link in the starting matrix cell opens the chart of balancing matrix values by years.

See more samples and details in 3c Scenario.

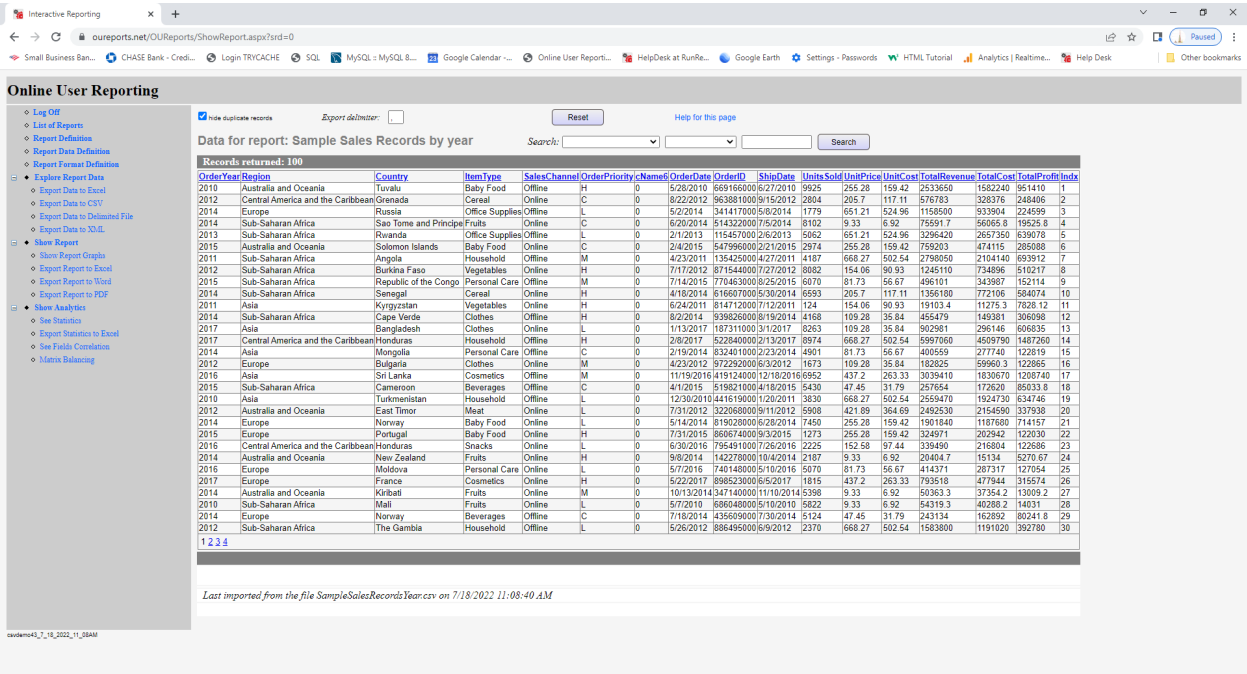
Samples of the different data structure and scenarios:

Sample reports can be open from http://OUReports.com by clicking buttons “Try It! Play” in our Sandbox or with our Analytics.

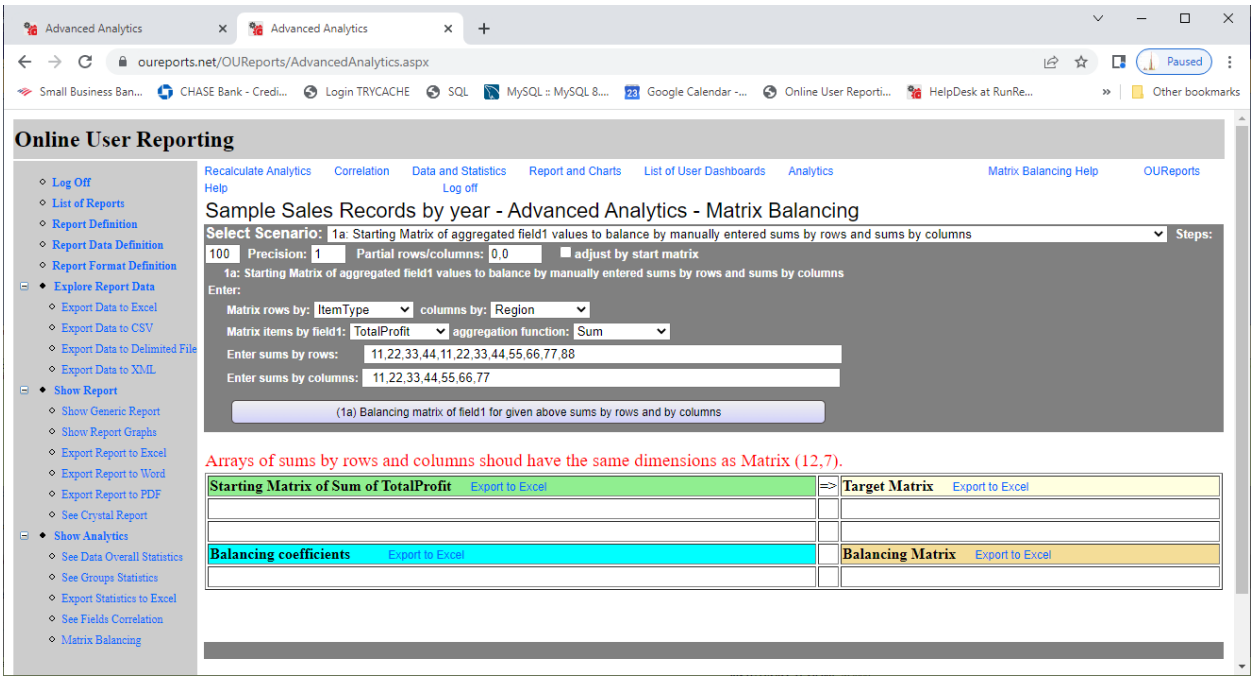
1a Scenario samples:

Report: Sample Sales Records by year in our Analytics from http://OUReports.com

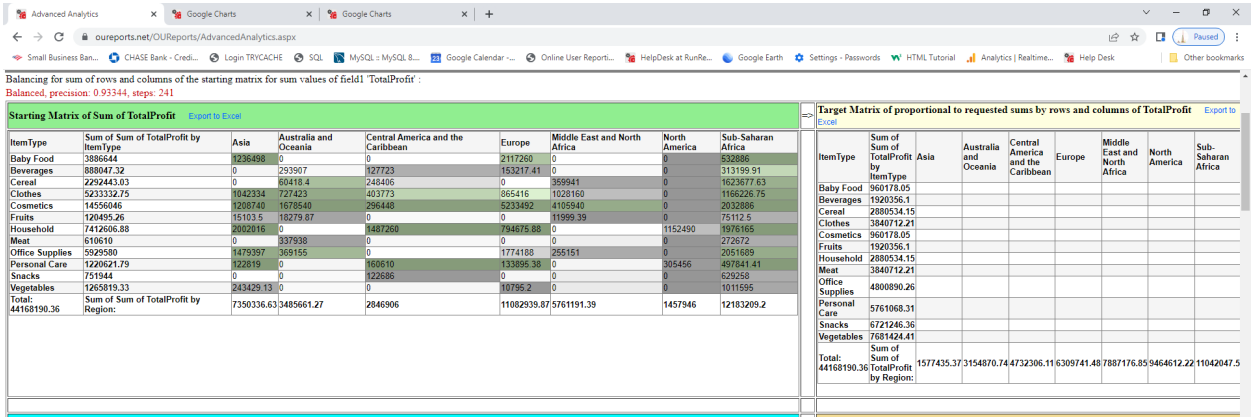
Data:



Parameters with manually entered target proportional values:

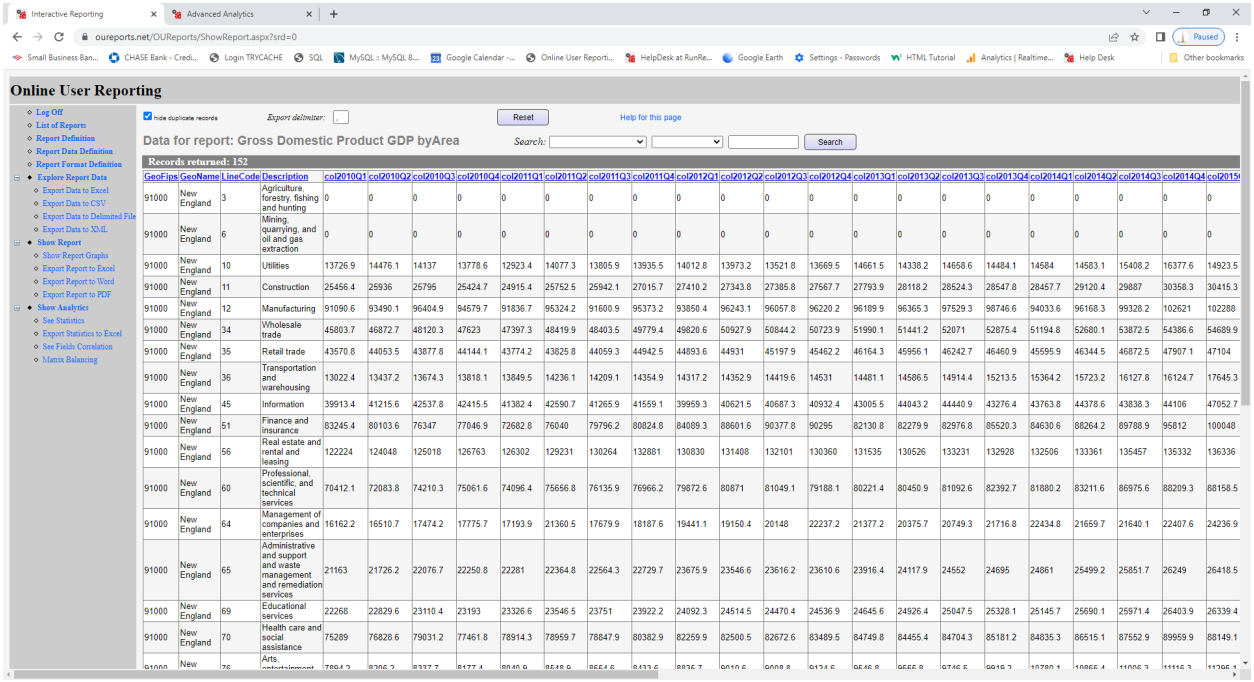


Starting, Target sums adjusted to starting overall total, and Balancing Matrix:



Report: Gross Domestic Product GDP by Area in our Analytics from http://OUReports.com

Data:



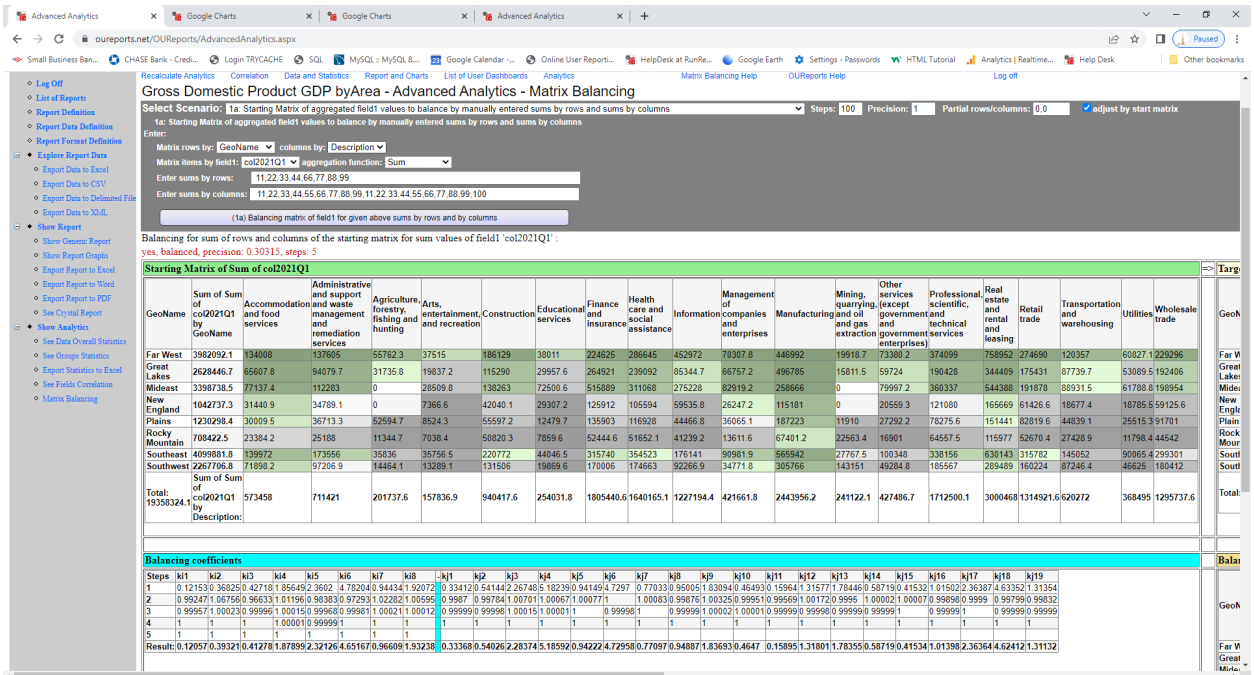
Online User Reporting

Data for report: Gross Domestic Product GDP byArea

Records returned: 152

GeoFips	GeoName	LineCode	Description	col2010Q1	col2010Q2	col2010Q3	col2010Q4	col2011Q1	col2011Q2	col2011Q3	col2011Q4	col2012Q1	col2012Q2	col2012Q3	col2012Q4	col2013Q1	col2013Q2	col2013Q3	col2013Q4	col2014Q1	col2014Q2	col2014Q3	col2014Q4	col2015
91000	New England	3	Agriculture, forestry, fishing and hunting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91000	New England	6	Mining, quarrying, and oil and gas extraction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91000	New England	10	Utilities	13726.9	14476.1	14137	13778.6	12923.4	14077.3	13805.9	13935.5	14012.8	13973.2	13521.8	13669.5	14661.5	14338.2	14658.6	14484.1	14584	14583.1	15408.2	16377.6	14923.5
91000	New England	11	Construction	25456.4	25936	25795	25424.7	24915.4	25752.5	25942.1	27015.7	27410.2	27343.8	27385.8	27567.7	27793.9	28118.2	28524.3	28547.8	28457.7	29120.4	29887	30358.3	30415.3
91000	New England	12	Manufacturing	91090.6	93490.1	96404.9	94579.7	91836.7	95324.2	91600.9	95373.2	93850.4	96243.1	96057.8	96220.2	96189.9	96365.3	97529.3	98746.6	94033.6	96168.3	99328.2	102621	102288
91000	New England	34	Wholesale trade	45803.7	46872.7	48120.3	47623	47397.3	48419.9	48403.5	49779.4	49820.6	50927.9	50844.2	50723.9	51990.1	51441.2	52071	52875.4	51194.8	52680.1	53872.5	54386.6	54689.9
91000	New England	35	Retail trade	43570.8	44053.5	43877.8	44144.1	43774.2	43825.8	44059.3	44942.5	44893.6	44931	45197.9	45462.2	46164.3	45956.1	46242.7	46460.9	45595.9	46344.5	46872.5	47907.1	47104
91000	New England	36	Transportation and warehousing	13022.4	13437.2	13674.3	13818.1	13849.5	14236.1	14209.1	14354.9	14317.2	14352.9	14419.6	14531	14481.1	14586.5	14914.4	15213.5	15364.2	15723.2	16127.8	16124.7	17645.3
91000	New England	45	Information	39913.4	41215.6	42537.8	42415.5	41382.4	42590.7	41265.9	41559.1	39959.3	40621.5	40687.3	40932.4	43005.5	44043.2	44440.9	43276.4	43763.8	44378.6	43838.3	44106	47052.7
91000	New England	51	Finance and insurance	83245.4	80103.6	76347	77046.9	72682.8	76040	79796.2	80824.8	84089.3	88601.6	90377.8	90295	82130.8	82279.9	82976.8	85520.3	84630.6	88264.2	89788.9	95812	100048
91000	New England	56	Real estate and rental and leasing	122224	124048	125018	126763	126302	129231	130264	132881	130830	131408	132101	130360	131535	130526	133231	132928	132506	133361	135457	135332	136336
91000	New England	60	Professional, scientific, and technical services	70412.1	72083.8	74210.3	75061.6	74096.4	75656.8	76135.9	76966.2	79872.6	80871	81049.1	79188.1	80221.4	80450.9	81092.6	82392.7	81880.2	83211.6	86975.6	88209.3	88158.5
91000	New England	64	Management of companies and enterprises	16162.2	16510.7	17474.2	17775.7	17193.9	21360.5	17679.9	18187.6	19441.1	19150.4	20148	22237.2	21377.2	20375.7	20749.3	21716.8	22434.8	21659.7	21640.1	22407.6	24236.9
91000	New England	65	Administrative and support and waste management and remediation services	21163	21726.2	22076.7	22250.8	22281	22364.8	22564.3	22729.7	23675.9	23546.6	23616.2	23610.6	23916.4	24117.9	24552	24695	24861	25499.2	25851.7	26249	26418.5
91000	New England	69	Educational services	22268	22829.6	23110.4	23193	23326.6	23546.5	23751	23922.2	24092.3	24514.5	24470.4	24536.9	24645.6	24926.4	25047.5	25328.1	25145.7	25690.1	25971.4	26403.9	26339.4
91000	New England	70	Health care and social assistance	75289	76828.6	79031.2	77461.8	78914.3	78959.7	78847.9	80382.9	82259.9	82500.5	82672.6	83489.5	84749.8	84455.4	84704.3	85181.2	84835.3	86515.1	87552.9	89959.9	88149.1
91000	New England	76	Arts, entertainment	7894.2	8296.2	8337.7	8177.4	8040.9	8548.9	8554.6	8433.6	8836.7	9010.6	9008.8	9124.6	9546.8	9656.8	9746.5	9919.2	10780.1	10866.4	11006.3	11116.3	11295.1

Parameters (target sums adjusted for total value in starting matrix):



Gross Domestic Product GDP byArea - Advanced Analytics - Matrix Balancing

Balancing for sum of rows and columns of the starting matrix for sum values of field1 'col2021Q1' :

yes, balanced, precision: 0.30315, steps: 5

Starting Matrix of Sum of col2021Q1

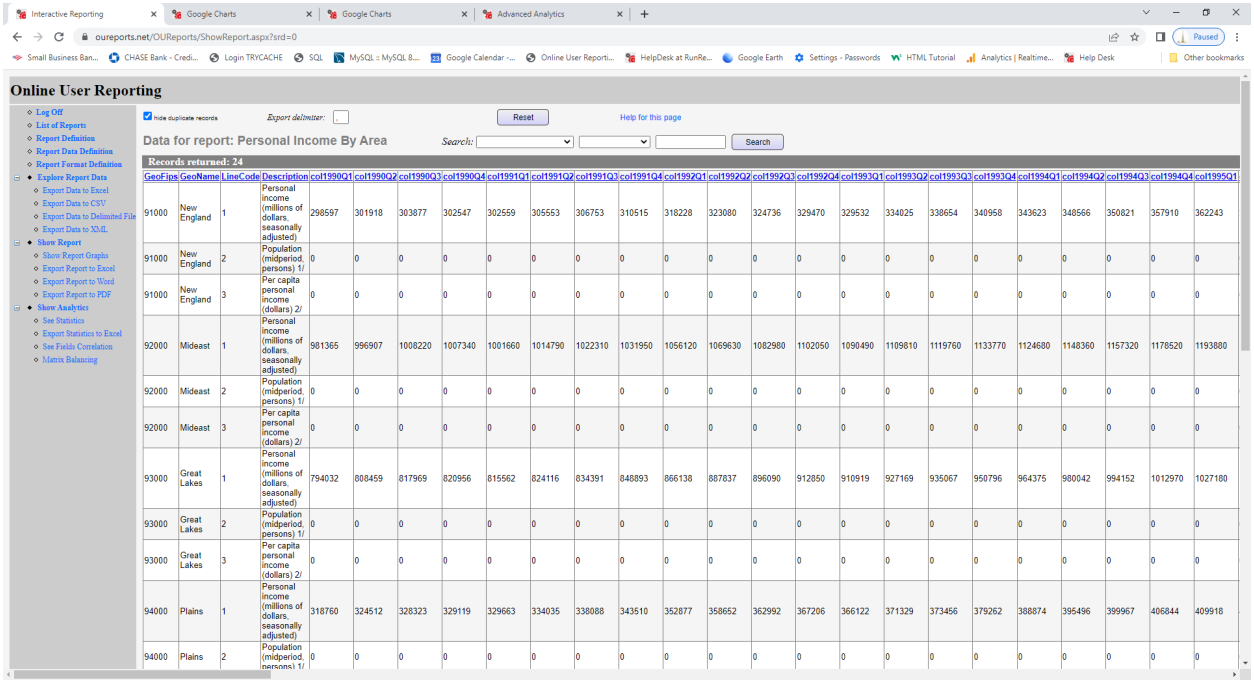
GeoName	Sum of Sum of col2021Q1 by GeoName	Accommodation and food services	Administrative and support and waste management and remediation services	Agriculture, forestry, fishing and hunting	Arts, entertainment, and recreation	Construction	Educational services	Finance and insurance	Health care and social assistance	Information	Management of companies and enterprises	Manufacturing	Mining, quarrying, and oil and gas extraction	Other services (except government and government enterprises)	Professional, scientific, and technical services	Real estate and rental and leasing	Retail trade	Transportation and warehousing	Utilities	Wholesale trade
Far West	3982092.1	134008	137505	55762.3	37515	186129	38011	224625	286645	452972	70307.8	446992	19918.7	73380.2	374099	758952	274690	120357	60827.1	229296
Great Lakes	2628446.7	65607.8	94079.7	31735.8	19837.2	115290	29957.6	264921	239092	85344.7	66757.2	496785	15811.5	59724	190428	344409	175431	87739.7	53089.5	192406
Mideast	3398738.5	77137.4	112283	0	28509.8	138263	72500.6	515889	311068	275228	82919.2	258666	0	79997.2	360337	544388	191878	88931.5	61788.8	198954
New England	1042737.3	31440.9	34789.1	0	7366.6	42040.1	29307.2	125912	105594	59535.8	26247.2	115181	0	20559.3	121080	165669	61426.6	18677.4	18785.5	59125.6
Plains	1230298.4	30009.5	36713.3	52594.7	8524.3	55597.2	12479.7	135903	116928	44466.8	36065.1	187223	11910	27292.2	78275.6	151441	82819.6	44839.1	25515.3	91701
Rocky Mountain	708422.5	23384.2	25188	11344.7	7038.4	50820.3	7859.6	52444.6	51652.1	41239.2	13611.6	67401.2	22563.4	16901	64557.5	115977	52670.4	27428.9	11798.4	44542
Southeast	4099881.8	139972	173656	35636	35756.5	220772	44046.5	315740	354523	176141	90981.9	565942	27767.5	100348	338156	630143	315782	145052	90065.4	299301
Southwest	2267706.8	71898.2	97206.9	14464.1	13289.1	131506	19869.6	170006	174663	92266.9	34771.8	305766	143151	49284.8	185567	289489	160224	87246.4	46625	180412
Total: 19358324.1	Sum of Sum of col2021Q1 by Description:	573458	711421	201737.6	157836.9	940417.6	254031.8	1805440.6	1640165.1	1227194.4	421661.8	2443956.2	241122.1	427486.7	1712500.1	3000468	1314921.6	620272	368495	1295737.6

Balancing coefficients

Steps	ki1	ki2	ki3	ki4	ki5	ki6	ki7	ki8	kj1	kj2	kj3	kj4	kj5	kj6	kj7	kj8	kj9	kj10	kj11	kj12	kj13	kj14	kj15	kj16	kj17	kj18	kj19
1	0.12153	0.36825	0.42718	1.85649	2.3602	4.78204	0.94434	1.92072	0.33412	0.54144	2.26748	5.18239	0.94149	4.7297	0.77033	0.95005	1.83094	0.46493	0.15964	1.31577	1.78446	0.58719	0.41532	1.01502	2.36387	4.63352	1.31354
2	0.99247	1.00756	0.96633	1.01196	0.98383	0.97293	1.02282	1.00595	0.9987	0.99784	1.00701	1.00067	1.00077	1	1.00083	0.99876	1.00325	0.99951	0.99569	1.00172	0.9995	1.00002	1.00007	0.99898	0.9999	0.99799	0.99832
3	0.99957	1.00023	0.99996	1.00015	0.99968	0.99981	1.00021	1.00012	0.99999	0.99998	1.00015	1.00001	1	0.99998	1	0.99999	1.00002	1.00001	0.99999	0.99998	0.99999	0.99999	1	0.99999	1	0.99999	0.99999
4	1	1	1	1.00001	0.99999	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1																			
Result:	0.12057	0.39321	0.41278	1.87899	2.32126	4.65167	0.96609	1.93238	0.33368	0.54026	2.28374	5.18592	0.94222	4.72958	0.77097	0.94887	1.83693	0.4647	0.15895	1.31801	1.78355	0.58719	0.41534	1.01398	2.36364	4.62412	1.31132

Report: Personal Income by Area in our Analytics from http://OUReports.com

Data:



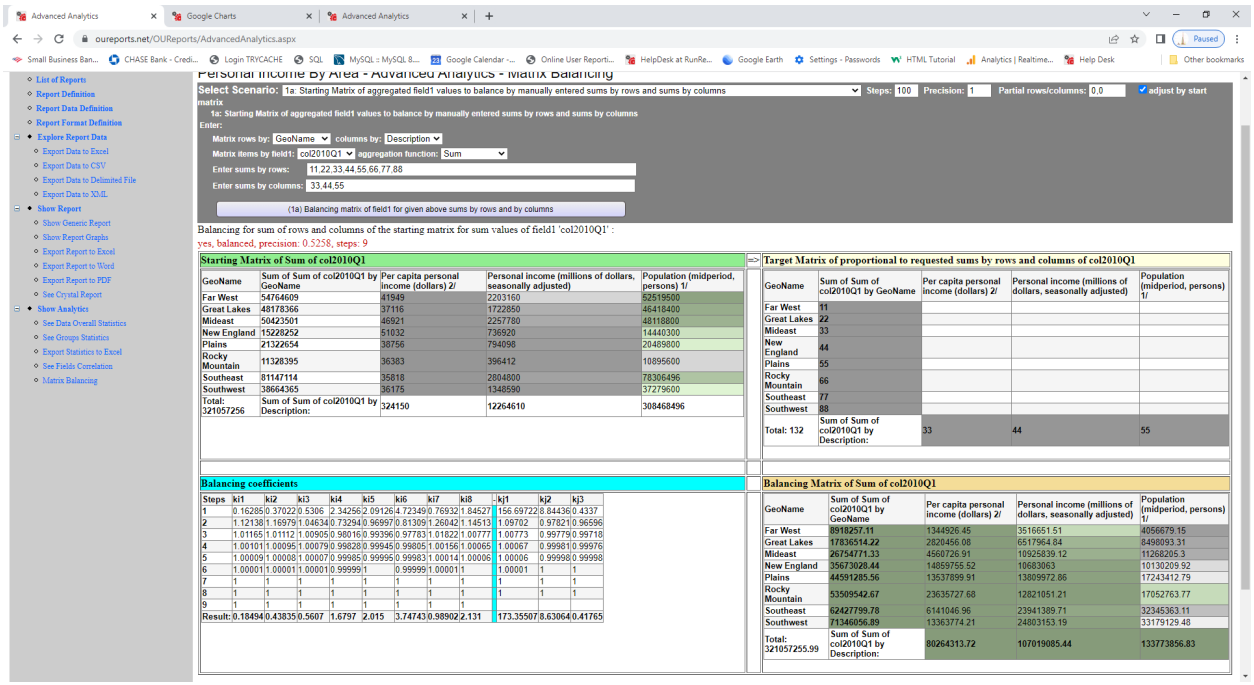
Online User Reporting

Data for report: Personal Income By Area

Records returned: 24

GeoFips	GeoName	LineCode	Description	col1990Q1	col1990Q2	col1990Q3	col1990Q4	col1991Q1	col1991Q2	col1991Q3	col1991Q4	col1992Q1	col1992Q2	col1992Q3	col1992Q4	col1993Q1	col1993Q2	col1993Q3	col1993Q4	col1994Q1	col1994Q2	col1994Q3	col1994Q4	col1995Q1
91000	New England	1	Personal income (millions of dollars, seasonally adjusted)	298597	301918	303877	302547	302559	305553	306753	310515	318228	323080	324736	329470	329532	334025	338654	340958	343623	348566	350821	357910	362243
91000	New England	2	Population (midperiod, persons) 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91000	New England	3	Per capita personal income (dollars) 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92000	Mideast	1	Personal income (millions of dollars, seasonally adjusted)	981365	996907	1008220	1007340	1001660	1014790	1022310	1031950	1056120	1069630	1082980	1102050	1090490	1109810	1119760	1133770	1124680	1148360	1157320	1178520	1193880
92000	Mideast	2	Population (midperiod, persons) 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92000	Mideast	3	Per capita personal income (dollars) 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93000	Great Lakes	1	Personal income (millions of dollars, seasonally adjusted)	794032	808459	817969	820956	815562	824116	834391	848893	866138	887837	896090	912850	910919	927169	935067	950796	964375	980042	994152	1012970	1027180
93000	Great Lakes	2	Population (midperiod, persons) 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93000	Great Lakes	3	Per capita personal income (dollars) 2/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94000	Plains	1	Personal income (millions of dollars, seasonally adjusted)	318760	324512	328323	329119	329663	334035	338088	343510	352877	358652	362992	367206	366122	371329	373456	379262	388874	395496	399967	406844	409918
94000	Plains	2	Population (midperiod, persons) 1/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Parameters (target sums adjusted for total value in starting matrix):



Personal Income by Area - Advanced Analytics - Matrix Balancing

Select Scenario: 1a: Starting Matrix of aggregated field1 values to balance by manually entered sums by rows and sums by columns — Steps: 100 — Precision: 1 — Partial rows/columns: 0.0 — adjust by start

1a: Starting Matrix of aggregated field1 values to balance by manually entered sums by rows and sums by columns

Enter:

Matrix rows by: GeoName — columns by: Description

Matrix items by field1: col2010Q1 — aggregation function: Sum

Enter sums by rows: 11,22,33,44,55,66,77,88

Enter sums by columns: 33,44,55

(1a) Balancing matrix of field1 for given above sums by rows and by columns

Balancing for sum of rows and columns of the starting matrix for sum values of field1 'col2010Q1' :

yes, balanced, precision: 0.5258, steps: 9

Starting Matrix of Sum of col2010Q1

GeoName	Sum of Sum of col2010Q1 by GeoName	Per capita personal income (dollars) 2/	Personal income (millions of dollars, seasonally adjusted)	Population (midperiod, persons) 1/
Far West	54764609	41549	2203160	52515600
Great Lakes	48178366	37116	1722850	46418400
Mideast	50423501	46921	2257780	48118800
New England	15228252	51032	736920	14440300
Plains	21322654	38756	794098	20489800
Rocky Mountain	11328395	36383	396412	10895600
Southeast	81147114	35818	2804800	78306496
Southwest	38664365	36175	1348590	37279600
Total: 321057256	Sum of Sum of col2010Q1 by Description:	324150	12264610	308468496

Target Matrix of proportional to requested sums by rows and columns of col2010Q1

GeoName	Sum of Sum of col2010Q1 by GeoName	Per capita personal income (dollars) 2/	Personal income (millions of dollars, seasonally adjusted)	Population (midperiod, persons) 1/
Far West	11			
Great Lakes	22			
Mideast	33			
New England	44			
Plains	55			
Rocky Mountain	66			
Southeast	77			
Southwest	88			
Total: 132	Sum of Sum of col2010Q1 by Description:	33	44	55

Balancing coefficients

Steps	ki1	ki2	ki3	ki4	ki5	ki6	ki7	ki8	kj1	kj2	kj3
1	0.16285	0.37022	0.5306	2.34256	2.69126	4.72349	0.76932	1.84527	156.69722	8.84436	0.4337
2	1.12138	1.16979	1.04634	0.73294	0.96997	0.81309	1.26042	1.14513	1.09702	0.97821	0.96596
3	1.01165	1.01112	1.00905	0.98016	0.99396	0.97783	1.01822	1.00777	1.00773	0.99779	0.99718
4	1.00101	1.00095	1.00079	0.99828	0.99945	0.99805	1.00156	1.00065	1.00067	0.99981	0.99976
5	1.00009	1.00008	1.00007	0.99985	0.99995	0.99983	1.00014	1.00006	1.00006	0.99998	0.99998
6	1.00001	1.00001	1.00001	0.99999	1	0.99999	1.00001	1	1.00001	1	1
7	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1			
Result:	0.18494	0.43835	0.5607	1.6797	2.015	3.74743	0.98902	2.131	173.35507	8.63064	0.41765

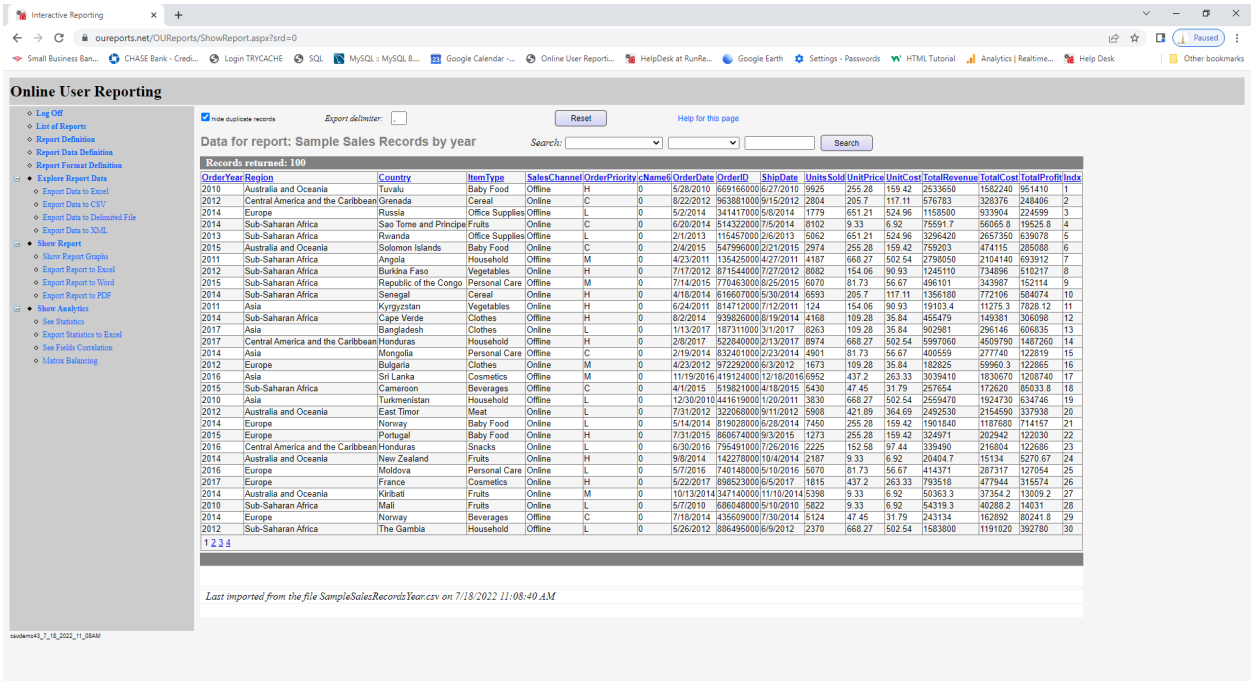
Balancing Matrix of Sum of col2010Q1

GeoName	Sum of Sum of col2010Q1 by GeoName	Per capita personal income (dollars) 2/	Personal income (millions of dollars, seasonally adjusted)	Population (midperiod, persons) 1/
Far West	8918257.11	1344926.45	3516651.51	4056679.15
Great Lakes	17836514.22	2820456.08	6517964.84	8498093.31
Mideast	26754771.33	4560726.91	10925839.12	11268205.3
New England	35673028.44	14859755.52	10683063	10130209.92
Plains	44591285.56	13637899.91	13809972.86	17243412.79
Rocky Mountain	53509542.67	23635727.68	12821051.21	17052763.77
Southeast	62427795.78	6141046.96	23941389.71	32345363.11
Southwest	71346096.89	13363774.21	24803153.19	33179129.48
Total: 321057255.99	Sum of Sum of col2010Q1 by Description:	80264313.72	107019085.44	133773856.83

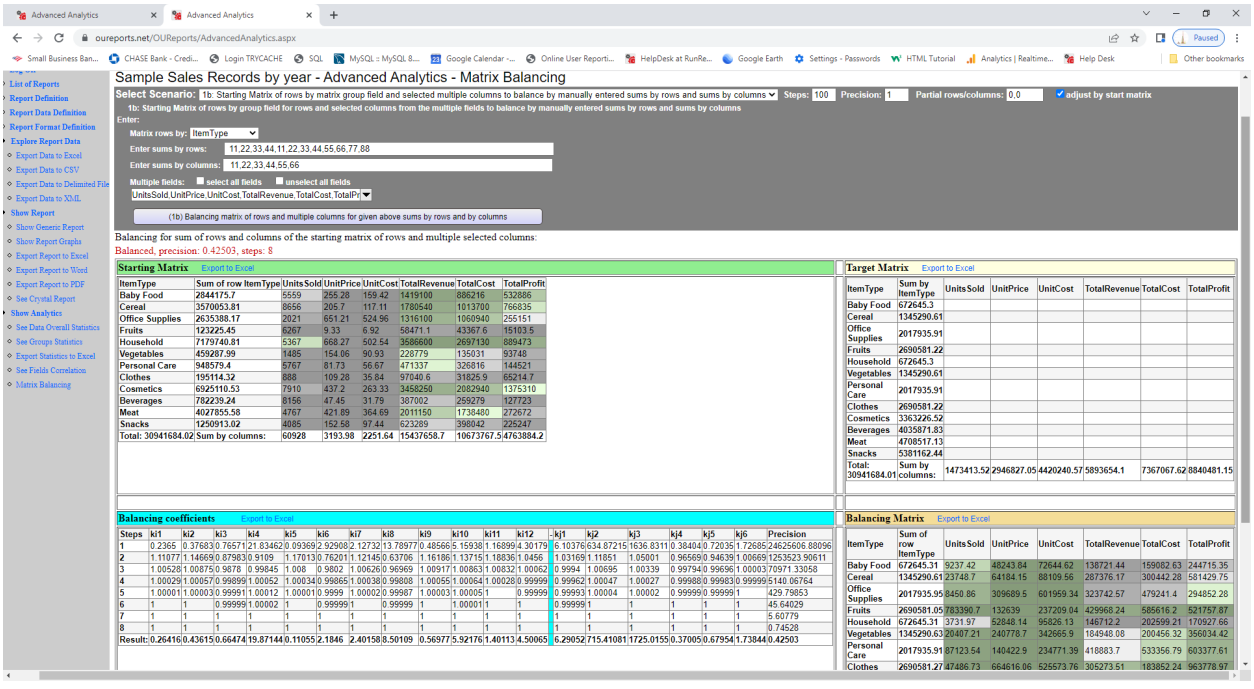
1b Scenario samples:

Report: Sample Sales Records by year in our Analytics from http://OUReports.com

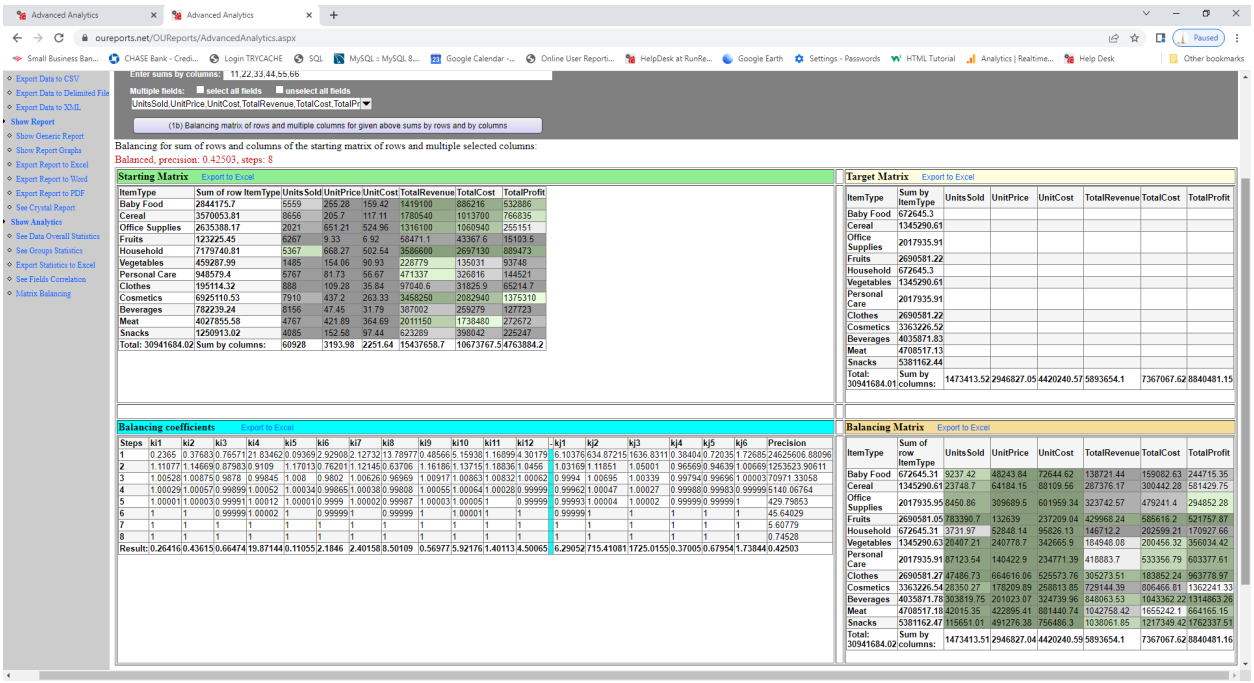
Data:



Parameters and Starting Matrix with manually entered target proportional values:

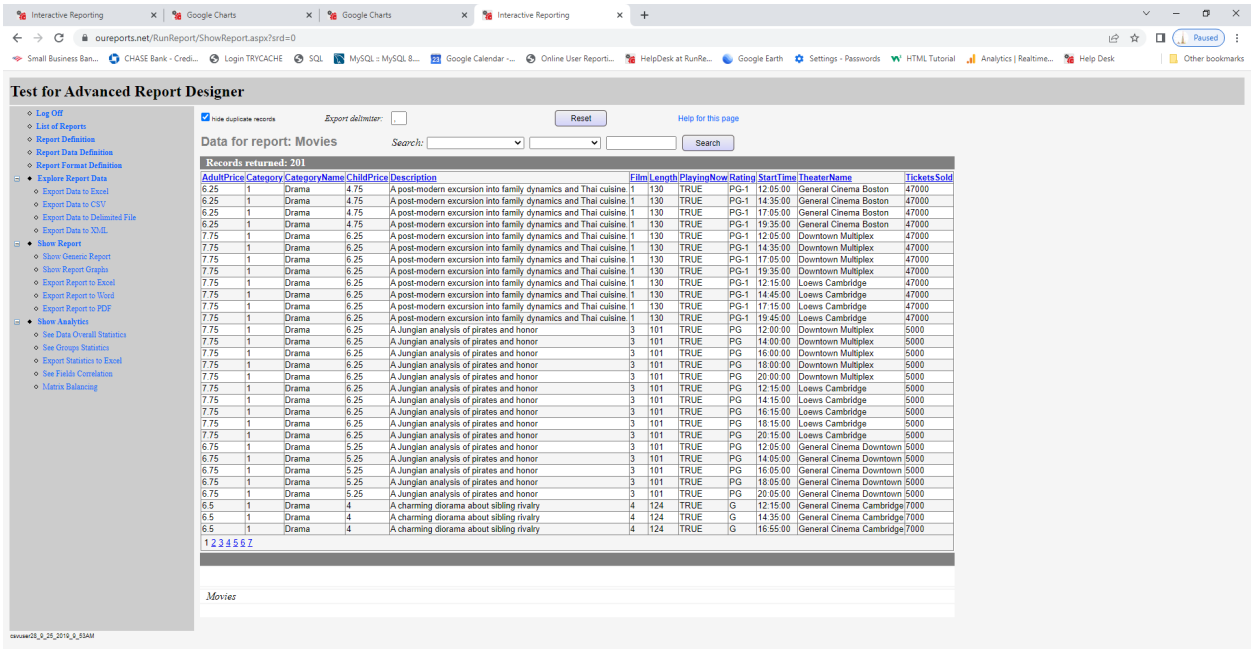


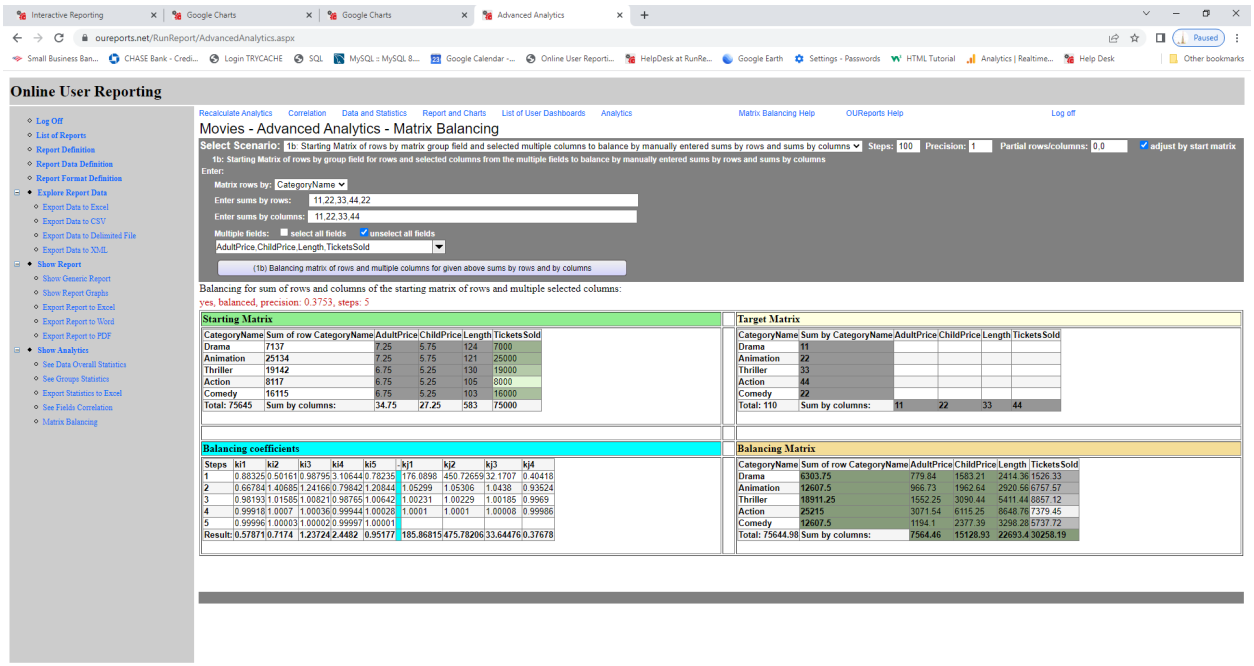
Target values adjusted to grand total of starting matrix, and Balancing Coefficients and balancing Matrix:



Report: Movies in our Analytics from http://OUReports.com

Data:

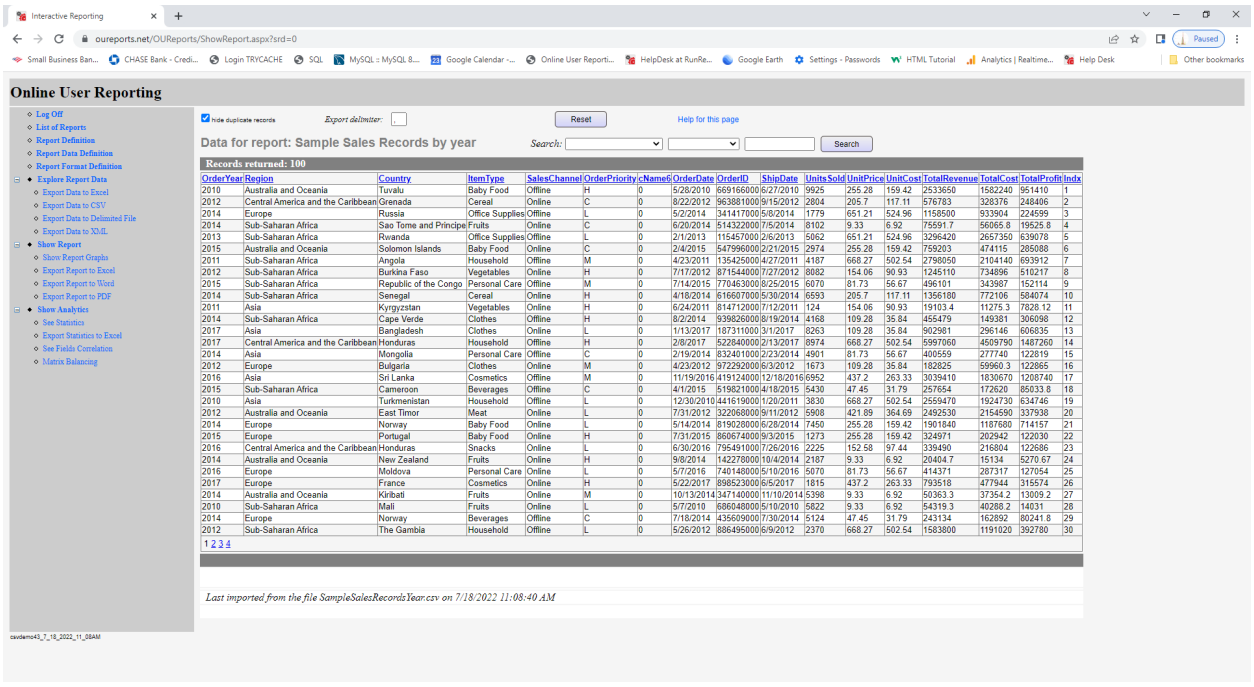




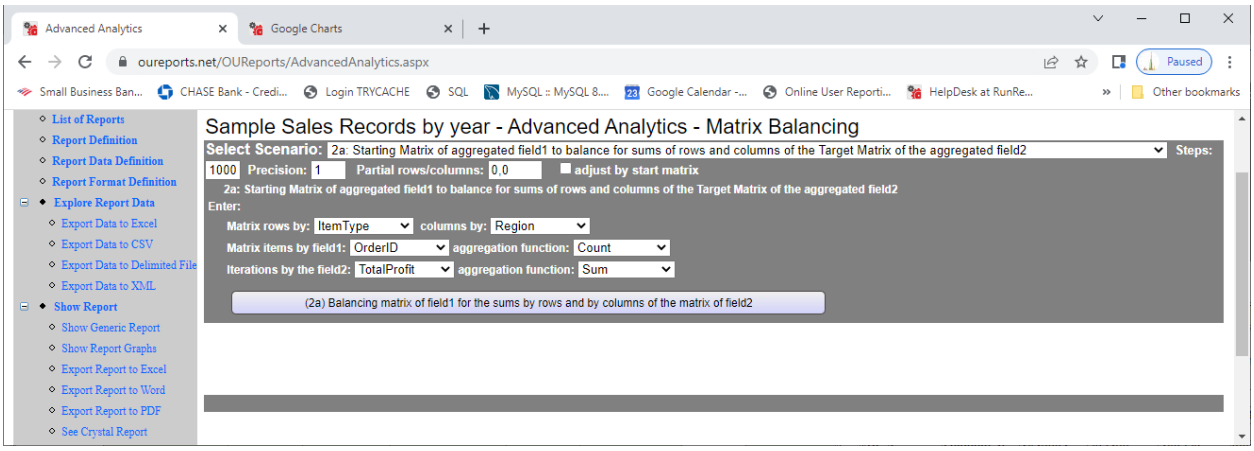
2a Scenario samples:

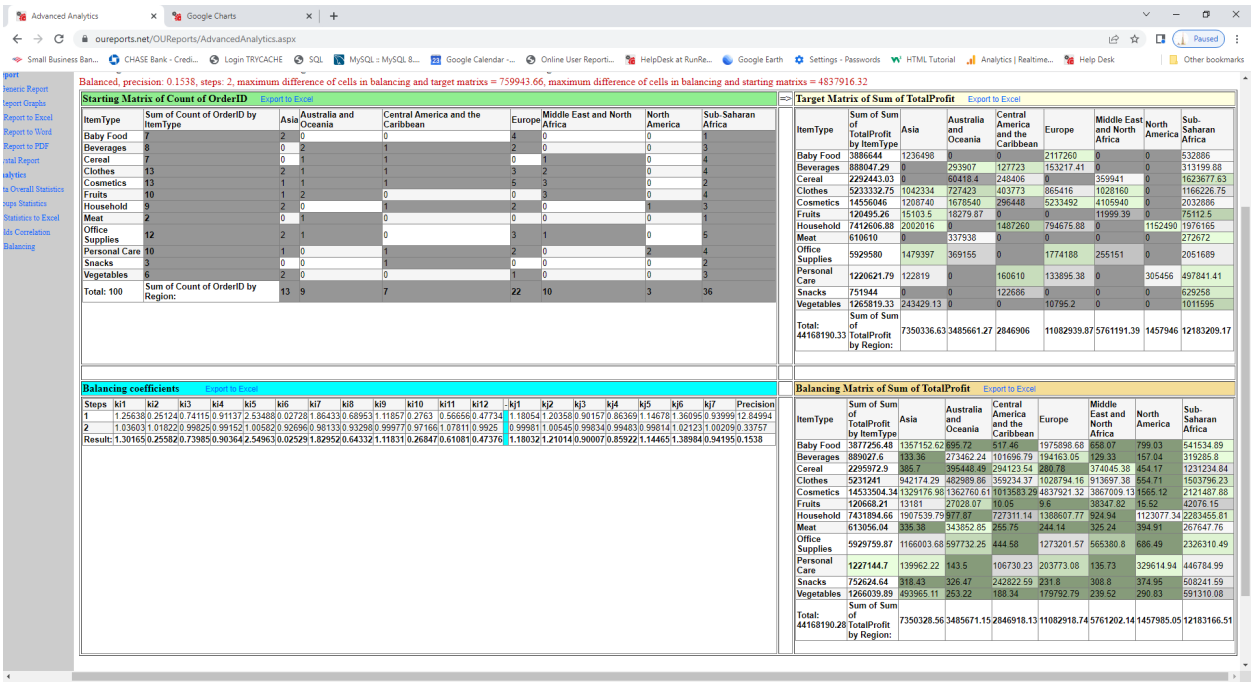
Report: Sample Sales Records by year in our Analytics from http://OUReports.com

Data:



Parameters, Starting, and Target matrix:

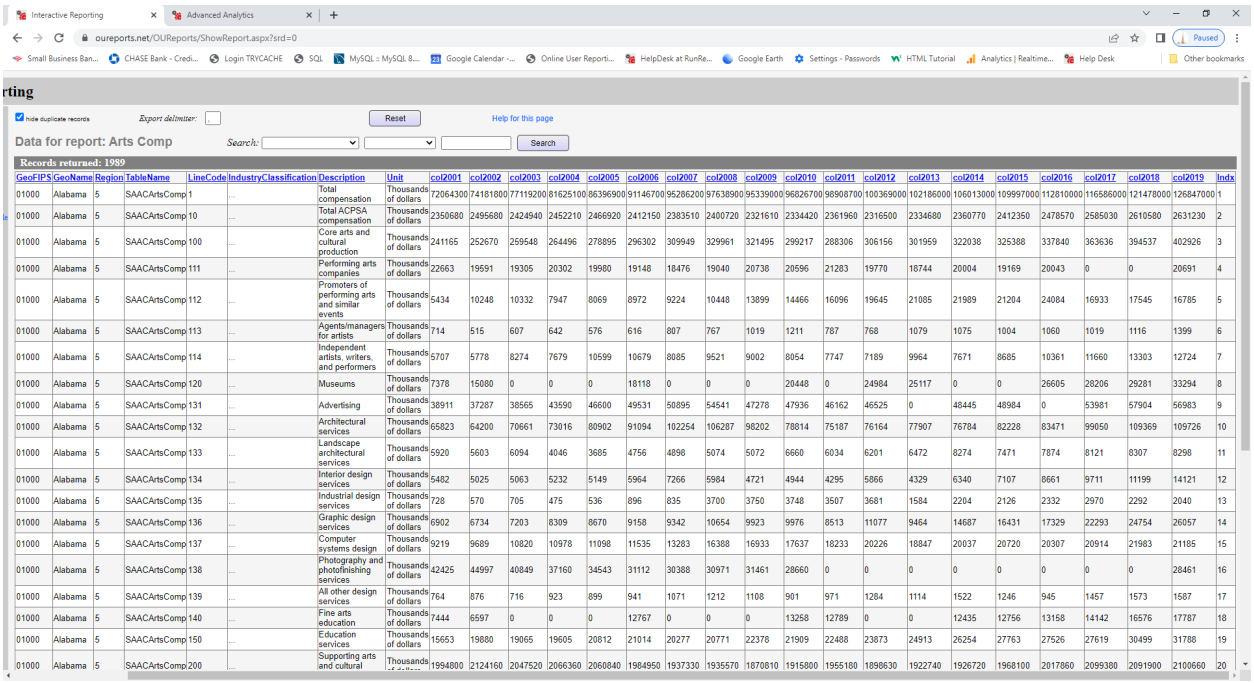




Report: Art Comp. in our Analytics from http://OUReports.com

Field GeoName has State info, field Description has info about specific types of compensations, multiple columns have years compensation in thousands of dollars.

Data:

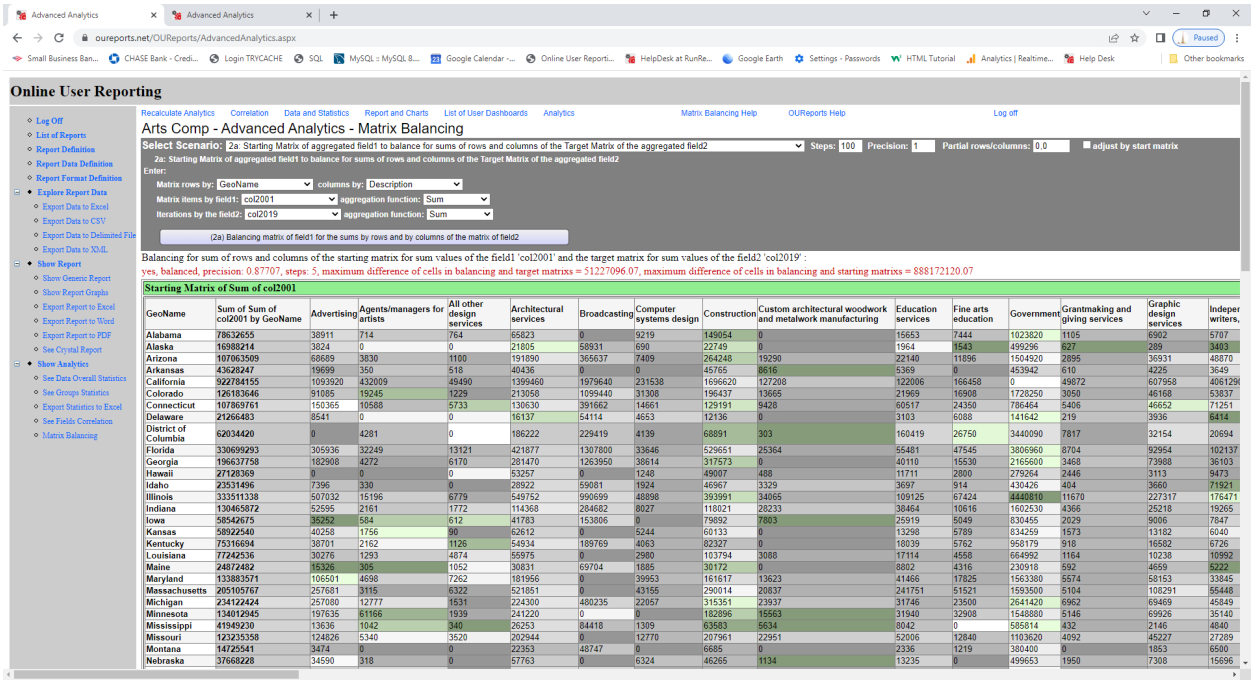


Data for report: Arts Comp

Records returned: 1989

GeoFIPS	GeoName	Region	TableName	LineCode	IndustryClassification	Description	Unit	col2001	col2002	col2003	col2004	col2005	col2006	col2007	col2008	col2009	col2010	col2011	col2012	col2013	col2014	col2015	col2016	col2017	col2018	col2019	Indx
01000	Alabama	5	SAACArtsComp	1	...	Total compensation	Thousands of dollars	72064300	74181800	77119200	81625100	86396900	91146700	95286200	97638900	95339000	96826700	98908700	100369000	102186000	106013000	109997000	112810000	116586000	121478000	126847000	1
01000	Alabama	5	SAACArtsComp	10	...	Total ACPSA compensation	Thousands of dollars	2350680	2495680	2424940	2452210	2466920	2412150	2383510	2400720	2321610	2334420	2361960	2316500	2334680	2360770	2412350	2478570	2585030	2610580	2631230	2
01000	Alabama	5	SAACArtsComp	100	...	Core arts and cultural production	Thousands of dollars	241165	252670	259548	264496	278895	296302	309949	329961	321495	299217	288306	306156	301959	322038	325388	337840	363636	394537	402926	3
01000	Alabama	5	SAACArtsComp	111	...	Performing arts companies	Thousands of dollars	22663	19591	19305	20302	19980	19148	18476	19040	20738	20596	21283	19770	18744	20004	19169	20043	0	0	20691	4
01000	Alabama	5	SAACArtsComp	112	...	Promoters of performing arts and similar events	Thousands of dollars	5434	10248	10332	7947	8069	8972	9224	10448	13899	14466	16096	19645	21085	21989	21204	24084	16933	17545	16785	5
01000	Alabama	5	SAACArtsComp	113	...	Agents/managers for artists	Thousands of dollars	714	515	607	642	576	616	807	767	1019	1211	787	768	1079	1075	1004	1060	1019	1116	1399	6
01000	Alabama	5	SAACArtsComp	114	...	Independent artists, writers, and performers	Thousands of dollars	5707	5778	8274	7679	10599	10679	8085	9521	9002	8054	7747	7189	9964	7671	8685	10361	11660	13303	12724	7
01000	Alabama	5	SAACArtsComp	120	...	Museums	Thousands of dollars	7378	15080	0	0	0	18118	0	0	0	20448	0	24984	25117	0	0	26605	28206	29281	33294	8
01000	Alabama	5	SAACArtsComp	131	...	Advertising	Thousands of dollars	38911	37287	38565	43590	46600	49531	50895	54541	47278	47936	46162	46525	0	48445	48984	0	53981	57904	56983	9
01000	Alabama	5	SAACArtsComp	132	...	Architectural services	Thousands of dollars	65823	64200	70661	73016	80902	91094	102254	106287	98202	78814	75187	76164	77907	76784	82228	83471	99050	109369	109726	10
01000	Alabama	5	SAACArtsComp	133	...	Landscape architectural services	Thousands of dollars	5920	5603	6094	4046	3685	4756	4898	5074	5072	6660	6034	6201	6472	8274	7471	7874	8121	8307	8298	11
01000	Alabama	5	SAACArtsComp	134	...	Interior design services	Thousands of dollars	5482	5025	5063	5232	5149	5964	7266	5984	4721	4944	4295	5866	4329	6340	7107	8661	9711	11199	14121	12
01000	Alabama	5	SAACArtsComp	135	...	Industrial design services	Thousands of dollars	728	570	705	475	536	896	835	3700	3750	3748	3507	3681	1584	2204	2126	2332	2970	2292	2040	13
01000	Alabama	5	SAACArtsComp	136	...	Graphic design services	Thousands of dollars	6902	6734	7203	8309	8670	9158	9342	10654	9923	9976	8513	11077	9464	14687	16431	17329	22293	24754	26057	14
01000	Alabama	5	SAACArtsComp	137	...	Computer systems design	Thousands of dollars	9219	9689	10820	10978	11098	11535	13283	16388	16933	17637	18233	20226	18847	20037	20720	20307	20914	21983	21185	15
01000	Alabama	5	SAACArtsComp	138	...	Photography and photofinishing services	Thousands of dollars	42425	44997	40849	37160	34543	31112	30388	30971	31461	28660	0	0	0	0	0	0	0	0	28461	16
01000	Alabama	5	SAACArtsComp	139	...	All other design services	Thousands of dollars	764	876	716	923	899	941	1071	1212	1108	901	971	1284	1114	1522	1246	945	1457	1573	1587	17
01000	Alabama	5	SAACArtsComp	140	...	Fine arts education	Thousands of dollars	7444	6597	0	0	0	12767	0	0	0	13258	12789	0	0	12435	12756	13158	14142	16576	17787	18
01000	Alabama	5	SAACArtsComp	150	...	Education services	Thousands of dollars	15653	19680	19065	19605	20812	21014	20277	20771	22378	21909	22488	23873	24913	26254	27763	27526	27619	30499	31788	19
01000	Alabama	5	SAACArtsComp	200	...	Supporting arts and cultural	Thousands of dollars	1994800	2124160	2047520	2066360	2060840	1984950	1937330	1935570	1870810	1915800	1955180	1898630	1922740	1926720	1968100	2017860	2099380	2091900	2100660	20

Parameters and starting matrix to compare data for year 2001 to 2019 and see the balanced matrix:



Online User Reporting

Arts Comp - Advanced Analytics - Matrix Balancing

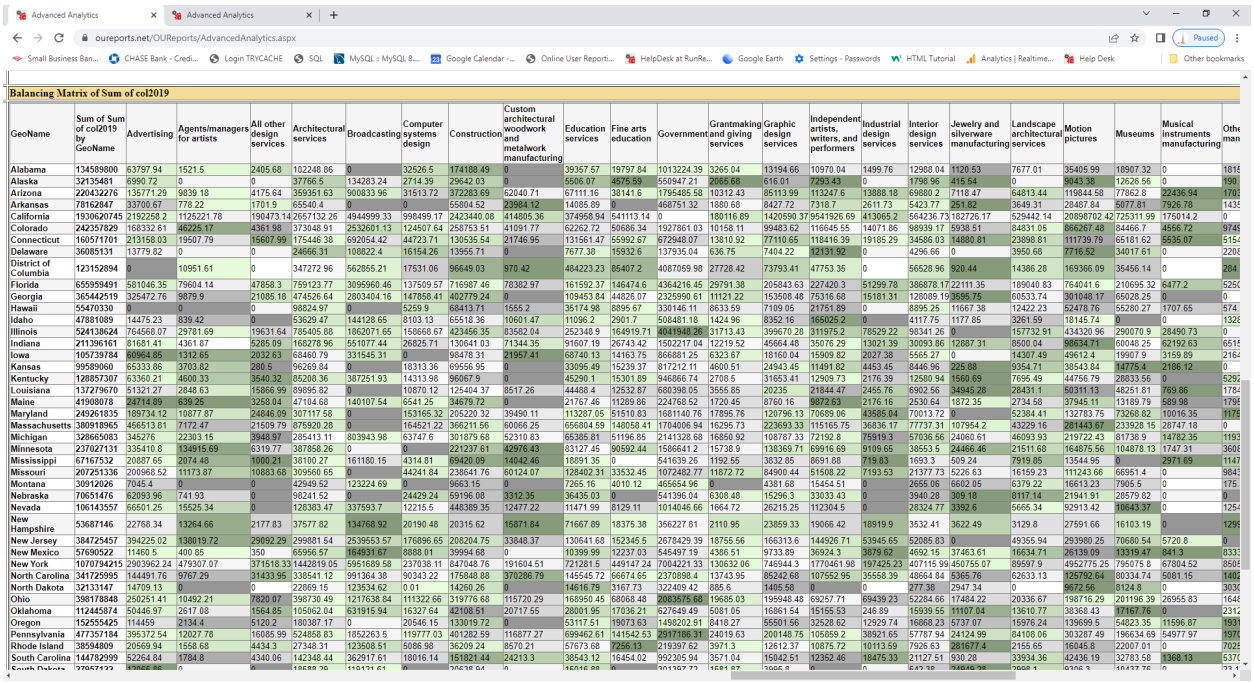
Balancing for sum of rows and columns of the starting matrix for sum values of the field1 'col2001' and the target matrix for sum values of the field2 'col2019' :

yes, balanced, precision: 0.87707, steps: 5, maximum difference of cells in balancing and target matrixs = 51227096.07, maximum difference of cells in balancing and starting matrixs = 888172120.07

Starting Matrix of Sum of col2001

GeoName	Sum of Sum of col2001 by GeoName	Advertising	Agents/managers for artists	All other design services	Architectural services	Broadcasting	Computer systems design	Construction	Custom architectural woodwork and metalwork manufacturing	Education services	Fine arts education	Government	Grantmaking and giving services	Graphic design services	Indepen writers,
Alabama	78632655	38911	714	764	65823	0	9219	149054	0	15653	7444	1023820	1105	6902	5707
Alaska	16988214	3024	0	0	21805	58931	690	22749	0	1964	1543	499296	627	289	3483
Arizona	107063509	60689	3830	1100	191890	365637	7409	264248	19290	22140	11896	1504920	2895	36931	46870
Arkansas	43628247	19699	350	518	40436	0	0	45765	8616	5369	0	453942	610	4225	3649
California	922784155	1093920	432009	49490	1399460	1979640	231538	1696620	127208	122006	166458	0	49872	607958	406129
Colorado	126183646	91085	19245	1229	213058	1099440	31308	196437	13665	21969	16908	1728250	3050	46168	53837
Connecticut	107869761	150365	10588	5733	130630	391662	14661	129191	9428	60517	24350	786464	5406	46652	71251
Delaware	21266483	8541	0	0	16137	54114	4653	12136	0	3103	6088	141642	219	3936	6414
District of Columbia	62034420	0	4281	0	186222	229419	4139	68891	303	160419	26750	3440090	7817	32154	20694
Florida	330699293	305936	32249	13121	421877	1307800	33646	529651	25364	55481	47545	3806960	8704	92954	102137
Georgia	196637758	182908	4272	6170	261470	1263950	38614	317573	0	40110	15530	2165600	3468	73988	36103
Hawaii	27128369	0	0	0	53257	0	1248	49007	488	11711	2800	279264	2446	3113	9473
Idaho	23531496	7396	330	0	28922	59081	1924	46967	3329	3697	914	430426	404	3660	71921
Illinois	333511338	507032	15196	6779	549752	990699	48898	393991	34065	109125	67424	4440810	11670	227317	176471
Indiana	130465872	52595	2161	1772	114368	284682	8027	118021	28233	38464	10616	1602530	4366	25218	19265
Iowa	58542675	35252	584	612	41783	153806	0	79892	7803	25919	5049	830455	2029	9006	7847
Kansas	58922540	40258	1756	90	62612	0	5244	60133	0	13298	5789	834259	1573	13182	6040
Kentucky	75316694	38701	2162	1126	54934	189769	4063	82327	0	18039	5762	958179	918	16582	6726
Louisiana	77242536	30276	1293	4674	55975	0	2980	103794	3088	17114	4558	664992	1164	10238	10992
Maine	24872482	15326	305	1052	30831	69704	1885	30172	0	8802	4316	230918	592	4659	5222
Maryland	133883571	106501	4698	7262	181956	0	39953	161617	13623	41466	17825	1563380	5574	58153	33845
Massachusetts	205105767	257681	3115	6322	521851	0	43155	290014	20837	241751	51521	1593500	5104	108291	55448
Michigan	234122424	257080	12777	1531	224300	480235	22057	315351	23937	31746	23500	2641420	6962	69469	45849
Minnesota	134012945	197635	61166	1939	241220	0	0	182896	16563	31940	32908	1548880	5146	69926	35140
Mississippi	41949230	13636	1042	340	26253	84418	1309	63583	5634	8042	0	585814	432	2146	4840
Missouri	122235358	124826	5340	3520	202944	0	12770	207961	22951	52006	12840	1103620	4092	45227	27289
Montana	14725541	3474	0	0	22353	48747	0	6685	0	2336	1219	380400	0	1853	6500
Nebraska	37668228	34590	318	0	57763	0	6324	46265	1134	13235	0	499653	1950	7308	15696

Result – color coded target matrix and balancing matrix.

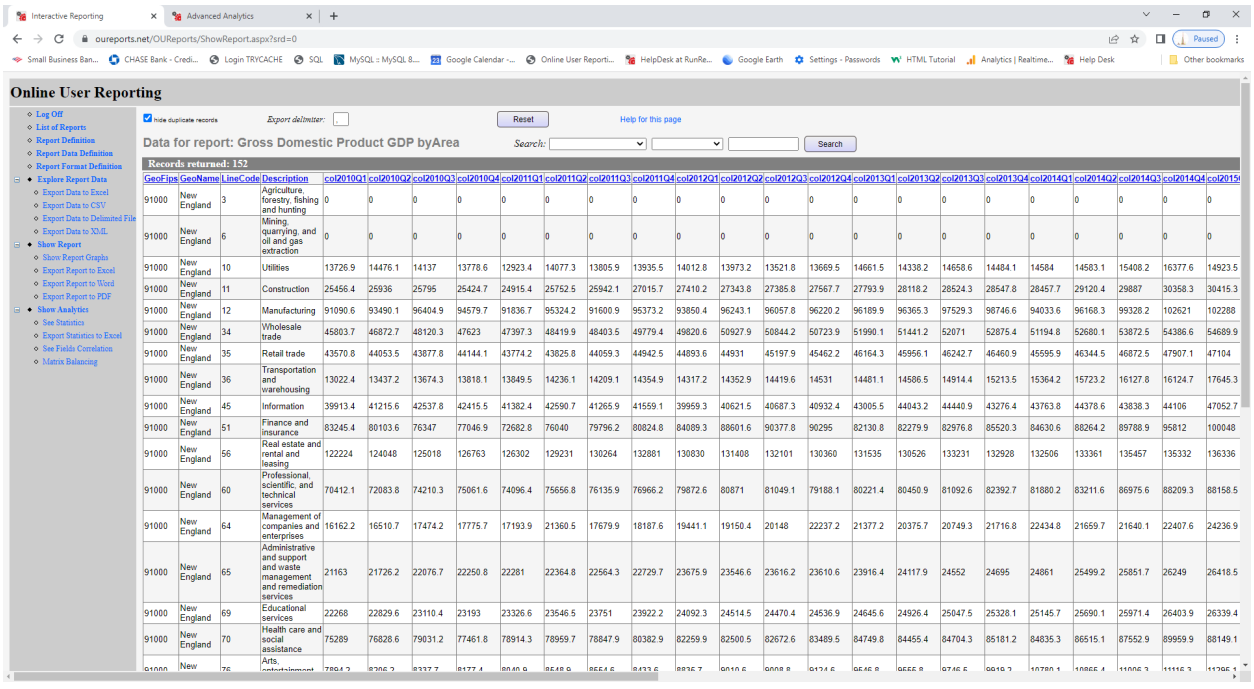


Balancing Matrix of Sum of col2019

GeoName	Sum of Sum of col2019 by GeoName	Advertising	Agents/managers for artists	All other design services	Architectural services	Broadcasting	Computer systems design	Construction	Custom architectural woodwork and metalwork manufacturing	Education services	Fine arts education	Government	Grantmaking and giving services	Graphic design services	Independent artists, writers, and performers	Industrial design services	Interior design services	Jewelry and silverware manufacturing	Landscape architectural services	Motion pictures	Museums	Musical instruments manufacturing	Othe man
Alabama	134589800	63797.94	1521.5	2405.68	102248.86	0	32526.5	174188.49	0	39357.57	19797.84	1013224.39	3265.04	13194.66	10970.04	1499.76	12988.04	1120.53	7677.01	35405.99	18907.32	0	1815
Alaska	32135481	6990.72	0	0	37766.5	134283.24	2714.39	29642.03	0	5506.07	4575.59	550947.21	2065.68	616.01	7293.43	0	1798.96	415.54	0	9043.38	12626.56	0	190
Arizona	220432276	135771.29	9839.18	4175.64	359361.63	900833.96	31513.72	372283.69	62040.71	67111.16	38141.6	1795485.58	10312.43	85113.99	113247.6	13888.18	69880.2	7118.47	64813.44	119844.58	77862.8	22436.94	179
Arkansas	78162847	33700.67	778.22	1701.9	66540.4	0	0	55804.52	23964.12	14085.69	0	468751.32	1880.68	8427.72	7318.7	2611.73	5423.77	261.82	3649.31	20487.84	5977.61	7926.78	1435
California	1930620745	2192258.2	1125221.78	190473.14	2657132.26	4944999.33	998499.17	2423440.08	414805.36	374958.94	541113.14	0	180116.69	1420590.37	9541926.69	413065.2	564236.73	182726.17	529442.14	2089870.42	1725311.99	1750142	0
Colorado	242357829	168332.61	46225.17	4361.98	373048.91	2532601.13	124507.64	258753.51	41091.77	62262.72	50686.34	1927861.03	10158.11	99483.62	116645.55	14071.86	98939.17	5938.51	84831.05	866267.48	84466.7	4556.72	9745
Connecticut	160571701	213158.03	19507.79	15607.99	175446.38	692054.42	44723.71	130535.54	21746.95	131561.47	55992.67	672948.07	13810.92	77110.65	118416.39	19185.29	34586.03	14880.81	23898.81	111739.79	65181.62	5535.07	5154
Delaware	36085131	13779.82	0	0	24666.31	108822.4	16154.26	13955.71	0	7677.38	15932.6	137935.04	636.75	7404.22	12131.92	0	4296.66	0	3950.68	7716.52	34017.61	0	2206
District of Columbia	123152894	0	10951.61	0	347272.96	562855.21	17531.06	96649.03	970.42	484223.23	85407.2	4087059.98	27728.42	73793.41	47753.35	0	56528.96	920.44	14386.28	169366.09	35456.14	0	284
Florida	655959491	581046.35	79604.14	47858.3	759123.77	3095960.46	137509.57	716987.46	78382.97	161592.37	146474.6	4364216.45	29791.38	205843.63	227420.3	51299.78	386878.17	22111.35	189040.83	764041.6	210695.32	6477.2	5256
Georgia	365442519	325472.76	9879.9	21085.18	474526.64	2803404.16	147858.41	402779.24	0	109453.84	44826.07	2325990.61	11121.22	153508.48	75316.68	15181.31	128089.19	3595.75	60533.74	301048.17	65028.25	0	0
Hawaii	55470330	0	0	0	98824.97	0	5259.9	68413.71	1555.2	35174.98	8895.67	330146.11	8633.59	7109.05	21751.89	0	8895.25	11667.38	12422.23	52478.76	55280.27	1707.65	574
Idaho	47881089	14475.23	839.42	0	53629.47	144128.65	8103.13	65518.36	10601.47	11096.2	2901.7	508481.18	1424.96	8352.16	165025.2	0	4117.75	1177.85	3261.59	18145.74	0	0	1328
Illinois	524138624	764568.07	29781.69	19631.64	785405.88	1862071.65	158668.67	423456.35	83582.04	252348.9	164919.71	4041948.26	31713.43	399670.28	311975.2	78529.22	98341.26	0	157732.91	434320.96	290070.9	28490.73	0
Indiana	211396161	81681.41	4361.87	5265.09	168278.96	551077.44	26825.71	130641.03	71344.35	91607.19	26743.42	1502217.04	12219.52	45664.48	35076.29	13021.39	30093.86	12887.31	8500.04	39634.71	60048.25	62192.63	6515
Iowa	105739784	60964.85	1312.65	2032.63	68460.79	331545.31	0	98478.31	21957.41	68740.13	14163.75	866881.25	6323.67	18160.04	15909.82	2027.38	5565.27	0	14307.49	49612.4	19907.9	3159.89	2164
Kansas	99589060	65333.86	3703.82	280.5	96269.84	0	18313.36	69556.95	0	33095.49	15239.37	817212.11	4600.51	24943.45	11491.82	4453.45	8446.96	225.88	9354.71	38543.84	14775.4	2186.12	0
Kentucky	128857307	63360.21	4600.33	3540.32	85208.36	387251.93	14313.98	96067.9	0	45290.1	15301.89	946866.74	2708.5	31653.41	12909.73	2176.39	12580.94	1560.69	7695.49	44756.79	28833.56	0	5292
Louisiana	137279670	51321.27	2848.63	15866.99	89895.82	0	10870.12	125404.37	8517.26	44488.4	12532.87	680398.05	3555.85	20235	21844.47	2455.76	6902.56	34945.28	28431.1	50311.13	48251.81	769.86	1784
Maine	41908078	24714.89	639.25	3258.04	47104.68	140107.54	6541.25	34679.72	0	21767.46	11289.86	224768.52	1720.45	8760.16	9872.63	0	2176.16	2530.64	1872.35	2734.58	37945.11	13189.79	589.98	1795
Maryland	249261835	189734.12	10877.87	24846.09	307117.58	0	153165.32	205220.32	39490.11	113287.05	51510.83	1681140.76	17895.76	120796.13	70689.06	43585.04	70013.72	0	52384.41	132783.75	73268.82	10016.35	1175
Massachusetts	380918965	456513.81	7172.47	21509.79	875920.28	0	164521.22	366211.56	60066.25	656804.59	148058.41	1704006.94	16295.73	223693.33	115165.75	36836.17	77737.31	107954.2	43229.16	281443.67	233928.15	28747.18	0
Michigan	328665083	345276	22303.15	3948.97	285413.11	803943.98	63747.6	301879.68	52310.83	65385.81	51196.85	2141328.68	16850.92	108787.33	72192.8	75919.3	57036.56	24060.61	46093.93	219722.43	81738.9	14782.35	1193
Minnesota	237027131	335410.8	134915.69	6319.77	387858.26	0	0	221237.61	42976.43	83127.45	90592.44	1586641.2	15738.9	138369.71	69916.69	9109.65	38553.5	24466.46	21511.68	164875.56	104878.13	1747.31	3606
Mississippi	67167532	20887.65	2074.48	1000.21	38100.27	1611180.15	4314.81	69420.09	14042.46	18891.35	0	541639.26	1192.55	3632.85	8691.88	719.83	1693.3	509.24	7919.85	13544.95	0	2971.69	1147
Missouri	207251336	200968.52	11173.87	10883.68	309560.65	0	44241.84	238641.76	60124.07	128402.31	33532.45	1072482.77	11872.72	84900.44	51508.22	7193.53	21377.73	5226.63	16159.23	111243.66	66951.4	0	9843
Montana	30912026	7045.4	0	0	42949.52	123224.69	0	9663.15	0	7265.16	4010.12	465654.96	0	4381.68	15454.51	0	2655.06	6602.85	6379.22	16613.23	7905.5	0	175
Nebraska	70651476	62093.96	741.93	0	98241.52	0	24429.24	59196.08	3312.35	36435.03	0	541396.04	6308.48	15296.3	33033.43	0	3940.28	309.18	6117.14	21941.91	28579.82	0	0
Nevada	106143557	66501.25	15525.34	0	128383.47	337593.7	12215.5	448389.35	12477.22	11471.99	8129.11	1014046.66	1664.72	26215.25	112304.5	0	28324.77	3392.6	5665.34	92913.42	10643.37	0	1254
New Hampshire	53687146	22768.34	13264.66	2177.83	37577.82	134768.92	20190.48	20315.62	15871.84	71667.89	18375.38	356227.81	2110.95	23859.33	19066.42	18919.9	3532.41	3622.49	3129.8	27591.66	16103.19	0	1295
New Jersey	384725457	394225.02	138019.72	29092.29	299881.54	2539553.57	176896.65	208204.75	33848.37	130641.68	152345.5	2678429.39	18755.66	166313.6	144926.71	53945.65	52085.83	0	49365.94	293980.25	70680.54	5720.8	0
New Mexico	57690522	11460.5	400.85	350	65956.57	164931.67	8868.01	39994.68	0	10399.99	12237.03	545497.19	4386.51	9733.89	36924.3	3879.62	4692.15	37463.61	16634.71	26139.09	13319.47	841.3	8333
New York	1070794215	2903962.24	479307.07	371518.33	1442819.05	5951689.58	237038.11	847048.76	191604.51	721281.5	449147.24	7004221.33	130632.06	746944.3	1770461.98	197425.23	407115.99	450755.07	89597.9	4952775.25	795075.8	67804.52	8505
North Carolina	341725995	144491.76	9767.29	31433.95	338541.12	991364.38	90343.22	175848.88	370286.79	145545.72	66674.65	2370898.4	13743.95	85242.68	107552.95	35558.39	48664.84	5365.76	62633.13	125792.64	80334.74	5081.15	1402
North Dakota	32133147	14709.13	0	0	22869.15	123534.62	0.01	14260.26	0	14616.79	3167.73	322409.42	885.6	1405.58	0	0	277.38	2947.34	0	9672.56	8124.8	0	3030
Ohio	398178848	260251.41	10492.21	7820.07	398730.49	1217638.84	111322.66	319776.68	115720.29	168950.45	68068.48	2083575.68	19685.03	195948.48	69257.71	69439.23	52284.66	17484.22	20336.67	198716.29	201196.39	26955.83	1648
Oklahoma	112445874	50446.97	2617.08	1564.85	105062.04	631915.94	16327.64	42108.51	20717.55	28001.95	17036.21	627649.49	5081.05	16861.54	15155.53	246.89	15939.55	11107.04	13610.77	38368.43	17167.76	0	2312
Oregon	152555425	114459	2134.4	5120.2	180387.17	0	20546.15	133019.72	0	53117.51	19073.63	1498202.91	8418.27	55501.56	32528.62	12929.74	16868.23	5737.07	15976.24	139699.5	54823.35	11596.87	1031
Pennsylvania	477357184	395372.54	12027.78	16085.99	524858.83	1852263.5	119777.03	401282.59	116877.27	699462.61	141542.53	2917186.31	24019.63	200148.75	105059.2	38921.65	57787.94	24124.99	84108.06	303287.49	196634.69	54977.97	1976
Rhode Island	38594809	20569.94	1558.68	4434.3	27348.31	123508.51	5086.98	36209.24	8570.21	57673.68	7256.13	219397.62	3971.3	12612.37	10875.72	10113.59	7926.63	281677.4	2155.65	16045.8	22007.01	0	7025
South Carolina	144782999	52264.84	1784.8	4340.06	142348.44	362917.61	18016.14	151821.44	24213.3	38543.12	16454.02	992305.94	3571.04	15042.51	12352.46	18475.33	21127.51	930.28	33934.36	42436.19	32783.58	1368.13	5370
South Dakota	27967432	12065.85	0	0	18688.29	119121.61	0	29638.94	0	15046.88	0	201397.72	1681.87	3966.8	0	0	542.38	2649.28	2698.1	9206.3	10437.76	0	23.1

Report: Gross Domestic Product GDP by Area in our Analytics from http://OUReports.com

Data:



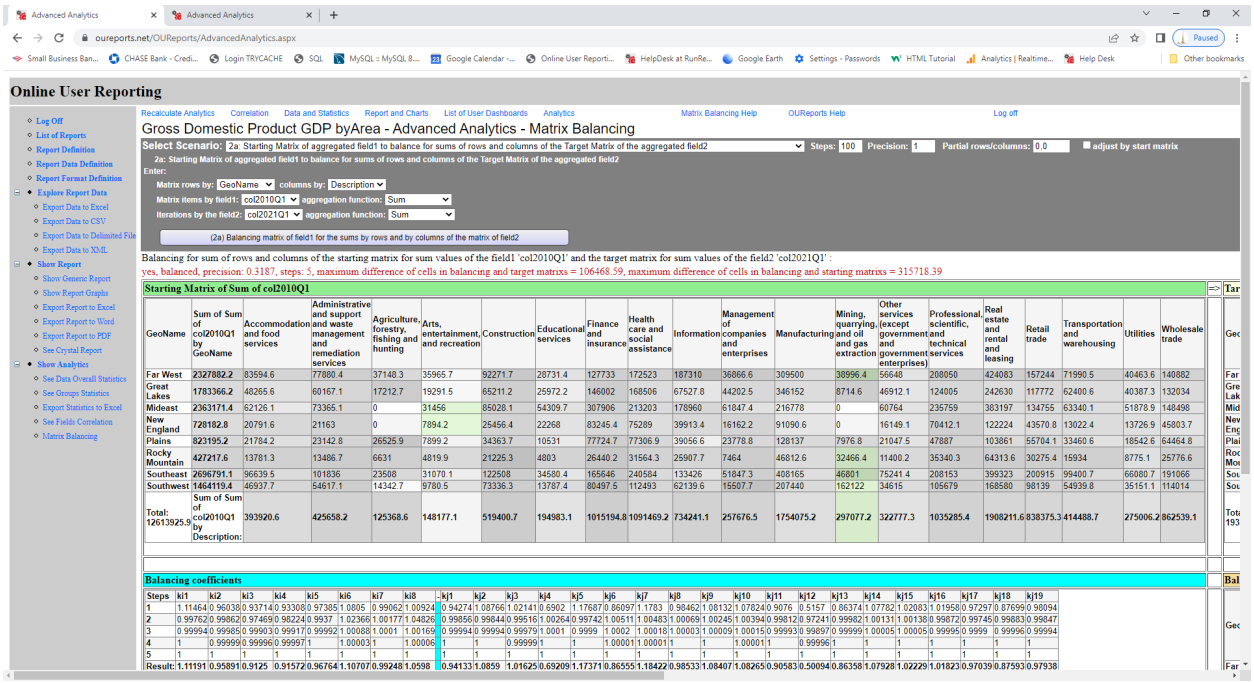
Online User Reporting

Data for report: Gross Domestic Product GDP byArea

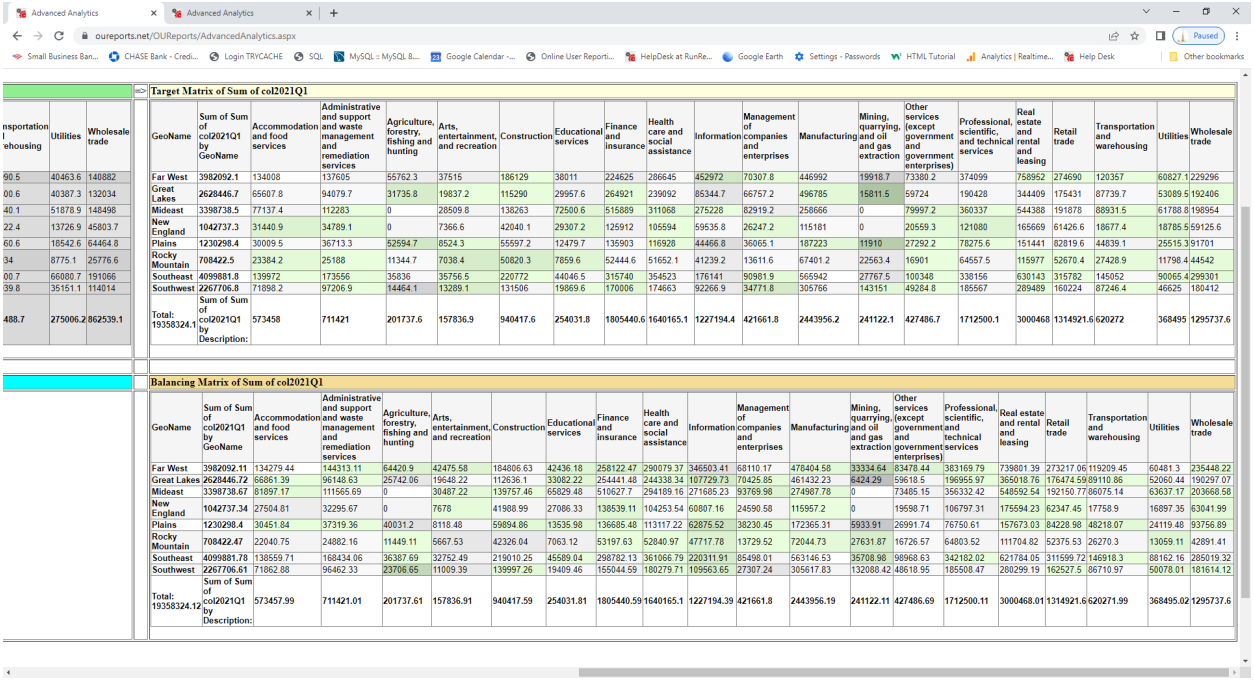
Records returned: 152

GeoFips	GeoName	LineCode	Description	col2010Q1	col2010Q2	col2010Q3	col2010Q4	col2011Q1	col2011Q2	col2011Q3	col2011Q4	col2012Q1	col2012Q2	col2012Q3	col2012Q4	col2013Q1	col2013Q2	col2013Q3	col2013Q4	col2014Q1	col2014Q2	col2014Q3	col2014Q4	col2015
91000	New England	3	Agriculture, forestry, fishing and hunting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91000	New England	6	Mining, quarrying, and oil and gas extraction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91000	New England	10	Utilities	13726.9	14476.1	14137	13778.6	12923.4	14077.3	13805.9	13935.5	14012.8	13973.2	13521.8	13669.5	14661.5	14338.2	14658.6	14484.1	14584	14583.1	15408.2	16377.6	14923.5
91000	New England	11	Construction	25456.4	25936	25795	25424.7	24915.4	25752.5	25942.1	27015.7	27410.2	27343.8	27385.8	27567.7	27793.9	28118.2	28524.3	28547.8	28457.7	29120.4	29887	30358.3	30415.3
91000	New England	12	Manufacturing	91090.6	93490.1	96404.9	94579.7	91836.7	95324.2	91600.9	95373.2	93850.4	96243.1	96057.8	96220.2	96189.9	96365.3	97529.3	98746.6	94033.6	96168.3	99328.2	102621	102288
91000	New England	34	Wholesale trade	45803.7	46872.7	48120.3	47623	47397.3	48419.9	48403.5	49779.4	49820.6	50927.9	50844.2	50723.9	51990.1	51441.2	52071	52875.4	51194.8	52680.1	53872.5	54386.6	54689.9
91000	New England	35	Retail trade	43570.8	44053.5	43877.8	44144.1	43774.2	43825.8	44059.3	44942.5	44893.6	44931	45197.9	45462.2	46164.3	45956.1	46242.7	46460.9	45595.9	46344.5	46872.5	47907.1	47104
91000	New England	36	Transportation and warehousing	13022.4	13437.2	13674.3	13818.1	13849.5	14236.1	14209.1	14354.9	14317.2	14352.9	14419.6	14531	14481.1	14586.5	14914.4	15213.5	15364.2	15723.2	16127.8	16124.7	17645.3
91000	New England	45	Information	39913.4	41215.6	42537.8	42415.5	41382.4	42590.7	41265.9	41559.1	39959.3	40621.5	40687.3	40932.4	43005.5	44043.2	44440.9	43276.4	43763.8	44378.6	43838.3	44106	47052.7
91000	New England	51	Finance and insurance	83245.4	80103.6	76347	77046.9	72682.8	76040	79796.2	80824.8	84089.3	88601.6	90377.8	90295	82130.8	82279.9	82976.8	85520.3	84630.6	88264.2	89788.9	95812	100048
91000	New England	56	Real estate and rental and leasing	122224	124048	125018	126763	126302	129231	130264	132881	130830	131408	132101	130360	131535	130526	133231	132928	132506	133361	135457	135332	136336
91000	New England	60	Professional, scientific, and technical services	70412.1	72083.8	74210.3	75061.6	74096.4	75656.8	76135.9	76966.2	79872.6	80871	81049.1	79188.1	80221.4	80450.9	81092.6	82392.7	81880.2	83211.6	86975.6	88209.3	88158.5
91000	New England	64	Management of companies and enterprises	16162.2	16510.7	17474.2	17775.7	17193.9	17360.5	17679.9	18187.6	19441.1	19150.4	20148	22237.2	21377.2	20375.7	20749.3	21716.8	22434.8	21659.7	21640.1	22407.6	24236.9
91000	New England	65	Administrative and support and waste management and remediation services	21163	21726.2	22076.7	22250.8	22281	22364.8	22564.3	22729.7	23675.9	23546.6	23616.2	23610.6	23916.4	24117.9	24552	24695	24861	25499.2	25851.7	26249	26418.5
91000	New England	69	Educational services	22268	22829.6	23110.4	23193	23326.6	23546.5	23751	23922.2	24092.3	24514.5	24470.4	24536.9	24645.6	24926.4	25047.5	25328.1	25145.7	25690.1	25971.4	26403.9	26339.4
91000	New England	70	Health care and social assistance	75289	76828.6	79031.2	77461.8	78914.3	78959.7	78847.9	80382.9	82259.9	82500.5	82672.6	83489.5	84749.8	84455.4	84704.3	85181.2	84835.3	86515.1	87552.9	89959.9	88149.1
91000	New England	76	Arts, entertainment	7894.2	8296.2	8337.7	8177.4	8040.9	8548.9	8554.6	8433.6	8836.7	9010.6	9008.8	9124.6	9546.8	9555.8	9746.5	9918.2	10780.1	10866.4	11006.3	11116.3	11296.5

Parameters and starting matrix to compare data for 1st quarter of year 2010 to 2021 and see the balanced matrix:



Result – color coded target matrix and balancing matrix:



The mouse-over tool tip shows comparison to other two matrices:

- Export Statistics to Excel
- See Fields Correlation
- Matrix Balancing

Balancing for sum of rows and columns of the starting matrix for sum values of the field1 'col2010Q1' and the target matri

yes, balanced, precision: 0.3187, steps: 5, maximum difference of cells in balancing and target matrixs = 106468.59, maxin

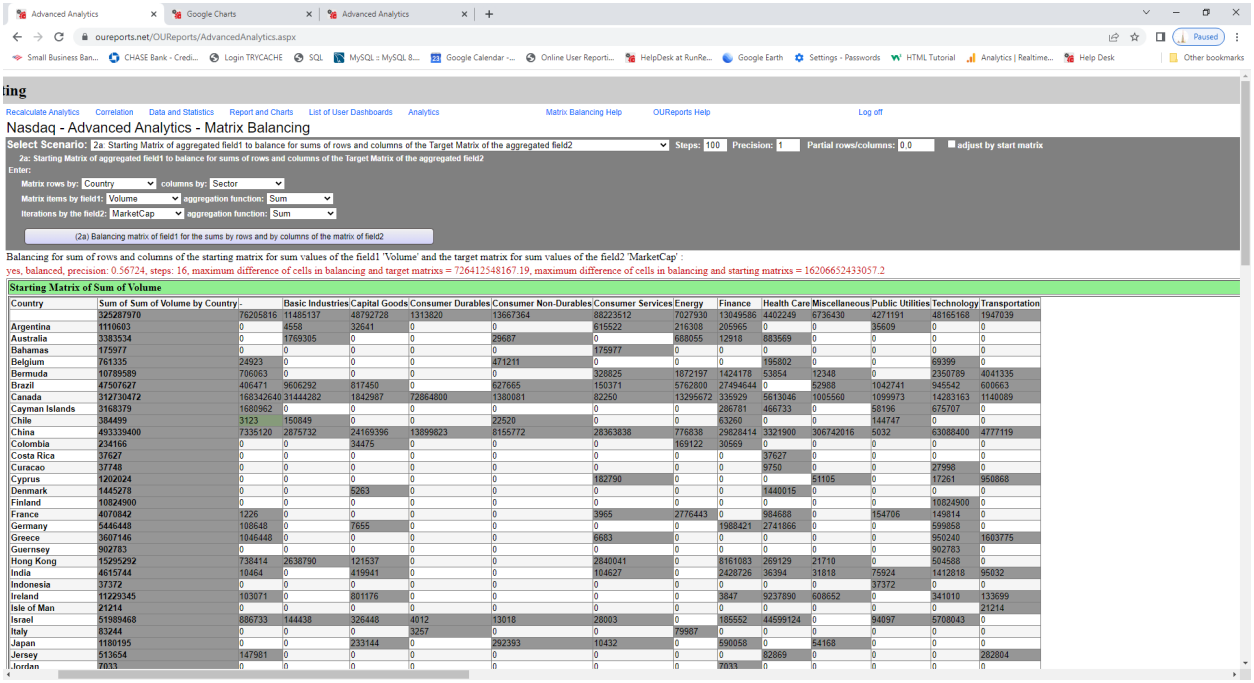
Starting Matrix of Sum of col2010Q1

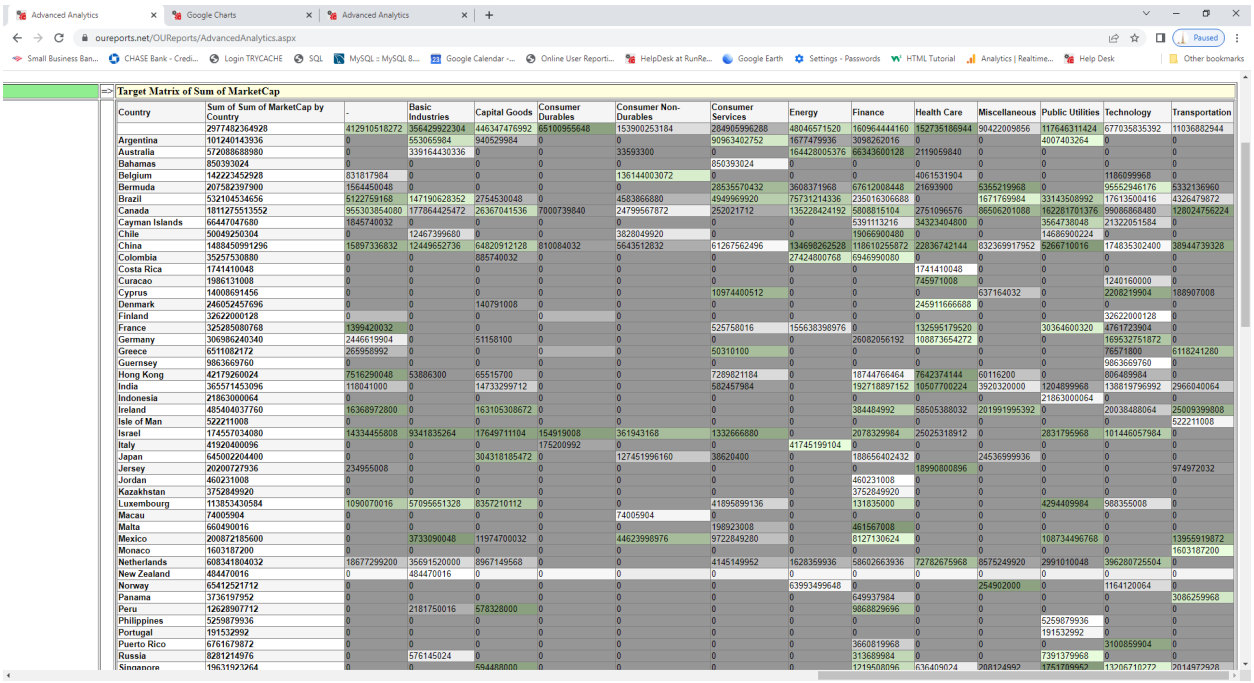
GeoName	Sum of Sum of col2010Q1 by GeoName	Accommodation and food services	Administrative and support and waste management and remediation services	Agriculture, forestry, fishing and hunting	Arts, entertainment, and recreation	Construction	Educational services	Finance and insurance	Health care a social assist
Far West	2327882.2	83594.6	77880.4	37148.3	35965.7	92271.7	28731.4	127733	17252
Great Lakes	1783366.2	48265.6	601	-43% compare to target. -46% compare to balanced			25972.2	146002	16850
Mideast	2363171.4	62126.1	73365.1	0	31456	85028.1	54309.7	307906	21320
New England	728182.8	20791.6	21163	0	7894.2	25456.4	22268	83245.4	75289
Plains	823195.2	21784.2	23142.8	26525.9	7899.2	34363.7	10531	77724.7	77306
Rocky Mountain	427217.6	13781.3	13486.7	6631	4819.9	21225.3	4803	26440.2	31564
Southeast	2696791.1	96639.5	101836	23508	31070.1	122508	34580.4	165646	24058
Southwest	1464119.4	46937.7	54617.1	14342.7	9780.5	73336.3	13787.4	80497.5	11249
Total: 12613925.9	Sum of Sum of col2010Q1 by Description:	393920.6	425658.2	125368.6	148177.1	519400.7	194983.1	1015194.8	10914

Balancing coefficients

Steps	ki1	ki2	ki3	ki4	ki5	ki6	ki7	ki8	kj1	kj2	kj3	kj4	kj5	kj6	kj7
1	1.11464	0.96038	0.93714	0.93308	0.97385	1.0805	0.99062	1.00924	0.94274	1.08766	1.02141	0.6902	1.17687	0.86097	1.17
2	0.99762	0.99862	0.97469	0.98224	0.9937	1.02366	1.00177	1.04826	0.99856	0.99844	0.99516	1.00264	0.99742	1.00511	1.00
3	0.99994	0.99985	0.99903	0.99917	0.99992	1.00088	1.0001	1.00169	0.99994	0.99994	0.99979	1.0001	0.9999	1.0002	1.00
4	1	0.99999	0.99996	0.99997	1	1.00003	1	1.00006	1	1	0.99999	1	1	1.00001	1.00
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Result:	1.11191	0.95891	0.9125	0.91572	0.96764	1.10707	0.99248	1.0598	0.94133	1.0859	1.01625	0.69209	1.17371	0.86555	1.18

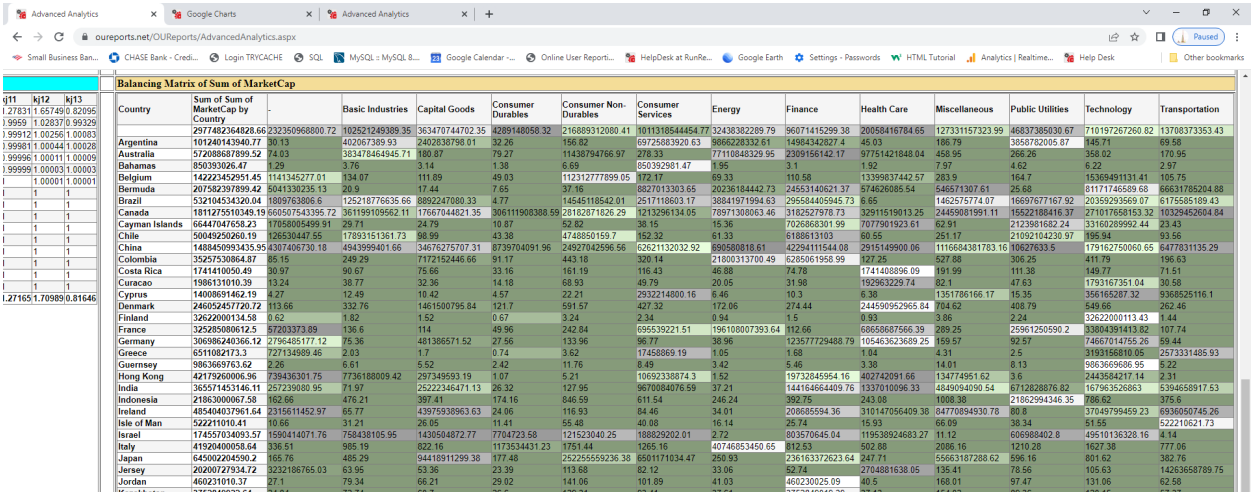
Nasdaq:





Target Matrix of Sum of MarketCap

Country	Sum of Sum of MarketCap by Country	-	Basic Industries	Capital Goods	Consumer Durables	Consumer Non-Durables	Consumer Services	Energy	Finance	Health Care	Miscellaneous	Public Utilities	Technology	Transportation
	297748236492	412910518272	356429922304	446347476992	65100955648	153900253184	284905996288	48046571520	160964444160	152735186944	90422009856	117646311424	677035835392	110368822944
Argentina	101240143936	0	553065984	940529984	0	0	90963402752	1677479936	3098262016	0	0	4007403264	0	0
Australia	572088688980	0	339164430336	0	0	33593300	0	164428005376	66343600128	2119059840	0	0	0	0
Bahamas	850393024	0	0	0	0	0	850393024	0	0	0	0	0	0	0
Belgium	142223452928	831817984	0	0	0	136144003072	0	0	0	0	4061531904	0	1186099968	0
Bermuda	207582397900	1564450048	0	0	0	0	28535570432	3608371968	67612008448	21693900	5355219968	0	95552946176	5332136960
Brazil	532104534656	5122759168	147190628352	2754530048	0	4583866880	4949969920	75731214336	235016306688	0	1671769984	33143508992	17613500416	4326479872
Canada	1811275513552	955303854080	177864425472	26367041536	7000739840	24799567872	252021712	135228424192	5808815104	27510965760	86506201088	162281701376	99086866480	128024756224
Cayman Islands	66447047680	1845740032	0	0	0	0	0	0	5391113216	34323404800	0	3564738048	21322051584	0
Chile	50049250304	0	12467399680	0	0	3828049920	0	0	19066900480	0	0	14686900224	0	0
China	1488450991296	15897336832	12449662736	64820912128	810084032	5643512832	61267562496	134698262528	118610255872	22836742144	832369917952	5266710016	1748353024000	38944739328
Colombia	35257530880	0	0	885740032	0	0	0	27424800768	6946990080	0	0	0	0	0
Costa Rica	1741410048	0	0	0	0	0	0	0	0	1741410048	0	0	0	0
Curacao	1986131008	0	0	0	0	0	0	0	0	745971008	0	0	1240160000	0
Cyprus	14008691456	0	0	0	0	0	10974400512	0	0	0	637164032	0	2208219904	188907008
Denmark	246052457696	0	0	140791008	0	0	0	0	0	245911666688	0	0	0	0
Finland	32622000128	0	0	0	0	0	0	0	0	0	0	0	32622000128	0
France	325285080768	1399420032	0	0	0	0	525758016	155638398976	0	132595179520	0	30364600320	4761723904	0
Germany	306986240340	2446619904	0	51158100	0	0	0	0	26082056192	108873654272	0	0	169532751872	0
Greece	6511082172	2659589 92	0	0	0	0	50310100	0	0	0	0	0	76571800	6118241280
Guernsey	9863669760	0	0	0	0	0	0	0	0	0	0	0	9863669760	0
Hong Kong	42179260024	7516290048	53886300	65515700	0	0	7289821184	0	18744766464	7642374144	60116200	0	806489984	0
India	365571453096	118041000	0	14733299712	0	0	582457984	0	192718897152	10507700224	3920320000	1204899968	138819796992	2966040064
Indonesia	21863000064	0	0	0	0	0	0	0	0	0	0	21863000064	0	0
Ireland	485404037760	16368972800	0	163105308672	0	0	0	0	384484992	58505388032	2019991995392	0	20038488064	25009399808
Isle of Man	522211008	0	0	0	0	0	0	0	0	0	0	0	0	522211008
Israel	174557034080	14334455808	9341835264	17649711104	154919008	361943168	1332666880	0	2078329984	25025318912	0	2831795968	101446057984	0
Italy	41920400096	0	0	0	175209992	0	0	41745199104	0	0	0	0	0	0
Japan	645002204400	0	0	304318185472	0	127451996160	38620400	0	188656402432	0	24536999936	0	0	0
Jersey	20200727936	234955008	0	0	0	0	0	0	0	18990800896	0	0	0	974972032
Jordan	460231008	0	0	0	0	0	0	0	460231008	0	0	0	0	0
Kazakhstan	3752849920	0	0	0	0	0	0	0	3752849920	0	0	0	0	0
Luxembourg	113853430584	1090070016	57095651328	8357210112	0	0	41895899136	0	131835000	0	0	4294409984	988355008	0
Macau	74005904	0	0	0	0	74005904	0	0	0	0	0	0	0	0
Malta	660490016	0	0	0	0	0	19892308	0	461567008	0	0	0	0	0
Mexico	20087218560	0	3733090048	11974700032	0	44623998976	9722849280	0	8127130624	0	0	108734496768	0	13955919872
Monaco	1603187200	0	0	0	0	0	0	0	0	0	0	0	0	1603187200
Netherlands	608341804032	18677299200	35691520000	8967149568	0	0	4145149952	1628359936	58602663936	72782675968	8575249920	2991010048	396280725504	0
New Zealand	484470016	0	484470016	0	0	0	0	0	0	0	0	0	0	0
Norway	65412521712	0	0	0	0	0	0	63993499648	0	0	254902000	0	1164120064	0
Panama	3736197952	0	0	0	0	0	0	0	64993984	0	0	0	0	3086259968
Peru	126289077120	0	2181750016	578328000	0	0	0	0	9868829696	0	0	0	0	0
Philippines	5259879936	0	0	0	0	0	0	0	0	0	0	5259879936	0	0
Portugal	191532992	0	0	0	0	0	0	0	0	0	0	191532992	0	0
Puerto Rico	6761679872	0	0	0	0	0	0	0	3660819968	0	0	0	3100859904	0
Russia	8281214976	0	576145024	0	0	0	0	0	313689984	0	0	7391379968	0	0
Singapore	19631932264	0	0	594488000	0	0	0	0	12196908096	636409024	298124992	1751789952	13296710272	2014872928



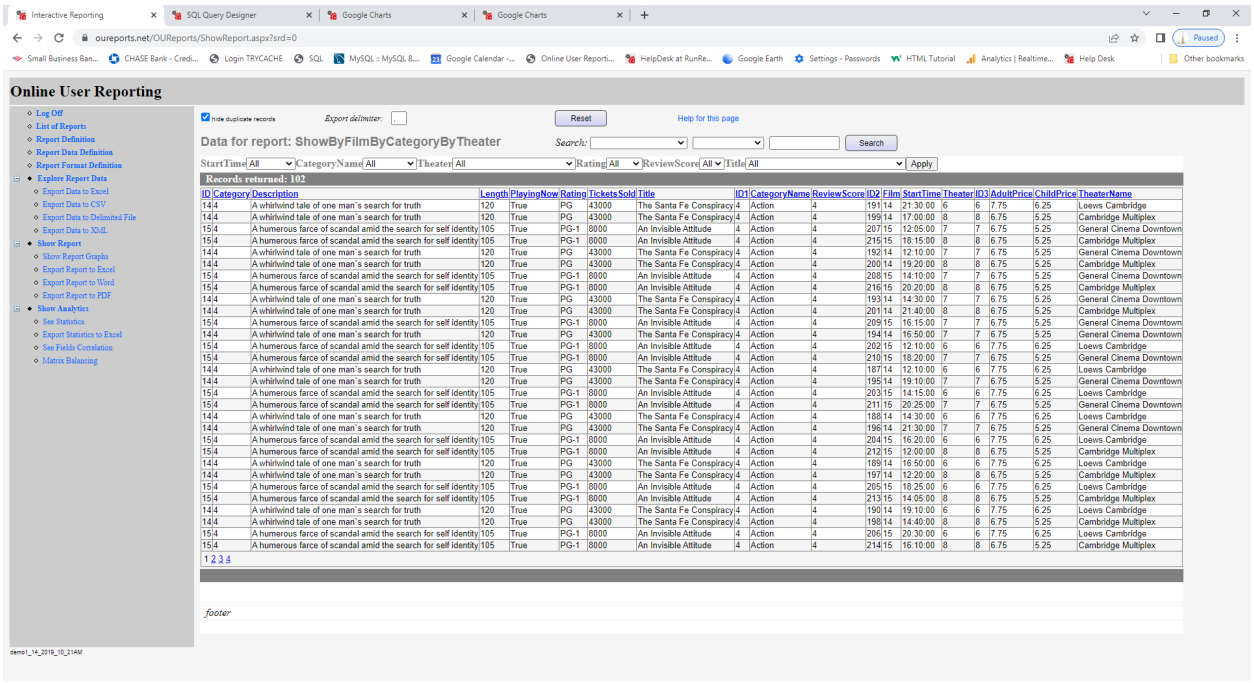
Balancing Matrix of Sum of MarketCap

kj11	kj12	kj13
1.27831	1.65749	0.82095
0.9959	1.02837	0.99329
0.99912	1.00256	1.00003
0.99981	1.00044	1.00026
0.99996	1.00011	1.00009
0.99999	1.00003	1.00003
	1.00001	1.00001
	1	1
	1	1
	1	1
	1	1
	1	1
	1	1
	1	1
1.27165	1.70989	0.81646

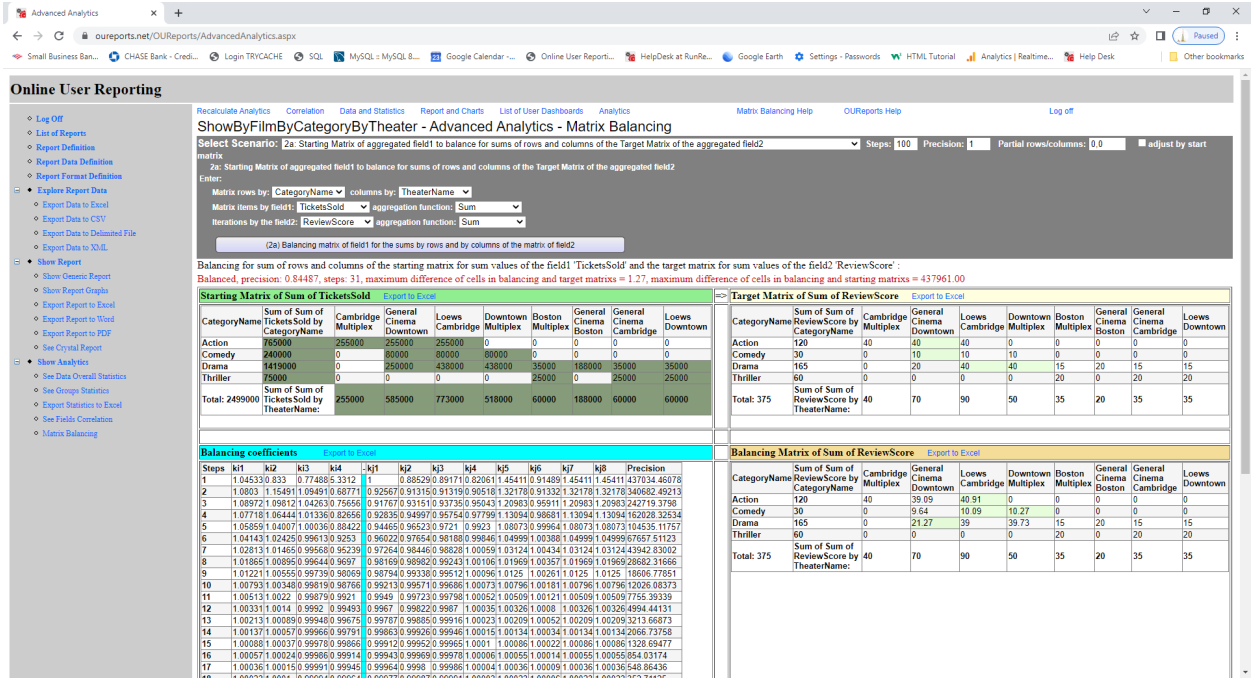
Country	Sum of Sum of MarketCap by Country	-	Basic Industries	Capital Goods	Consumer Durables	Consumer Non-Durables	Consumer Services	Energy	Finance	Health Care	Miscellaneous	Public Utilities	Technology	Transportation
	297748236492.66	2323509068800.72	1025212493089.35	3634707447 02.35	1289148058.32	2168893120 80.41	1011318544454.77	324383822 89.79	96071415299 38	2005841678 4.65	1273311573 23.99	4683738503 0.67	7101972672 60.82	1370837335 3.43
Argentina	101240143940.77	30.13	4020673899.93	2402838798.01	32.26	156.82	69725883920.63	9866228332.61	14984342827.4	45.03	186.79	3858782005.87	145.71	69.58
Australia	572088688799.52	74.03	3834784649 45.71	180.87	79.27	11438794766.97	278.33	77110848329.95	2309156142.17	97751421848.04	458.95	266.26	358.02	170.95
Bahamas	850393026.47	1.29	3.76	3.14	1.38	6.69	850392981.47	1.95	3.1	1.92	7.97	4.62	6.22	2.97
Belgium	142223452951.45	1141345277.01	134.07	111.89	49.03	112312777899.05	172.17	69.33	110.58	13399837442.57	283.9	164.7	163694911 31.41	105.75
Bermuda	207582397899.42	5041330235.13	20.9	17.44	7.65	37.16	8827013303.65	20236184442.73	24553140621.37	5746260 85.54	546571307.61	25.68	81171746589.68	66631785204.88
Brazil	532104534529.04	1809763806.6	1252187766 35.66	8892247080.33	4.77	14545118542.01	2517118603.17	38841971994.63	29558440405943.73	6.65	1462575774.07	16697677167.92	203592935 69.67	6175585189.43
Canada	1811275510349.19	6605075433 95.72	3611991095 62.11	1766704482 1.35	3061119088388.59	2818287182 6.29	1213296134.05	7897130806 3.46	3182527978.73	3291151901 3.25	2445908199 1.11	1552218416.37	2710176581 53.32	1032945260 4.84
Cayman Islands	66447047658.23	17058005499 91	29.71	24.79	10.87	52.82	38.15	15.36	7026868301 99	7077901923 61	62.91	2123981682.24	331602899 92.44	23.43
Chile	50049250260.19	126530447 55	1789315136 1.73	98.99	43.38	4748850159.7	152.32	61.33	6188613103	60.55	251.17	2109210423 0.97	195.94	93.56
China	1488450993435.95	4307406730.18	4943999401.66	34676275707.31	8739704091.96	24927042596.56	62621132032.92	690580818.61	4229411154 4.08	2915149900.06	1116684381783.16	10627633.5	179162750060.65	6477831135.29
Colombia	35257530864.87	85.15	249.29	7172152446.66	91.17	443.18	320.14	21800313700.49	6265061958.99	127.35	527.88	306.25	411.79	196.63
Costa Rica	1741410050.49	30.97	90.67	75.66	33.16	161.19	116.43	46.88	74.76	1741408896.09	191.99	111.38	149.77	71.6
Curacao	1986131010.39	13.24	38.77	32.36	14.18	68.93	49.79	20.05	31.98	192963229.74	82.1	47.63	1793167351.04	30.58
Cyprus	14008691462.19	4.27	12.49	10.42	4.57	22.21	2932214800.16	6.46	10.3	6.38	1351786166.17	15.35	356165287.32	9368525116.1
Denmark	246052457720.72	113.66	332.76	1461500795.84	121.7	591.57	427.32	172.06	274.44	244590952965.84	704.62	408.79	549.66	262.46
Finland	32622000134.58	0.62	1.82	1.52	0.67	3.24	2.34	0.94	1.5	0.93	3.86	2.24	32622000113.43	1.44
France	325285080612.5	57203373.89	136.6	114	49.96	242.84	695329221.51	1961080073 93.64	112.66	68658687566.39	289.25	259612509 0.2	3380439141 3.82	107.74
Germany	306986240366.12	2796485177.12	75.36	481386571.52	27.56	133.96	96.77	38.96	1235777294 88.79	1054636236 89.25	159.57	52.57	746670147 55.26	59.44
Greece	6511082173.3	727134989.46	2.03	1.7	0.74	3.62	17458869.19	1.05	1.68	1.84	4.31	2.5	3193156810.05	2573331485.93
Guernsey	9863669763.62	2.26	6.61	5.52	2.42	11.76	8.49	3.42	5.46	3.38	14.01	8.13	9863669686.95	5.22
Hong Kong	42179260006.96	739436301.75	7736188009.42	297349593.19	1.07	5.21	10692338874.3	1.52	19732845954.16	4027420 91.66	134774951.62	3.6	2443584217.14	2.31
India	365571453146.11	257239080.95	71.97	252223464 71.13	26.32	127.95	9670084076.59	37.21	1441646644 09.76	1337010096.33	4849094090.54	6712828876.82	167963526863	5394658917.53
Indonesia	21863000067.58	162.66	476.21	397.41	174.16	846.59	611.54	246.24	392.75	243.08	1008.38	21862994346.35	786.62	375.6
Ireland	485404037961.64	23156111452.97	65.77	43975938963.63	24.06	116.93	84.46	34.01	208685594.36	3101470564 09.38	8477089430.78	30.8	3704979945 9.23	6936050745.26
Isle of Man	522211010.41	10.66	31.21	26.05	11.41	55.48	40.08	16.14	25.74	15.93	66.09	38.34	51.55	522210621.73
Israel	174557034093.57	1590414071.76	758438105.95	1430504872.77	7704723.58	121523040.25	188829202.01	2.72	803570645.04	1195389246 83.27	11.12	6069884 02.8	495101363 28.16	4.14
Italy	41920400058.64	336.51	985.19	822.16	1173534431.23	1751.44	1265.16	407468534 50.65	812.53	502.88	2086.16	1210.28	1627.38	777.06
Japan	645002204590.2	165.76	485.29	944189112 99.38	177.48	2522555559236.38	65011710 34.47	250.93	2361633726 23.64	247.71	5566318728 8.62	596.16	801.62	382.76
Jersey	20200727934.72	3232186765.03	63.95	53.36	23.39	113.68	82.12	33.06	52.76	2704881638.05	135.41	78.56	105.63	14263658789.75
Jordan	460231010.37	27.1	79.34	66.21	29.02	141.06	101.89	41.03	460230025.09	40.5	168.01	97.47	131.06	62.58
Kazakhstan	3752849922.64	24.84	72.74	60.7	26.6	129.31	93.41	37.61	3752849019.39	37.13	154.02	89.36	120.15	57.37
Luxembourg	113853430489.3	519114630.37	3984696217 2.38	3733598565.63	4.87	23.67	67902902143.93	6.89	96915360.3	6.8	28.2	417074057.53	133683478.23	10.5
Macau	74005906.35	16.91	49.5	41.31	18.1	74005338.86	63.56	25.59	40.82	25.27	104.81	60.81	81.76	39.04
Malta	660490018.25	4.08	11.96	9.98	4.37	21.25	6601842279	6.18	305655.36	6.1	25.31	14.69	19.75	9.43
Mexico	20087218562.92	669093081.62	47229590.02	124377141900.37	17.86	146499147 18.15	23407762917.57	25.25	7475753929.62	24.93	103.42	27589891732.07	80.68	2655397508.24
Monaco	1603187200.54	10981326.06	4.63	3.86	1.69	8.23	5.95	2.39	3.82	2.36	9.81	5.69	7.65	1592205820.4
Netherlands	608341803992.91	3911001302 8.16	52392318256.08	19029281355.57	18.37	89.28	12538642109.6	5222701366.41	1294439555 40.06	2527869805 6.1	6635547578 8.33	1027078066 8.4	1562629122 76.16	39.61
New Zealand	484470017.04	0.03	484470016.08	0.06	0.03	0.14	0.1	0.04	0.06	0.04	0.16	0.1	0.13	0.06
Norway	65412521659.3	24.84	72.71	60.68	26.59	129.26	93.37	63699829 84.07	59.97	37.11	18475869.94	89.32	1694215154.09	57.35
Panama	3736197954.59	23.84	69.79	58.24	25.53	124.08	89.63	36.09	1358576883.6	35.63	147.79	85.74	115.29	23776202 59.35
Peru	126289077691.41	24.11	8540951854.57	29506650.52	25.81	125.46	90.63	36.49	4058448439.41	36.02	149.44	86.7	116.58	55.66
Philippines	5259879938.63	119.51	349.89	291.99	127.97	622.03	449.32	180.92	288.57	178.6	740.9	52598757 34.98	577.97	275.97
Portugal	191532994.35	3.69	10.8	9.01	3.95	19.2	13.87	5.58	8.91	5.51	22.87	191532864.58	17.84	8.52
Puerto Rico	6761679874.7	5.94	17.38	14.51	6.36	30.9	22.32	8.99	6378160416.67	8.87	36.81	21.36	383519270.87	13.71
Russia	8281214976.08	296917218.96	663824787.11	16.54	7.25	35.24	25.46	10.25	187656316.73	10.12	41.98	7132816458.08	32.75	15.64

Report: ShowByFilmByCategoryByTheater in our Sandbox from http://OUReports.com

Data:



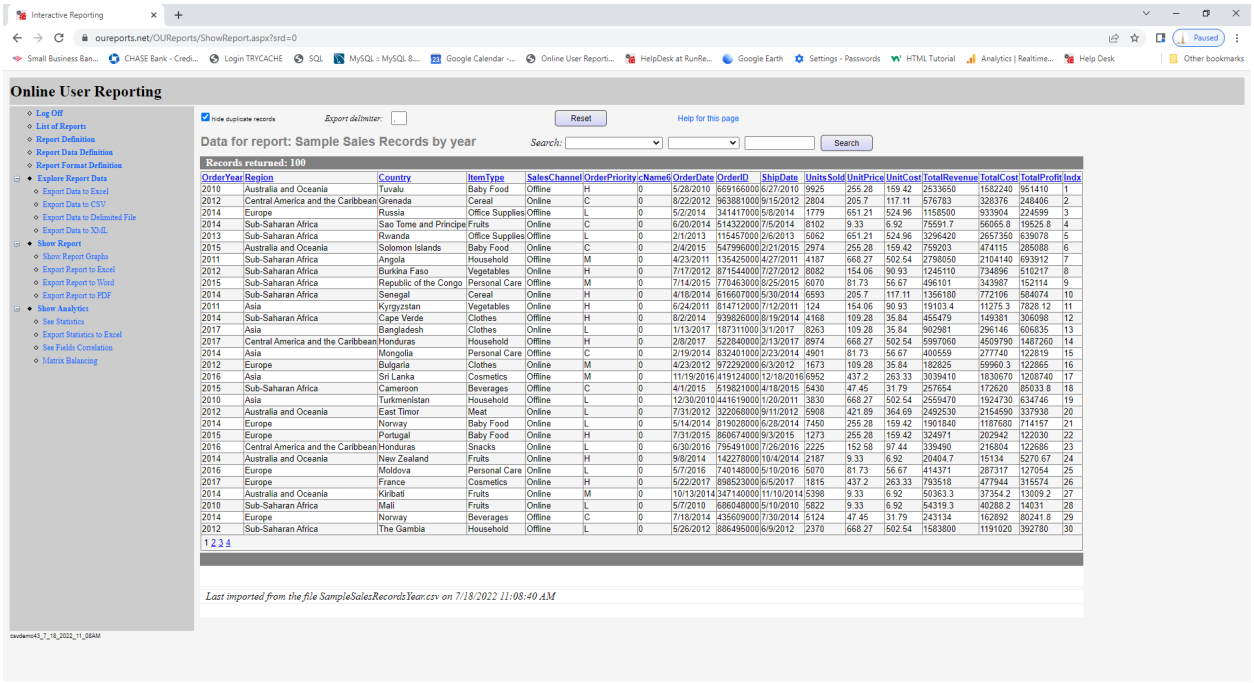
The sum of tickets sold is in balance with review scores:



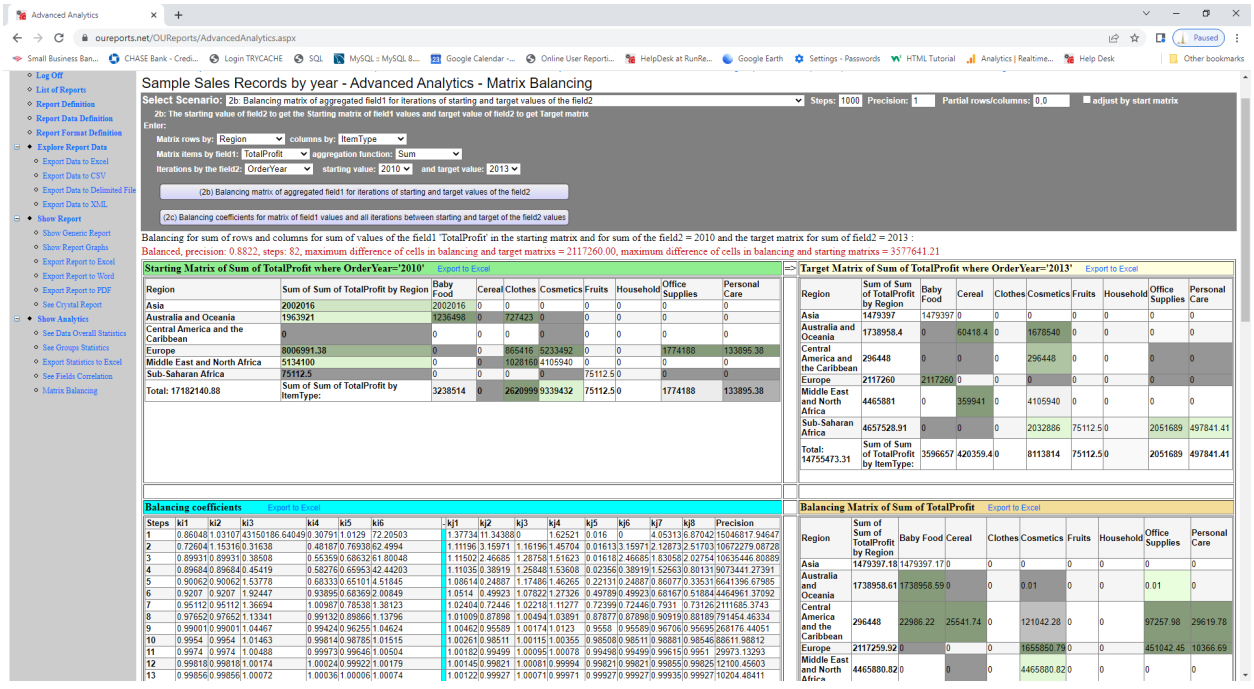
2b Scenario samples:

Report: Sample Sales Records by year in our Analytics from http://OUReports.com

Data:

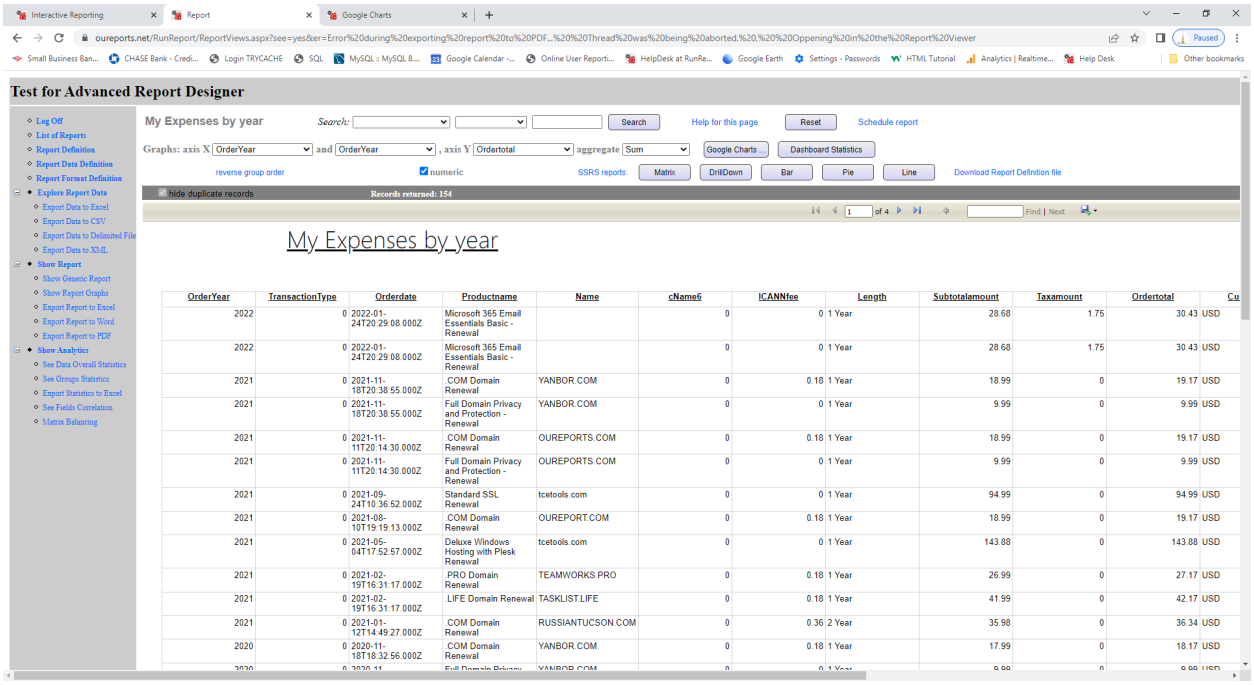


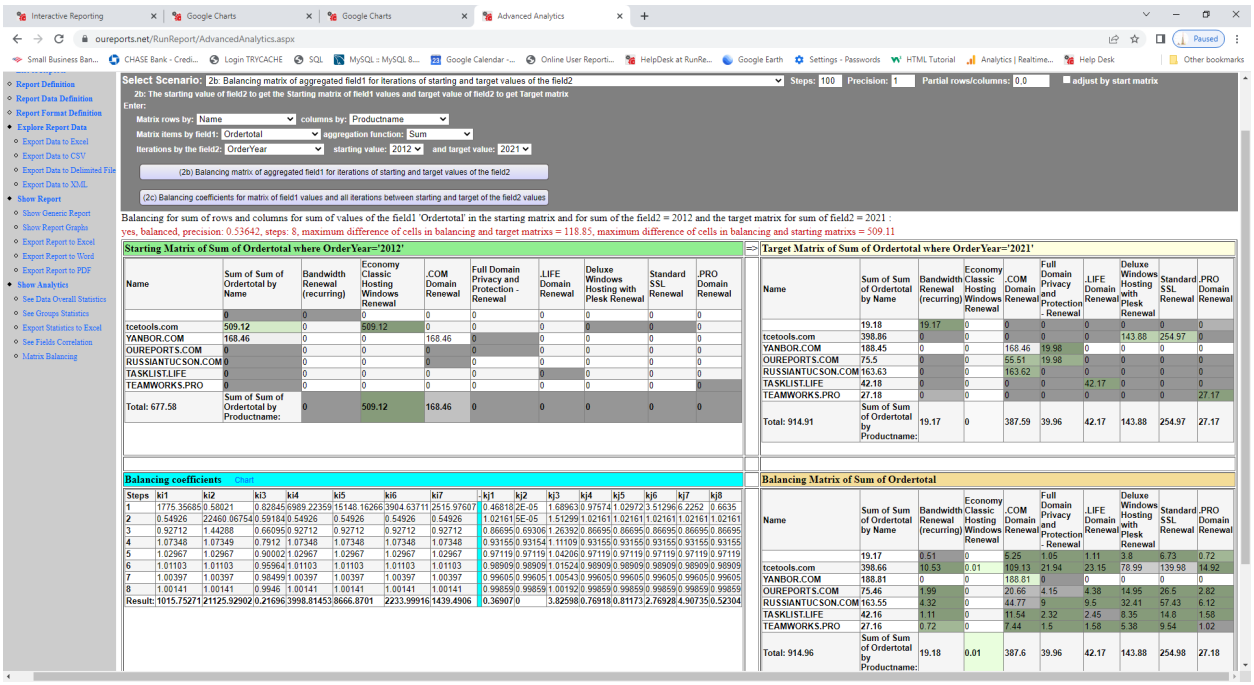
Parameters, Starting, and Target matrix:



Report: My Expenses by year in our Analytics from http://OUReports.com

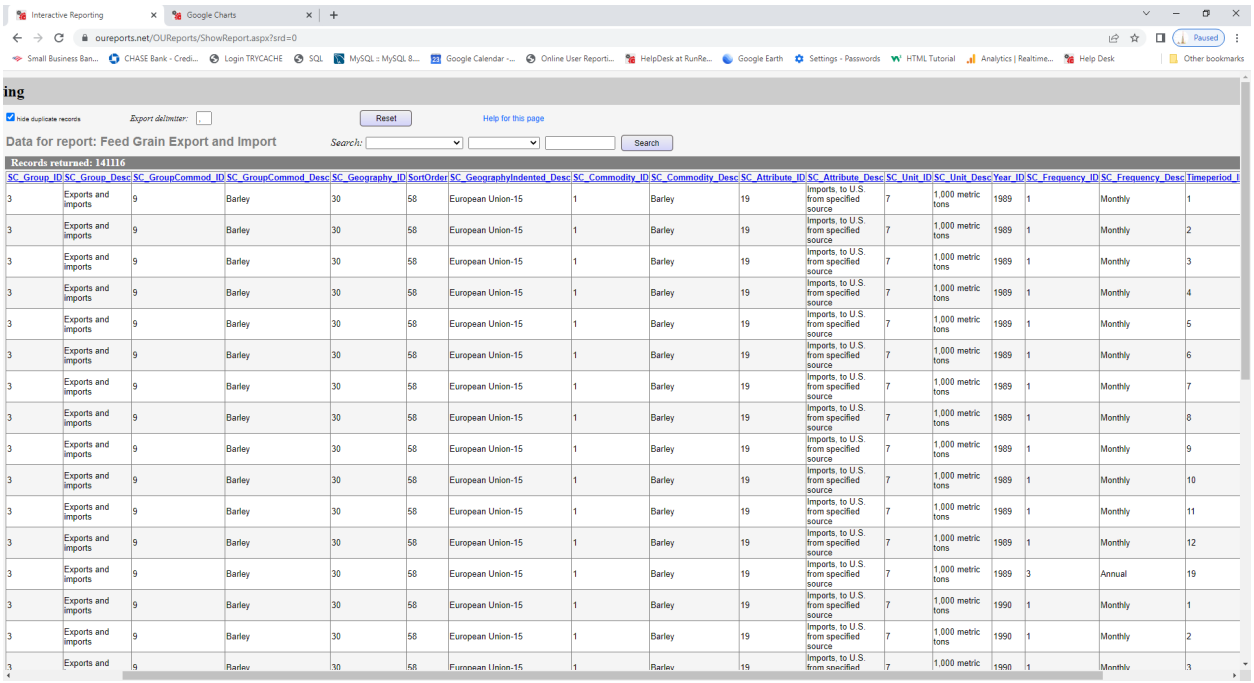
Data:





Report: Feed Grain Export and Import

Data has column Year_ID:

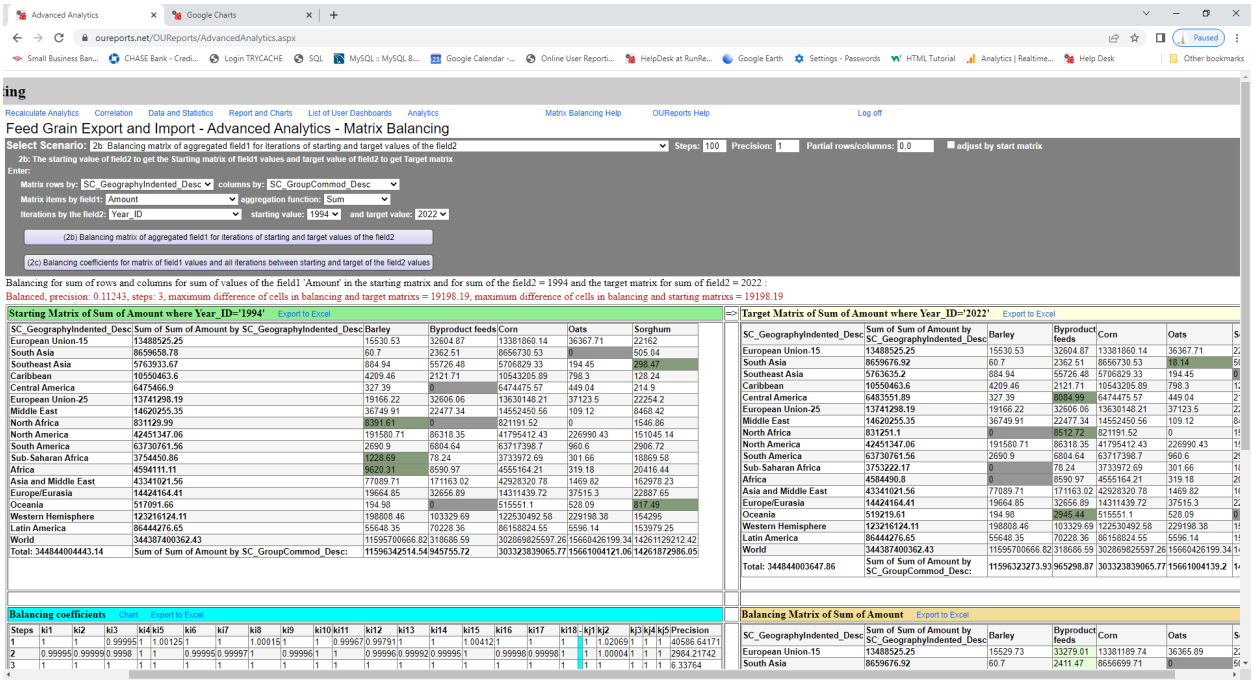


Data for report: Feed Grain Export and Import

Records returned: 141116

SC_Group_ID	SC_Group_Desc	SC_GroupCommod_ID	SC_GroupCommod_Desc	SC_Geography_ID	SortOrder	SC_GeographyIndented_Desc	SC_Commodity_ID	SC_Commodity_Desc	SC_Attribute_ID	SC_Attribute_Desc	SC_Unit_ID	SC_Unit_Desc	Year_ID	SC_Frequency_ID	SC_Frequency_Desc	Timeperiod_I
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	1
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	2
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	3
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	4
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	5
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	6
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	7
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	8
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	9
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	10
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	11
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	1	Monthly	12
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1989	3	Annual	19
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1990	1	Monthly	1
3	Exports and imports	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified source	7	1,000 metric tons	1990	1	Monthly	2
3	Exports and	9	Barley	30	58	European Union-15	1	Barley	19	Imports, to U.S. from specified	7	1,000 metric	1990	1	Monthly	3

Parameters and starting matrix:



Feed Grain Export and Import - Advanced Analytics - Matrix Balancing

Balancing for sum of rows and columns for sum of values of the field1 'Amount' in the starting matrix and for sum of the field2 = 1994 and the target matrix for sum of field2 = 2022 :

Balanced, precision: 0.11243, steps: 3, maximum difference of cells in balancing and target matrixs = 19198.19, maximum difference of cells in balancing and starting matrixs = 19198.19

Starting Matrix of Sum of Amount where Year_ID='1994'

SC_GeographyIndented_Desc	Sum of Sum of Amount by SC_GeographyIndented_Desc	Barley	Byproduct feeds	Corn	Oats	Sorghum
European Union-15	13488525.25	15530.53	32604.87	13381860.14	36367.71	22162
South Asia	8659658.78	60.7	2362.51	8656730.53	0	505.04
Southeast Asia	5763933.67	884.94	55726.48	5706829.33	194.45	298.47
Caribbean	10550463.6	4209.46	2121.71	10543205.89	798.3	128.24
Central America	6475466.9	327.39	0	6474475.57	449.04	214.9
European Union-25	13741298.19	19166.22	32606.06	13630148.21	37123.5	22254.2
Middle East	14620255.35	36749.91	22477.34	14552450.56	109.12	8468.42
North Africa	831129.99	3981.61	0	821191.52	0	1546.86
North America	42451347.06	191580.71	86318.35	41795412.43	226990.43	151045.14
South America	63730761.56	2690.9	6804.64	63717398.7	960.6	2906.72
Sub-Saharan Africa	3754450.86	1228.69	78.24	3733972.69	301.66	18869.58
Africa	4594111.11	9620.31	8590.97	4555164.21	319.18	20416.44
Asia and Middle East	43341021.56	77089.71	171163.02	42928320.78	1469.82	162978.23
Europe/Eurasia	14424164.41	19664.85	32656.89	14311439.72	37515.3	22887.65
Oceania	517091.66	194.98	0	515551.1	528.09	817.49
Western Hemisphere	123216124.11	198808.46	103329.69	122530492.58	229198.38	154295
Latin America	86444276.65	55648.35	70228.36	86158824.55	5596.14	153979.25
World	344387400362.43	11595700666.82	318686.59	302869825597.26	15660426199.34	14261129212.42
Total: 344844004443.14	Sum of Sum of Amount by SC_GroupCommod_Desc:	11596342514.54	945755.72	303323839065.77	15661004121.06	14261872986.05

Target Matrix of Sum of Amount where Year_ID='2022'

SC_GeographyIndented_Desc	Sum of Sum of Amount by SC_GeographyIndented_Desc	Barley	Byproduct feeds	Corn	Oats
European Union-15	13488525.25	15530.53	32604.87	13381860.14	36367.71
South Asia	8659676.92	60.7	2362.51	8656730.53	18.14
Southeast Asia	5763635.2	884.94	55726.48	5706829.33	194.45
Caribbean	10550463.6	4209.46	2121.71	10543205.89	798.3
Central America	6483551.89	327.39	8084.59	6474475.57	449.04
European Union-25	13741298.19	19166.22	32606.06	13630148.21	37123.5
Middle East	14620255.35	36749.91	22477.34	14552450.56	109.12
North Africa	831251.1	0	8512.72	821191.52	0
North America	42451347.06	191580.71	86318.35	41795412.43	226990.43
South America	63730761.56	2690.9	6804.64	63717398.7	960.6
Sub-Saharan Africa	3753222.17	0	78.24	3733972.69	301.66
Africa	4584490.8	0	8590.97	4555164.21	319.18
Asia and Middle East	43341021.56	77089.71	171163.02	42928320.78	1469.82
Europe/Eurasia	14424164.41	19664.85	32656.89	14311439.72	37515.3
Oceania	519219.61	194.98	2945.44	515551.1	528.09
Western Hemisphere	123216124.11	198808.46	103329.69	122530492.58	229198.38
Latin America	86444276.65	55648.35	70228.36	86158824.55	5596.14
World	344387400362.43	11595700666.82	318686.59	302869825597.26	15660426199.34
Total: 344844003647.86	Sum of Sum of Amount by SC_GroupCommod_Desc:	11596323273.93	965298.87	303323839065.77	15661004139.2

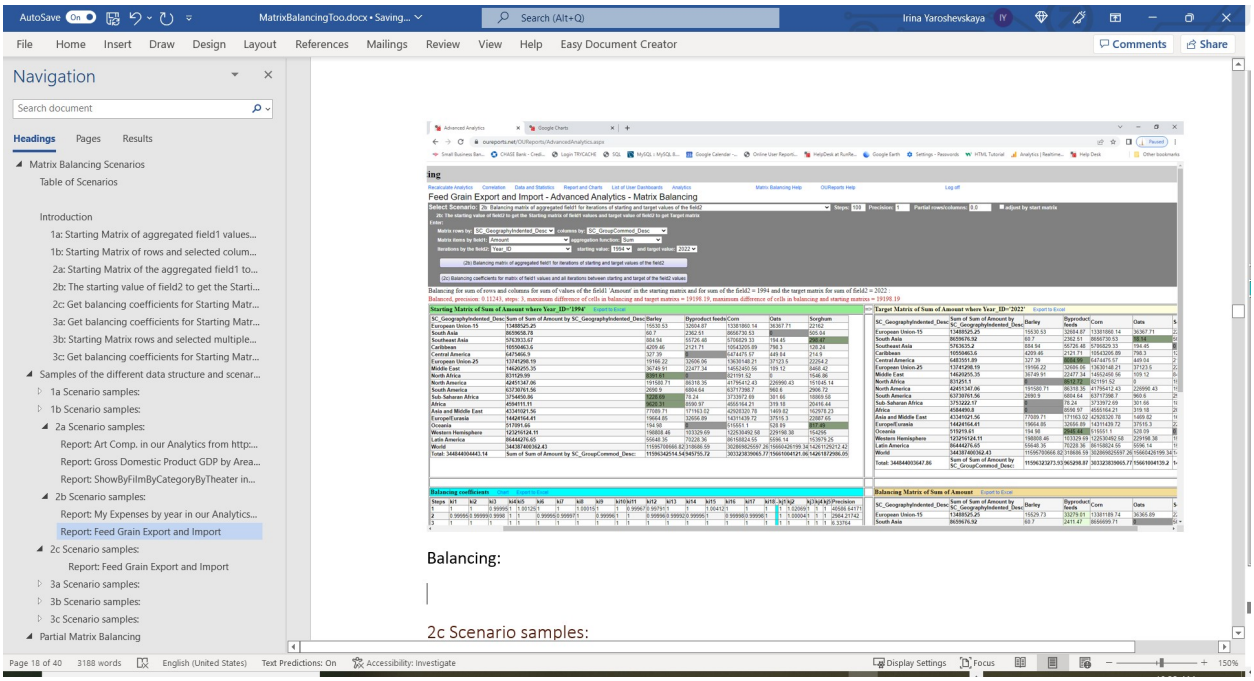
Balancing coefficients

Steps	ki1	ki2	ki3	ki4	ki5	ki6	ki7	ki8	ki9	ki10	ki11	ki12	ki13	ki14	ki15	ki16	ki17	ki18	kj1	kj2	kj3	kj4	kj5	Precision
1	1	1	0.99995	1	1.00125	1	1	1.00015	1	1	0.99967	0.99791	1	1	1.00412	1	1	1	1	1.02069	1	1	1	40586.64171
2	0.99995	0.99999	0.9998	1	1	0.99995	0.99997	1	0.99996	1	1	0.99996	0.99992	0.99995	1	0.99998	0.99998	1	1	1.00004	1	1	1	2984.21742
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6.33764

Balancing Matrix of Sum of Amount

SC_GeographyIndented_Desc	Sum of Sum of Amount by SC_GeographyIndented_Desc	Barley	Byproduct feeds	Corn	Oats
European Union-15	13488525.25	15529.73	33279.01	13381189.74	36365.89
South Asia	8659676.92	60.7	2411.47	8656699.71	0

Balancing:


AutoSave
MatrixBalancingToo.docx • Saving...
Search (Alt+Q)
Irina Yaroshevskaya
File Home Insert Draw Design Layout References Mailings Review View Help Easy Document Creator
Comments
Share
Navigation
Search document
Headings
Pages
Results
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2b: The starting value of field2 to get the Starti...
2c: Get balancing coefficients for Starting Matr...
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Balancing:
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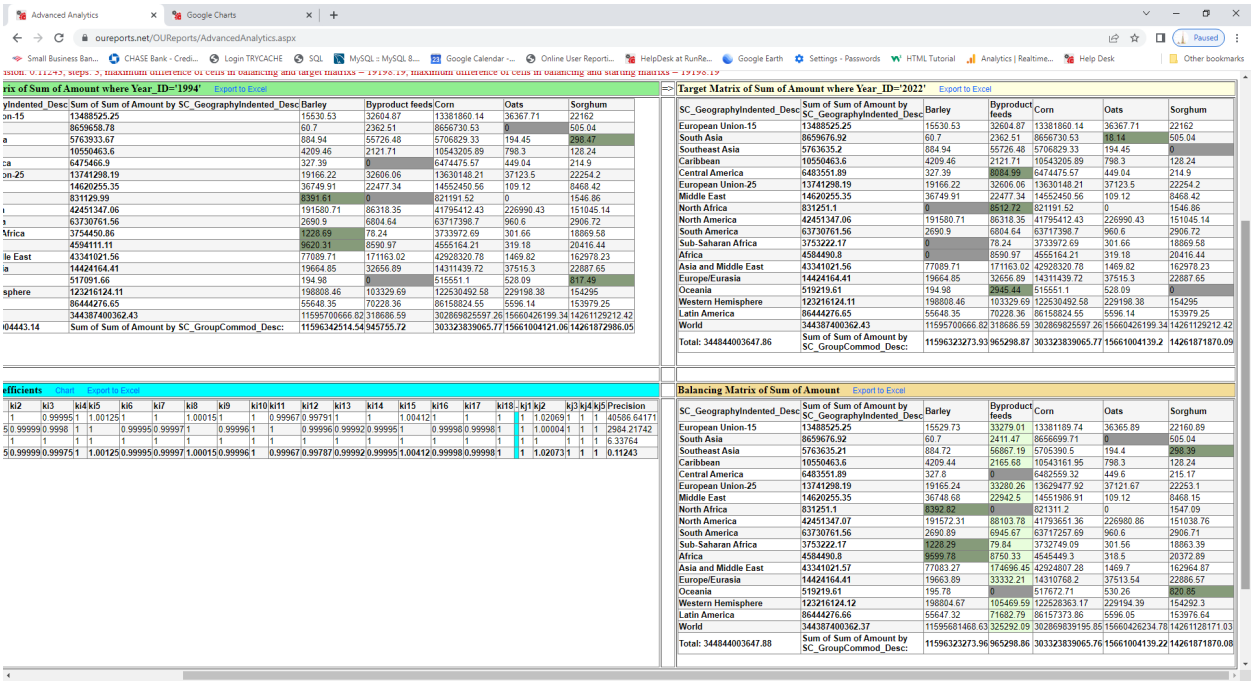
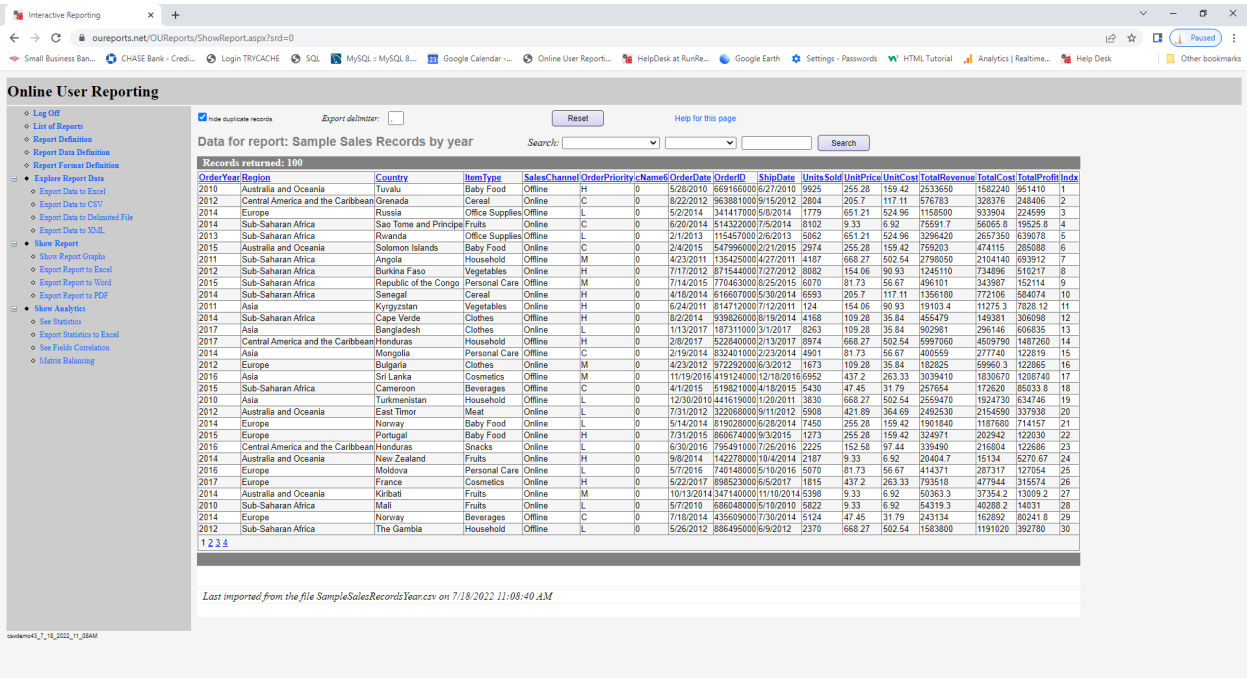
3188 words
English (United States)
Text Predictions: On
Accessibility: Investigate
Display Settings
Focus
150%


Advanced Analytics
Google Charts
oureports.net/OUReports/AdvancedAnalytics.aspx
Paused
Starting Matrix of Sum of Amount where Year_ID='1994'
Export to Excel
Target Matrix of Sum of Amount where Year_ID='2022'
Export to Excel
Balancing coefficients
Chart
Export to Excel
Balancing Matrix of Sum of Amount
Export to Excel

2c Scenario samples:

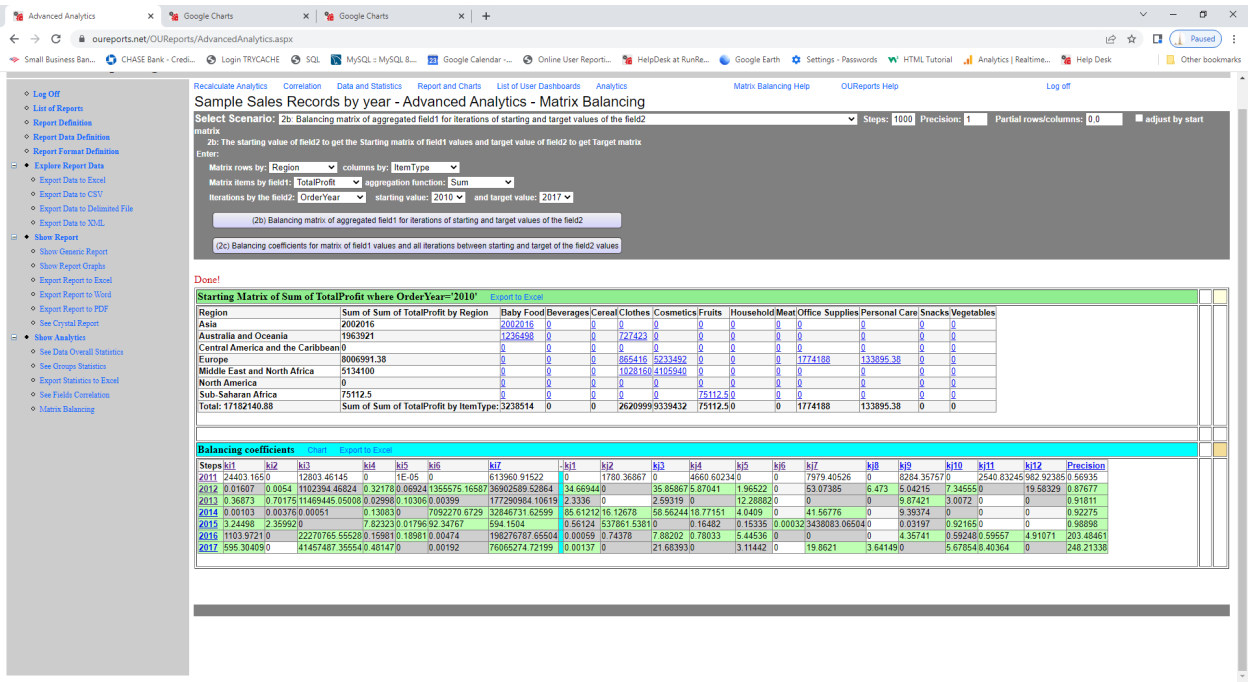
Report: Sample Sales Records by year in our Analytics from http://OUReports.com

Data:

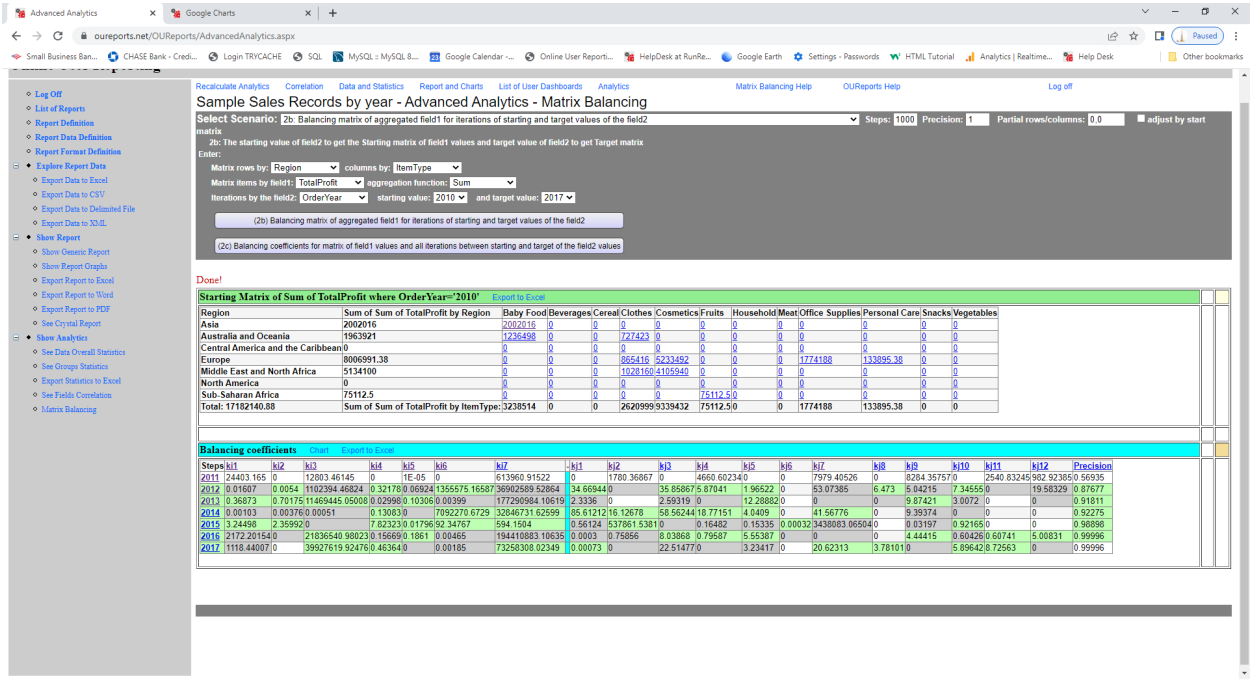


Parameters, Starting Matrix, and Balancing Coefficients:

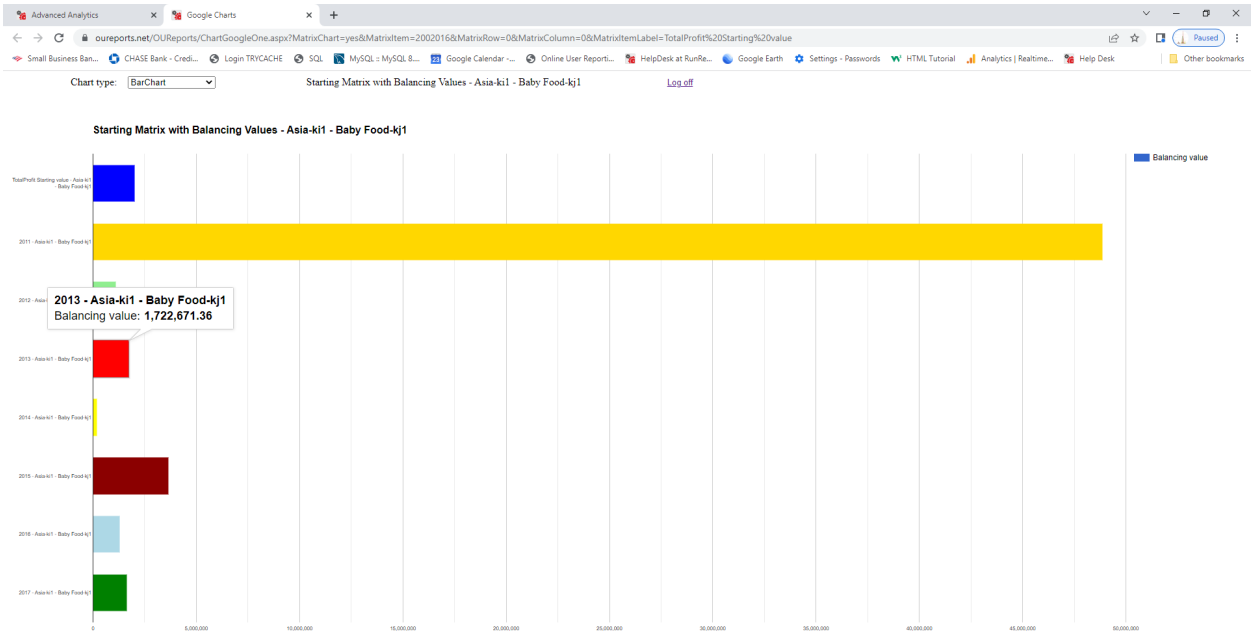
It balanced by 10000 steps with Precision equal 203 for 2016 and 248 for 2017:



It balanced by 100000 steps with Precision = 1:

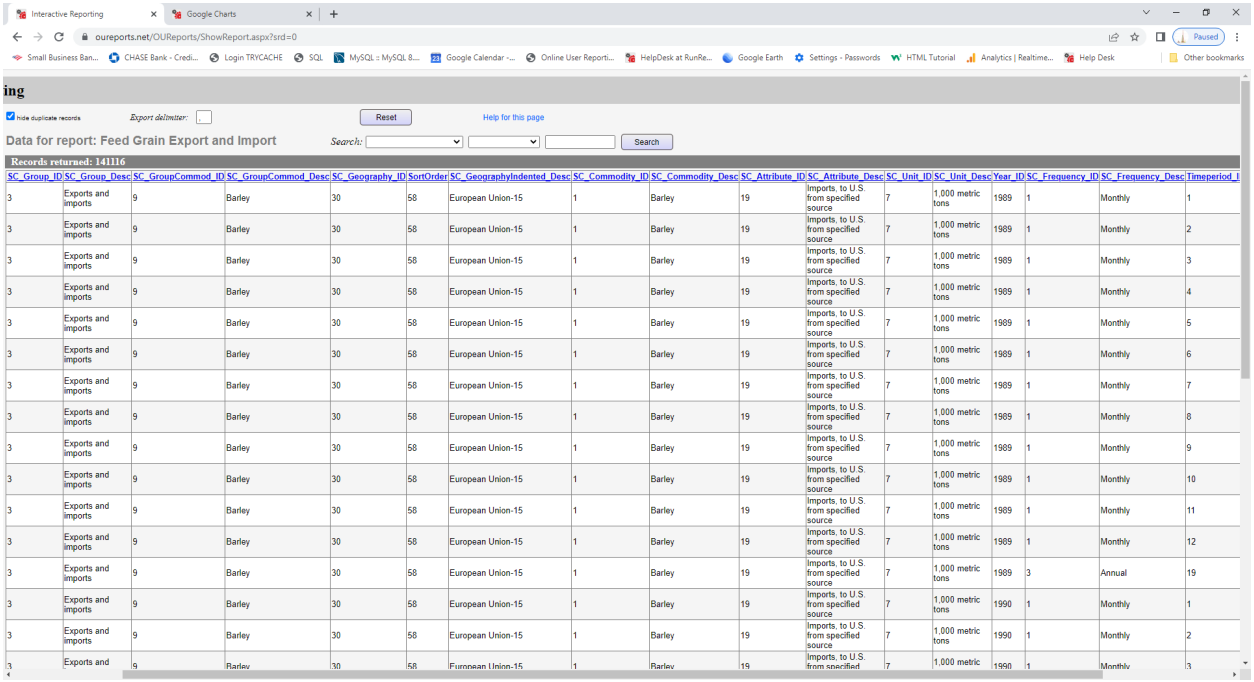


Clicking on the link in the starting matrix cell for Asia & Baby Food, we open the chart showing the profit of Baby Food sales in Asia by year:

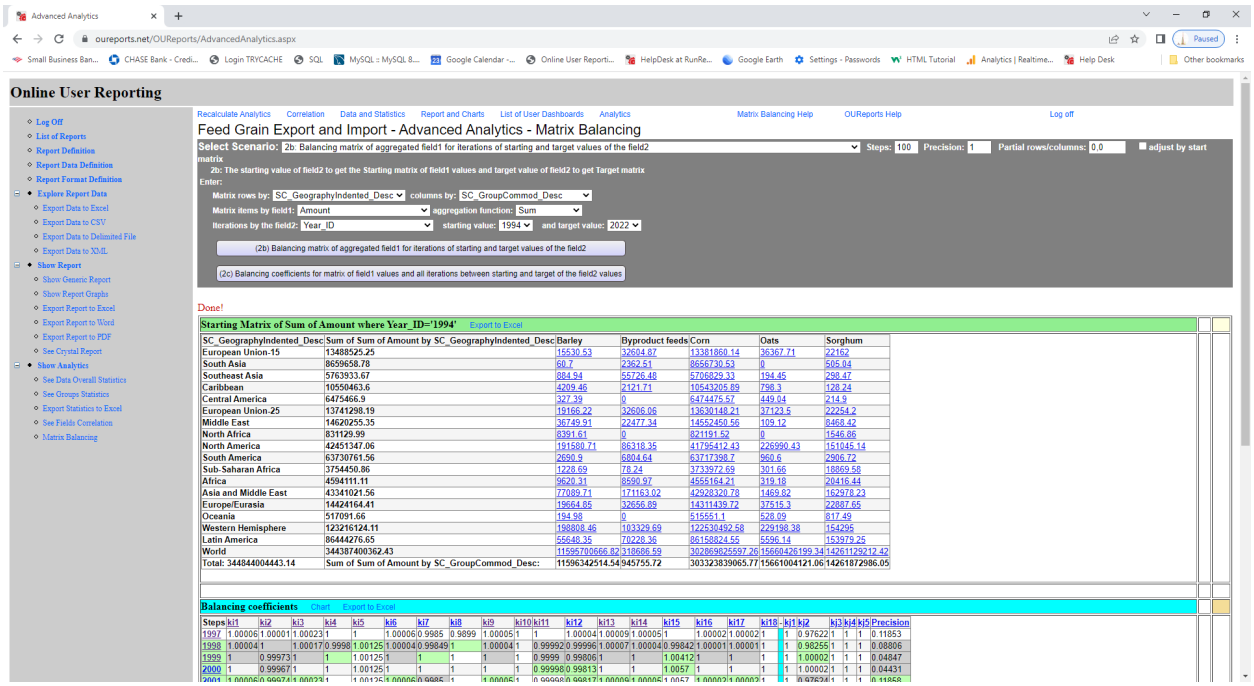


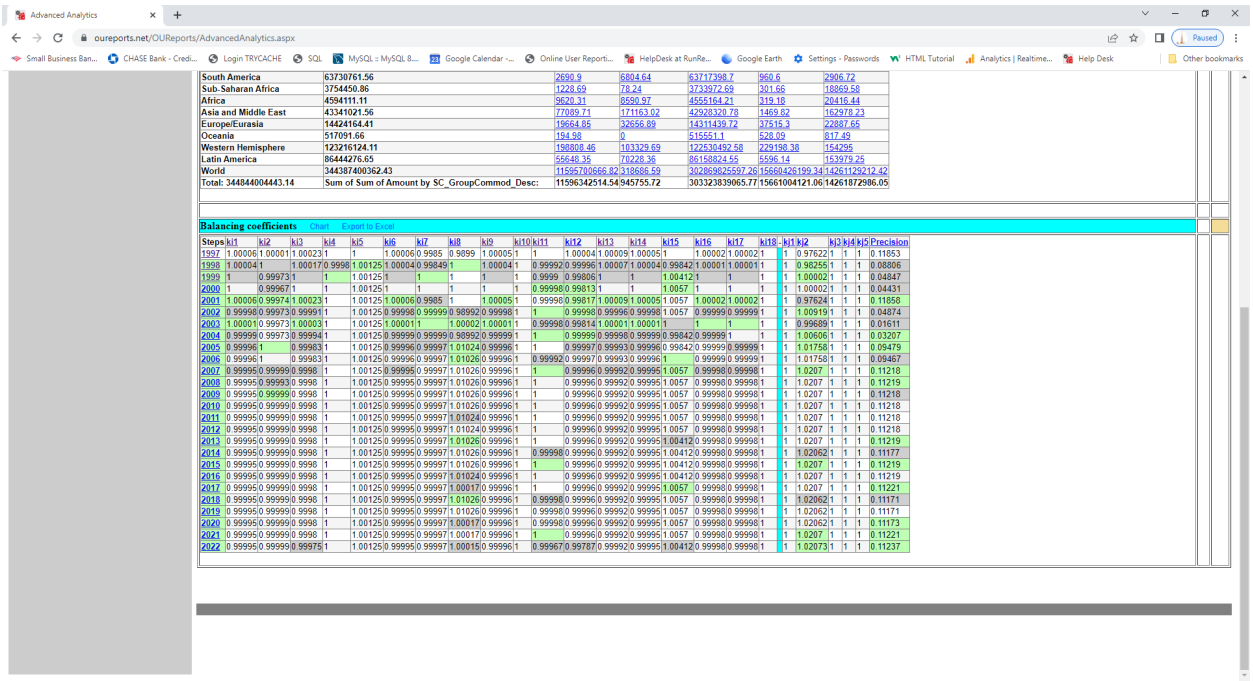
Report: Feed Grain Export and Import

Data has column Year_ID:



Parameters and starting matrix:

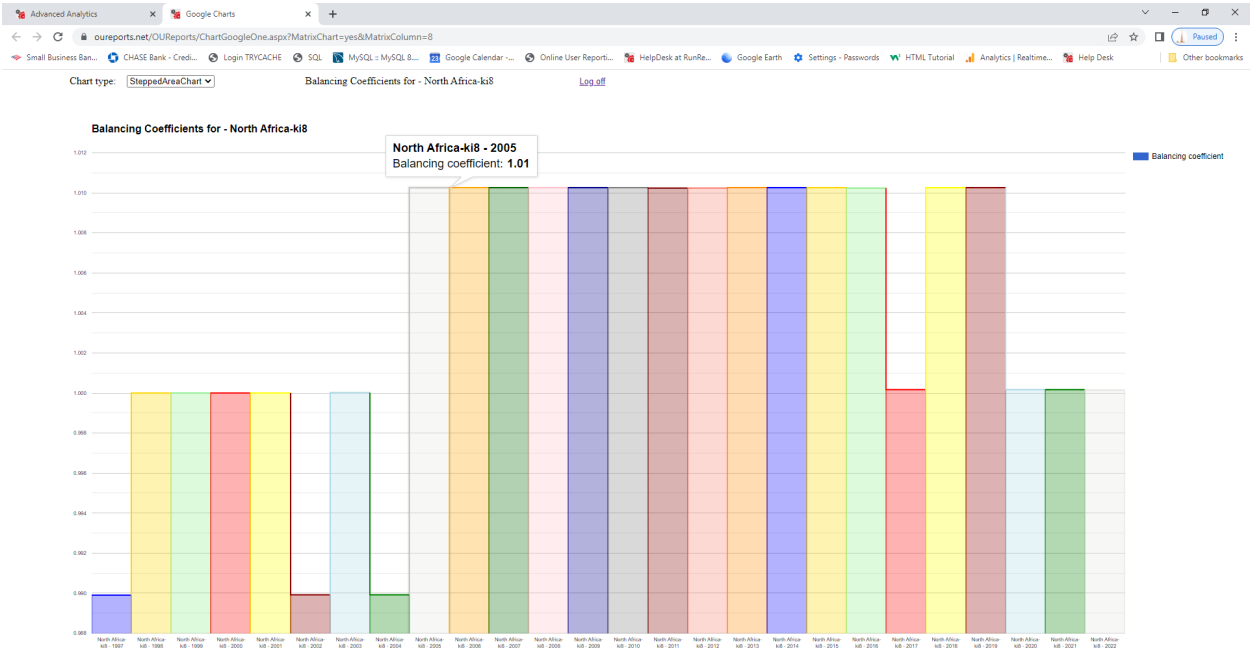




South America	63730761.56	2690.9	6804.64	63717398.7	960.6	2906.72
Sub-Saharan Africa	3754450.86	1228.69	78.24	3733972.69	301.66	18869.58
Africa	4594111.11	9620.31	8590.97	4555164.21	319.18	20416.44
Asia and Middle East	43341021.56	77089.71	171163.02	42928320.78	1469.82	162978.23
Europe/Eurasia	14424164.41	19664.85	32656.89	14311439.72	37515.3	22887.65
Oceania	517091.66	194.98	0	515551.1	528.09	817.49
Western Hemisphere	123216124.11	198808.46	103329.69	122630492.58	229198.38	154295
Latin America	86444276.65	55648.35	70228.36	86158824.55	5596.14	153979.25
World	344387400362.43	11595700666.82	310686.59	302869825597.26	15660426199.34	14261129212.42
Total: 344844004443.14	Sum of Sum of Amount by SC_GroupCommod_Desc:	11596342514.54	945755.72	303323839065.77	15661004121.06	14261872986.05

Balancing coefficients Chart Export to Excel

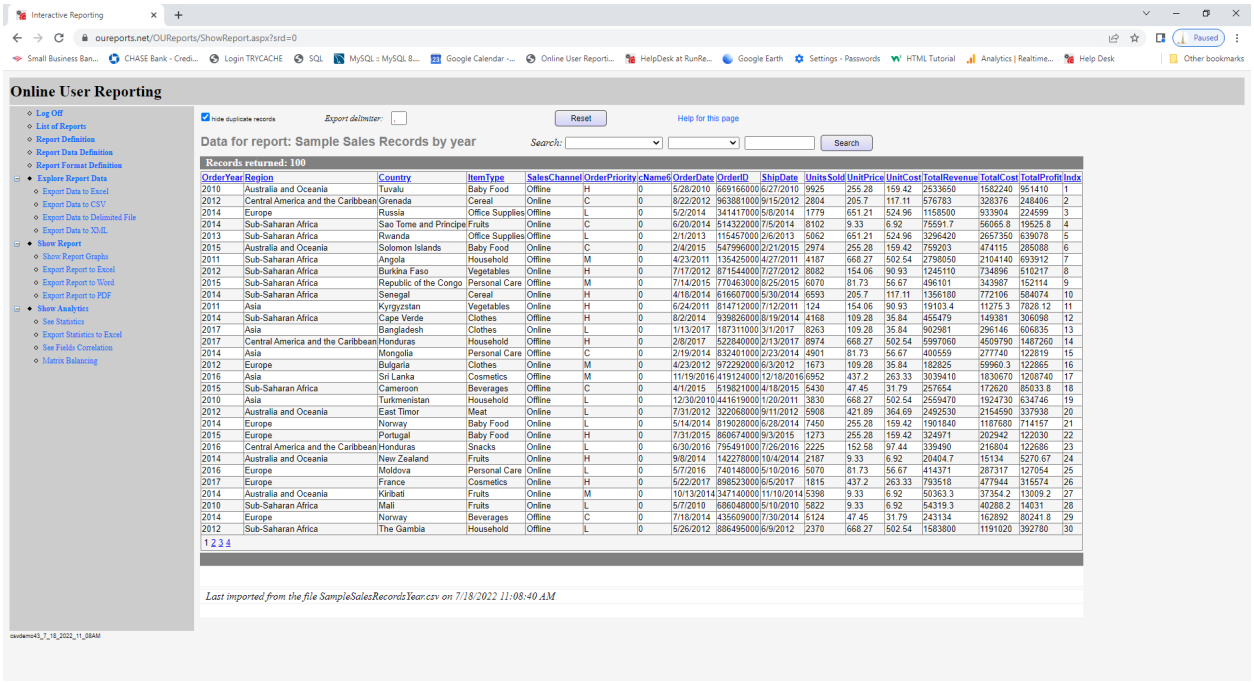
Steps	ki1	ki2	ki3	ki4	ki5	ki6	ki7	ki8	ki9	ki10	ki11	ki12	ki13	ki14	ki15	ki16	ki17	ki18	-	kj1	kj2	kj3	kj4	kj5	Precision
1997	1.00006	1.00001	1.00023	1	1	1.00006	0.9985	0.9899	1.00005	1	1	1.00004	1.00009	1.00005	1	1.00002	1.00002	1	1	0.97622	1	1	1	0.11853
1998	1.00004	1	1.00017	0.9998	1.00125	1.00004	0.98849	1	1.00004	1	0.99992	0.99996	1.00007	1.00004	0.99842	1.00001	1.00001	1	1	0.98255	1	1	1	0.08806
1999	1	0.99973	1	1	1.00125	1	1	1	1	1	0.9999	0.99806	1	1	1.00412	1	1	1	1	1.00002	1	1	1	0.04847
2000	1	0.99967	1	1	1.00125	1	1	1	1	1	0.99998	0.99813	1	1	1.0057	1	1	1	1	1.00002	1	1	1	0.04431
2001	1.00006	0.99974	1.00023	1	1.00125	1.00006	0.9985	1	1.00005	1	0.99998	0.99817	1.00009	1.00005	1.0057	1.00002	1.00002	1	1	0.97624	1	1	1	0.11858
2002	0.99998	0.99973	0.99991	1	1.00125	0.99998	0.99999	0.98992	0.99998	1	1	0.99998	0.99996	0.99998	1.0057	0.99999	0.99999	1	1	1.00919	1	1	1	0.04874
2003	1.00001	0.99973	1.00003	1	1.00125	1.00001	1	1.00002	1.00001	1	0.99998	0.99814	1.00001	1.00001	1	1	1	1	1	0.99689	1	1	1	0.01611
2004	0.99999	0.99973	0.99994	1	1.00125	0.99999	0.99999	0.98992	0.99999	1	1	0.99999	0.99998	0.99999	0.99842	0.99999	1	1	1	1.00606	1	1	1	0.03207
2005	0.99996	1	0.99983	1	1.00125	0.99996	0.99997	1.01024	0.99996	1	1	0.99997	0.99993	0.99996	0.99842	0.99999	0.99999	1	1	1.01758	1	1	1	0.09479
2006	0.99996	1	0.99983	1	1.00125	0.99996	0.99997	1.01026	0.99996	1	0.99992	0.99997	0.99993	0.99996	1	0.99999	0.99999	1	1	1.01758	1	1	1	0.09467
2007	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.01026	0.99996	1	1	0.99996	0.99992	0.99995	1.0057	0.99998	0.99998	1	1	1.0207	1	1	1	0.11218
2008	0.99995	0.99993	0.9998	1	1.00125	0.99995	0.99997	1.01026	0.99996	1	1	0.99996	0.99992	0.99995	1.0057	0.99998	0.99998	1	1	1.0207	1	1	1	0.11219
2009	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.01026	0.99996	1	1	0.99996	0.99992	0.99995	1.0057	0.99998	0.99998	1	1	1.0207	1	1	1	0.11218
2010	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.01026	0.99996	1	1	0.99996	0.99992	0.99995	1.0057	0.99998	0.99998	1	1	1.0207	1	1	1	0.11218
2011	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.01024	0.99996	1	1	0.99996	0.99992	0.99995	1.0057	0.99998	0.99998	1	1	1.0207	1	1	1	0.11218
2012	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.01024	0.99996	1	1	0.99996	0.99992	0.99995	1.0057	0.99998	0.99998	1	1	1.0207	1	1	1	0.11218
2013	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.01026	0.99996	1	1	0.99996	0.99992	0.99995	1.00412	0.99998	0.99998	1	1	1.0207	1	1	1	0.11219
2014	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.01026	0.99996	1	0.99998	0.99996	0.99992	0.99995	1.00412	0.99998	0.99998	1	1	1.02062	1	1	1	0.11177
2015	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.01026	0.99996	1	1	0.99996	0.99992	0.99995	1.00412	0.99998	0.99998	1	1	1.0207	1	1	1	0.11219
2016	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.01024	0.99996	1	1	0.99996	0.99992	0.99995	1.00412	0.99998	0.99998	1	1	1.0207	1	1	1	0.11219
2017	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.00017	0.99996	1	1	0.99996	0.99992	0.99995	1.0057	0.99998	0.99998	1	1	1.0207	1	1	1	0.11221
2018	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.01026	0.99996	1	0.99998	0.99996	0.99992	0.99995	1.0057	0.99998	0.99998	1	1	1.02062	1	1	1	0.11171
2019	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.01026	0.99996	1	0.99998	0.99996	0.99992	0.99995	1.0057	0.99998	0.99998	1	1	1.02062	1	1	1	0.11171
2020	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.00017	0.99996	1	0.99998	0.99996	0.99992	0.99995	1.0057	0.99998	0.99998	1	1	1.02062	1	1	1	0.11173
2021	0.99995	0.99999	0.9998	1	1.00125	0.99995	0.99997	1.00017	0.99996	1	1	0.99996	0.99992	0.99995	1.0057	0.99998	0.99998	1	1	1.0207	1	1	1	0.11221
2022	0.99995	0.99999	0.99975	1	1.00125	0.99995	0.99997	1.00015	0.99996	1	0.99967	0.99787	0.99992	0.99995	1.00412	0.99998	0.99998	1	1	1.02073	1	1	1	0.11237



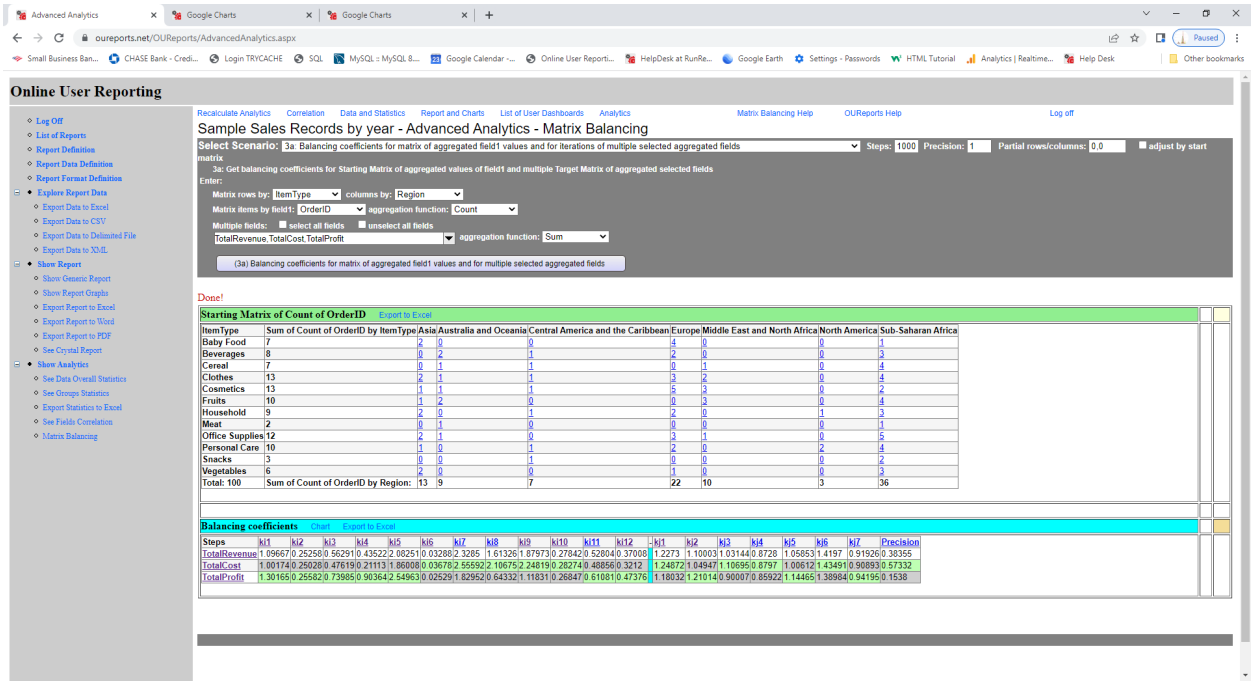
3a Scenario samples:

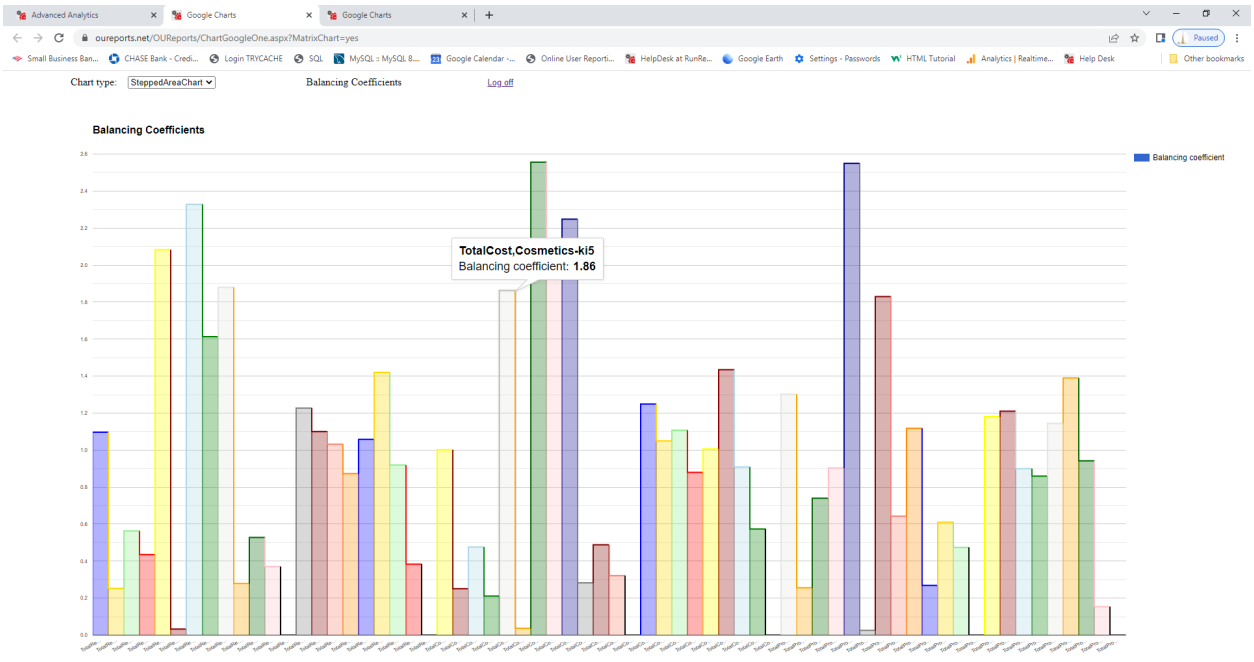
Report: Sample Sales Records by year in our Analytics from http://OUReports.com

Data:



Parameters, Starting Matrix and Balancing Coefficients:




Advanced Analytics
Google Charts
Google Charts
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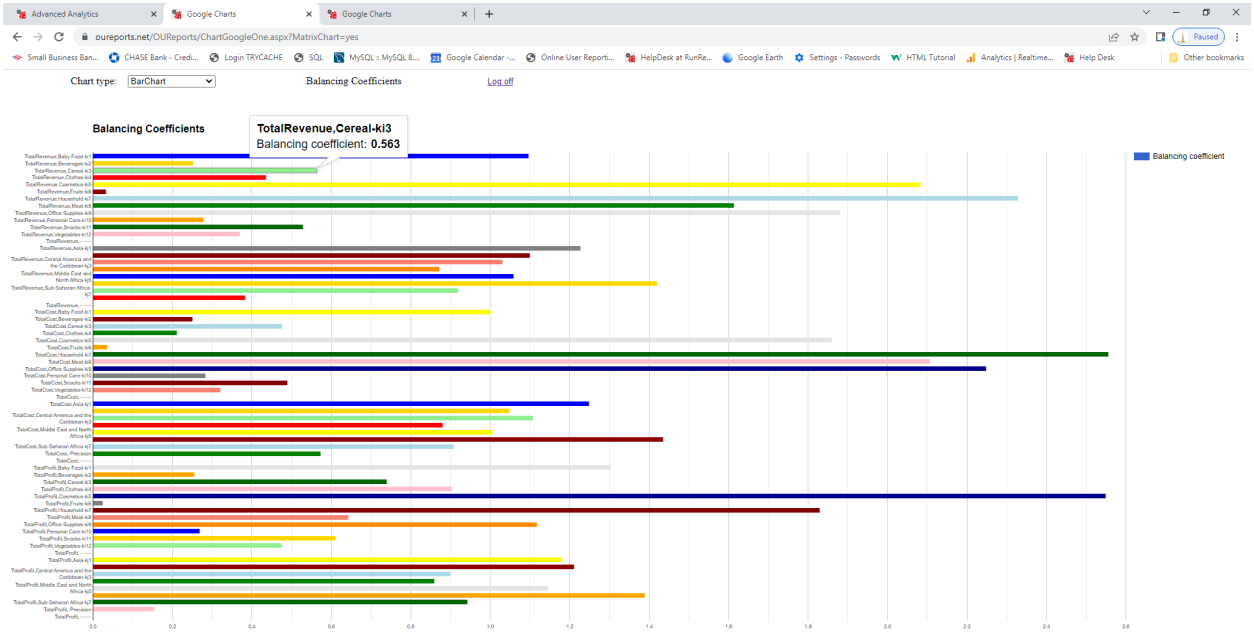
Balancing Coefficients
Log off
Balancing Coefficients
Balancing coefficient
TotalCost,Cosmetics-ki5
Balancing coefficient: 1.86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Google Charts
Google Charts
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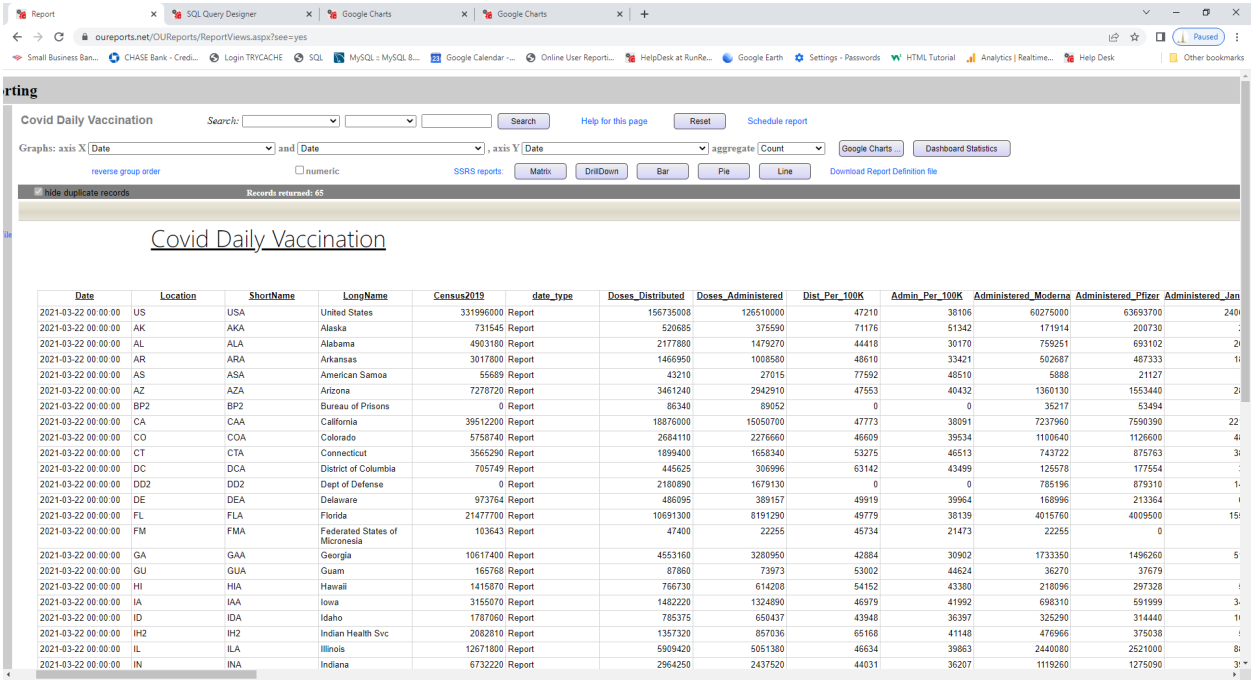
Chart type: BarChart
Balancing Coefficients
Log off
Balancing Coefficients
TotalRevenue,Cereal-ki3
Balancing coefficient: 0.563
Balancing coefficient

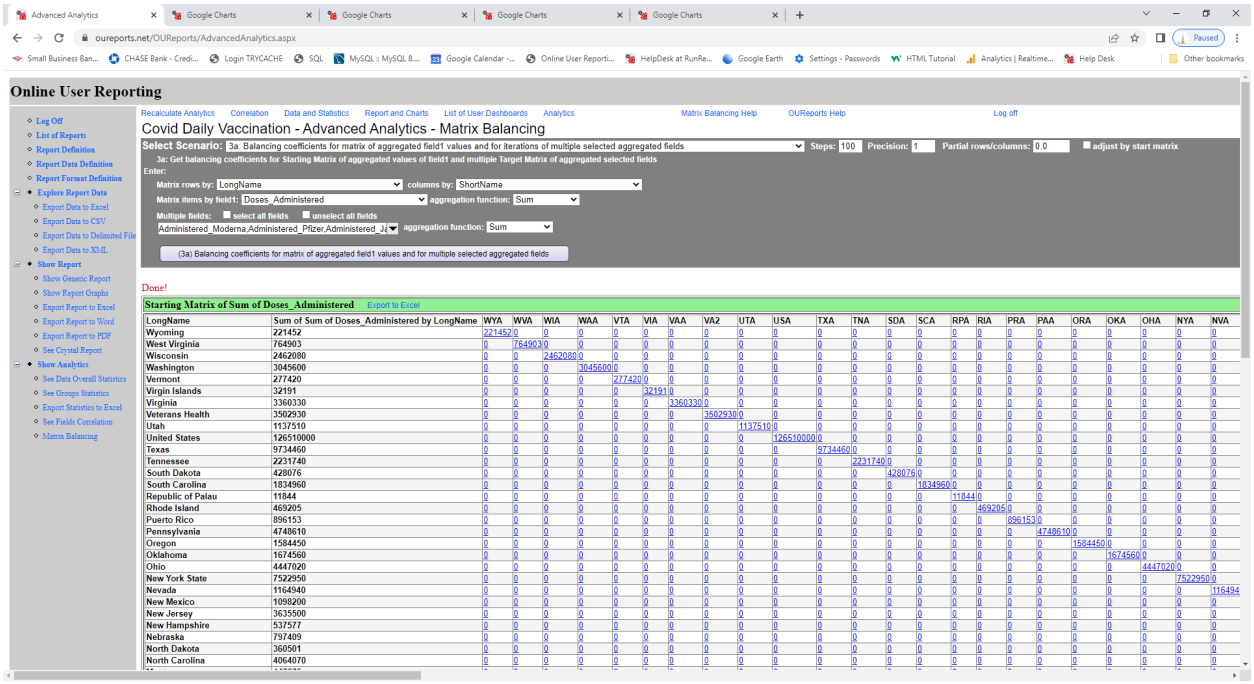
Report: Covid Daily Vaccination in our Analytics from http://OUReports.com

Data:



Covid Daily Vaccination

Date	Location	ShortName	LongName	Census2019	date_type	Doses_Distributed	Doses_Administered	Dist_Per_100K	Admin_Per_100K	Administered_Moderna	Administered_Pfizer	Administered_Jan
2021-03-22 00:00:00	US	USA	United States	331996000	Report	156735008	126510000	47210	38106	60275000	63693700	240
2021-03-22 00:00:00	AK	AKA	Alaska	731545	Report	520685	375590	71176	51342	171914	200730	
2021-03-22 00:00:00	AL	ALA	Alabama	4903180	Report	2177880	1479270	44418	30170	759251	693102	2
2021-03-22 00:00:00	AR	ARA	Arkansas	3017800	Report	1466950	1008580	48610	33421	502687	487333	1
2021-03-22 00:00:00	AS	ASA	American Samoa	55689	Report	43210	27015	77592	48510	5888	21127	
2021-03-22 00:00:00	AZ	AZA	Arizona	7278720	Report	3461240	2942910	47553	40432	1360130	1553440	2
2021-03-22 00:00:00	BP2	BP2	Bureau of Prisons	0	Report	86340	89052	0	0	35217	53494	
2021-03-22 00:00:00	CA	CAA	California	39512200	Report	18876000	15050700	47773	38091	7237960	7590390	22
2021-03-22 00:00:00	CO	COA	Colorado	5758740	Report	2684110	2276660	46609	39534	1100640	1126600	4
2021-03-22 00:00:00	CT	CTA	Connecticut	3565290	Report	1899400	1658340	53275	46513	743722	875763	3
2021-03-22 00:00:00	DC	DCA	District of Columbia	705749	Report	445625	306996	63142	43499	125578	177554	
2021-03-22 00:00:00	DD2	DD2	Dept of Defense	0	Report	2180890	1679130	0	0	785196	879310	1
2021-03-22 00:00:00	DE	DEA	Delaware	973764	Report	486095	389157	49919	39964	168996	213364	
2021-03-22 00:00:00	FL	FLA	Florida	21477700	Report	10691300	8191290	49779	38139	4015760	4009500	15
2021-03-22 00:00:00	FM	FMA	Federated States of Micronesia	103643	Report	47400	22255	45734	21473	22255	0	
2021-03-22 00:00:00	GA	GAA	Georgia	10617400	Report	4553160	3280950	42884	30902	1733350	1496260	5
2021-03-22 00:00:00	GU	GUA	Guam	165768	Report	87860	73973	53002	44624	36270	37679	
2021-03-22 00:00:00	HI	HIA	Hawaii	1415870	Report	766730	614208	54152	43380	218096	297328	
2021-03-22 00:00:00	IA	IAA	Iowa	3155070	Report	1482220	1324890	46979	41992	698310	591999	3
2021-03-22 00:00:00	ID	IDA	Idaho	1787060	Report	785375	650437	43948	36397	325290	314440	1
2021-03-22 00:00:00	IH2	IH2	Indian Health Svc	2082810	Report	1357320	857036	65168	41148	476966	375038	
2021-03-22 00:00:00	IL	ILA	Illinois	12671800	Report	5909420	5051380	46634	39863	2440080	2521000	8
2021-03-22 00:00:00	IN	INA	Indiana	6732220	Report	2964250	2437520	44031	36207	1119260	1275090	3



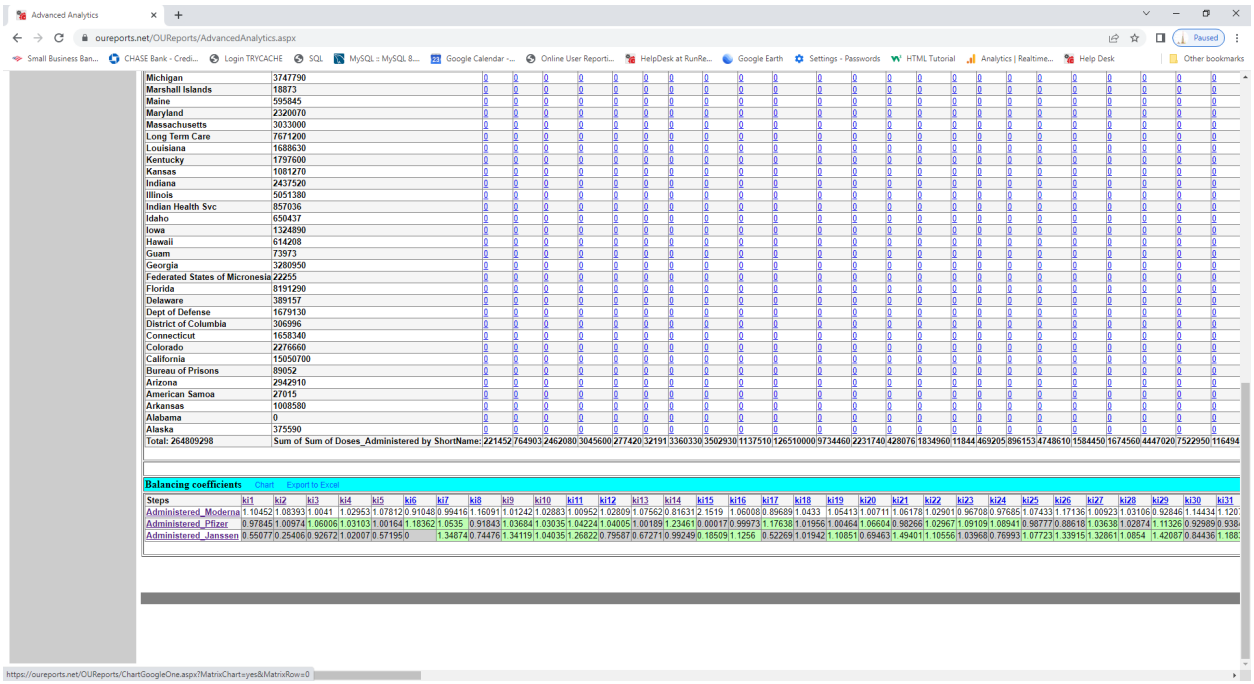
Online User Reporting

Covid Daily Vaccination - Advanced Analytics - Matrix Balancing

Done!

Starting Matrix of Sum of Doses_Administered

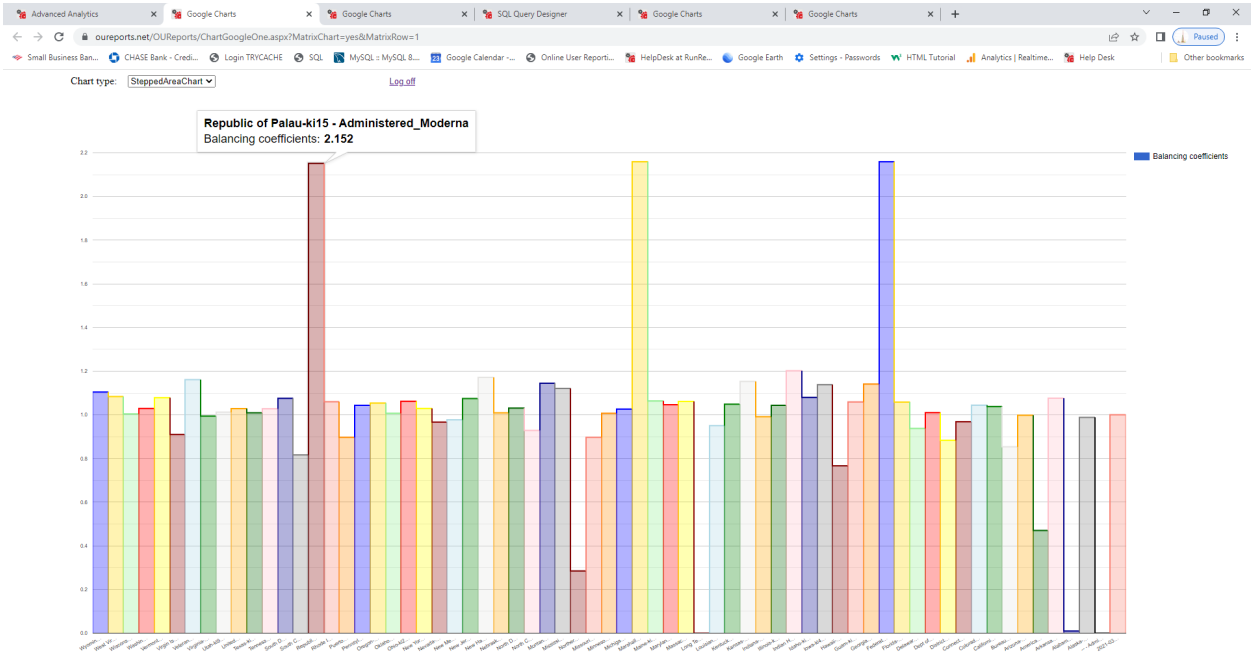
LongName	Sum of Sum of Doses_Administered by LongName	WYA	WVA	WIA	WAA	VTA	VIA	VAA	VA2	UTA	USA	TXA	TNA	SDA	SCA	RPA	RIA	PRA	PAA	ORA	OKA	OHA	NYA	NVA
Wyoming	221452	221452	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Virginia	764903	0	764903	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wisconsin	2462080	0	0	2462080	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Washington	3045600	0	0	0	3045600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vermont	277420	0	0	0	0	277420	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Virgin Islands	32191	0	0	0	0	0	32191	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Virginia	3360330	0	0	0	0	0	0	3360330	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veterans Health	3502930	0	0	0	0	0	0	0	3502930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Utah	1137510	0	0	0	0	0	0	0	0	1137510	0	0	0	0	0	0	0	0	0	0	0	0	0	0
United States	126510000	0	0	0	0	0	0	0	0	0	126510000	0	0	0	0	0	0	0	0	0	0	0	0	0
Texas	9734460	0	0	0	0	0	0	0	0	0	0	9734460	0	0	0	0	0	0	0	0	0	0	0	0
Tennessee	2231740	0	0	0	0	0	0	0	0	0	0	0	2231740	0	0	0	0	0	0	0	0	0	0	0
South Dakota	428076	0	0	0	0	0	0	0	0	0	0	0	0	428076	0	0	0	0	0	0	0	0	0	0
South Carolina	1834960	0	0	0	0	0	0	0	0	0	0	0	0	0	1834960	0	0	0	0	0	0	0	0	0
Republic of Palau	11844	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11844	0	0	0	0	0	0	0	0
Rhode Island	469205	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	469205	0	0	0	0	0	0	0
Puerto Rico	896153	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	896153	0	0	0	0	0	0
Pennsylvania	4748610	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4748610	0	0	0	0	0
Oregon	1584450	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1584450	0	0	0	0
Oklahoma	1674560	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1674560	0	0	0
Ohio	4447020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4447020	0	0
New York State	7522950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7522950	0
Nevada	1164940	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116494
New Mexico	1098200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Jersey	3635500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Hampshire	537577	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nebraska	797409	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Dakota	360501	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Carolina	4064070	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

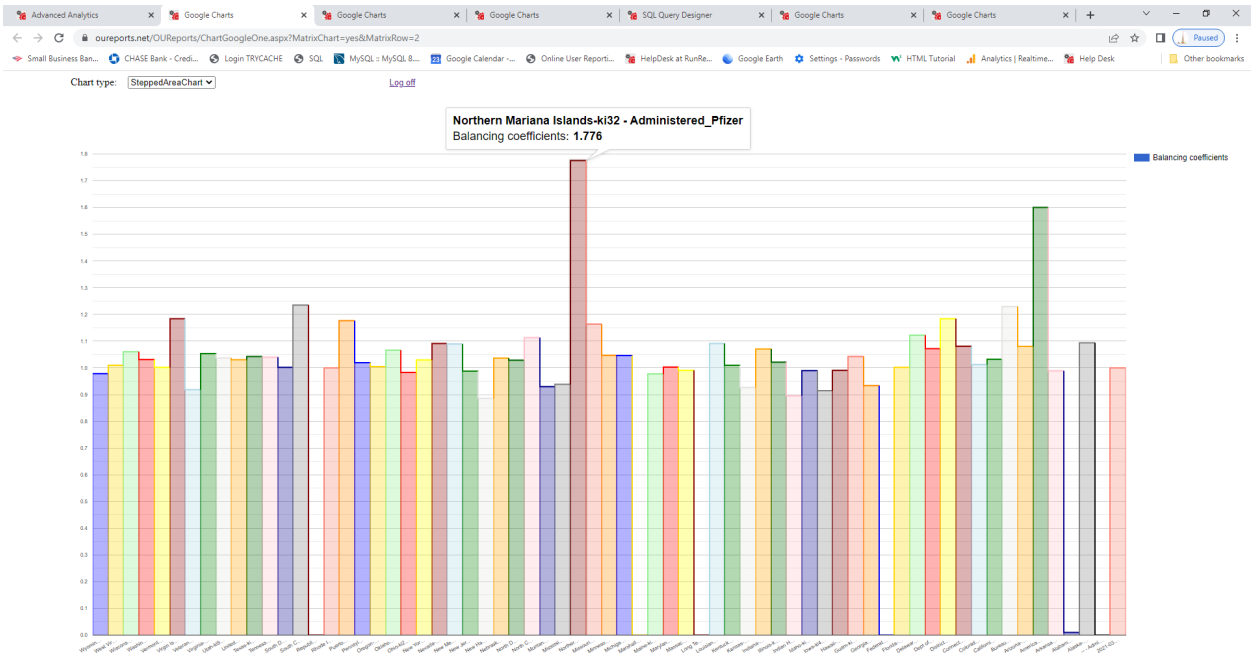


Michigan	3747790	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Marshall Islands	18873	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maine	595845	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maryland	2320070	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Massachusetts	3033000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Long Term Care	7671200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Louisiana	1688630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kentucky	1797600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kansas	1081270	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indiana	2437520	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	5051380	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Indian Health Svc	857036	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Idaho	650437	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Iowa	1324890	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hawaii	614208	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Guam	73973	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Georgia	3280950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Federated States of Micronesia	22255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Florida	8191290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delaware	389157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dept of Defense	1679130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
District of Columbia	306996	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Connecticut	1658340	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Colorado	2276660	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
California	15050700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bureau of Prisons	89052	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arizona	2942910	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
American Samoa	27015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arkansas	1008580	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alabama	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alaska	375590	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total: 264809298	Sum of Sum of Doses_Administered by ShortName:	221452	764903	2462080	3045600	2774203	2191	3360330	3502930	1137510	1265100	9734460	2231740	428076	1834960	1184446	9205	896153	4748610	1584450	1674560	4447020	7522950	1164940							

Balancing coefficients Chart Export to Excel

Steps	ki1	ki2	ki3	ki4	ki5	ki6	ki7	ki8	ki9	ki10	ki11	ki12	ki13	ki14	ki15	ki16	ki17	ki18	ki19	ki20	ki21	ki22	ki23	ki24	ki25	ki26	ki27	ki28	ki29	ki30	ki31
Administered_Moderna	1.10452	1.08393	1.0041	1.02953	1.07812	0.91048	0.99416	1.16091	1.01242	1.02883	1.00952	1.02809	1.07562	0.81631	2.1519	1.06008	0.89689	1.0433	1.05413	1.00711	1.06178	1.02901	0.96708	0.97685	1.07433	1.17136	1.00923	1.03106	0.92846	1.14434	1.120
Administered_Pfizer	0.97845	1.00974	1.06006	1.03103	1.00164	1.18362	1.0535	0.91843	1.03684	1.03035	1.04224	1.04005	1.00189	1.23461	0.00017	0.99973	1.17638	1.01956	1.00464	1.06604	0.98266	1.02967	1.09109	1.08941	0.98777	0.88618	1.03638	1.02874	1.11326	0.92989	0.938
Administered_Janssen	0.55077	0.25406	0.92672	1.02007	0.57195	0	1.34874	0.74476	1.34119	1.04035	1.26822	0.79587	0.67271	0.99249	0.18509	1.1256	0.52269	1.01942	1.10851	0.69463	1.49401	1.10556	1.03968	0.76993	1.07723	1.33915	1.32861	1.0854	1.42087	0.84436	1.188

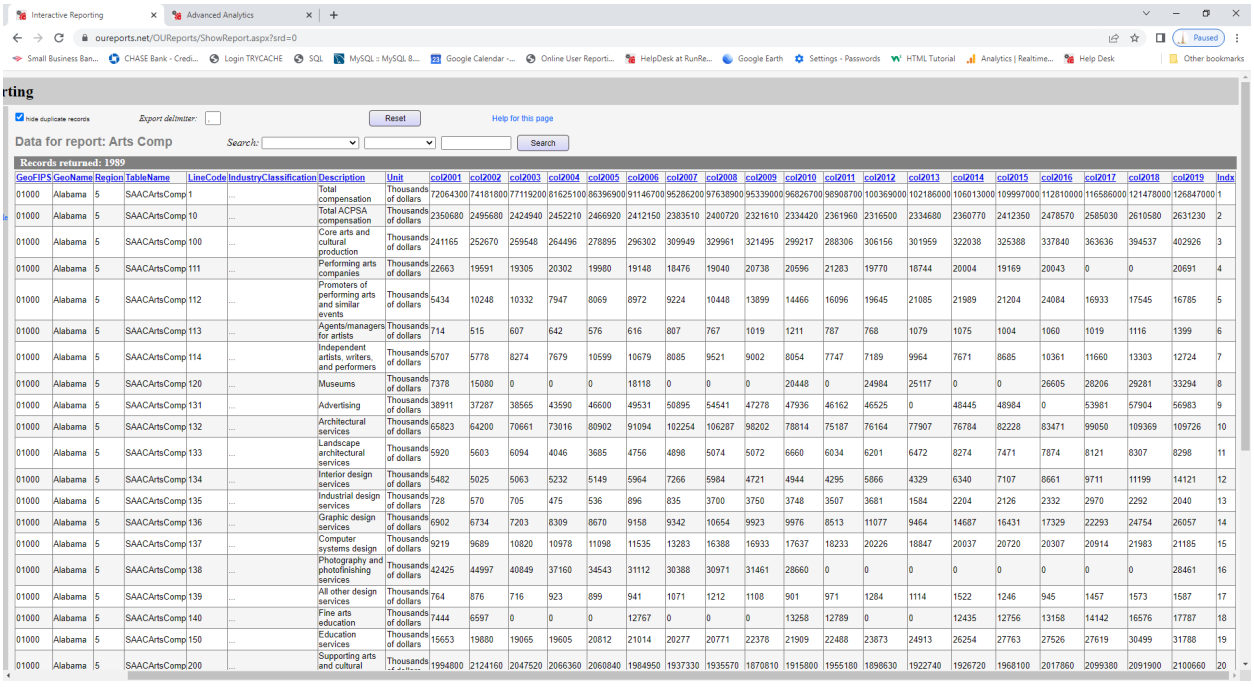




Report: Art Comp. in our Analytics from http://OUReports.com

Field GeoName has State info, field Description has info about specific types of compensations, multiple columns have year's compensation in thousands of dollars.

Data:

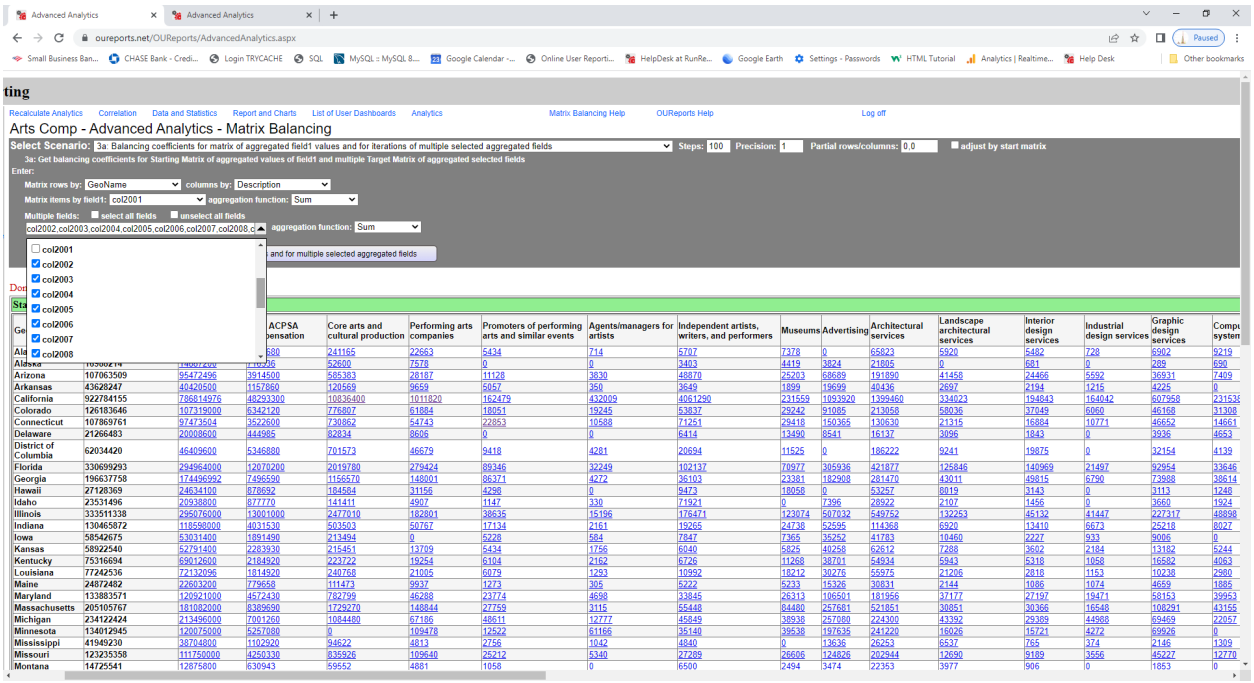


Data for report: Arts Comp

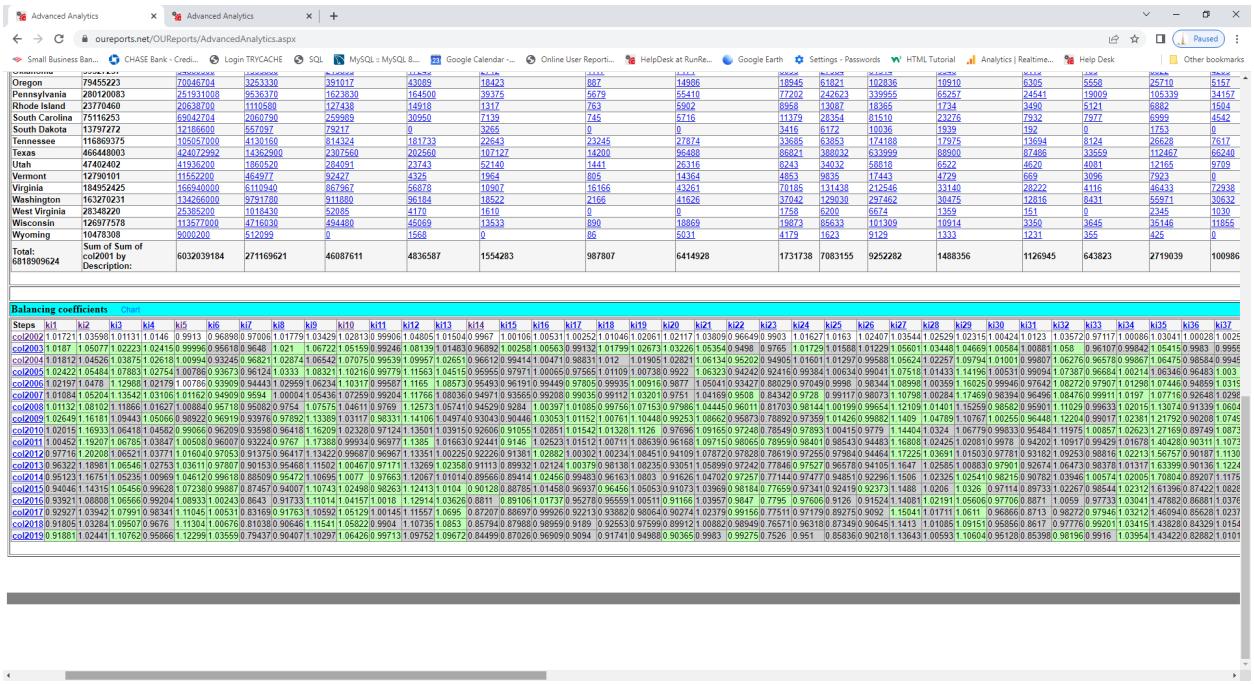
Records returned: 1989

GeoFIPS	GeoName	Region	TableName	LineCode	IndustryClassification	Description	Unit	col2001	col2002	col2003	col2004	col2005	col2006	col2007	col2008	col2009	col2010	col2011	col2012	col2013	col2014	col2015	col2016	col2017	col2018	col2019	Indx
01000	Alabama	5	SAACArtsComp	1	...	Total compensation	Thousands of dollars	72064300	74181800	77119200	81625100	86396900	91146700	95286200	97638900	95339000	96826700	98908700	100369000	102186000	106013000	109997000	112810000	116586000	121478000	126847000	1
01000	Alabama	5	SAACArtsComp	10	...	Total ACPSA compensation	Thousands of dollars	2350680	2495680	2424940	2452210	2466920	2412150	2383510	2400720	2321610	2334420	2361960	2316500	2334680	2360770	2412350	2478570	2585030	2610580	2631230	2
01000	Alabama	5	SAACArtsComp	100	...	Core arts and cultural production	Thousands of dollars	241165	252670	259548	264496	278895	296302	309949	329961	321495	299217	288306	306156	301959	322038	325388	337840	363636	394537	402926	3
01000	Alabama	5	SAACArtsComp	111	...	Performing arts companies	Thousands of dollars	22663	19591	19305	20302	19980	19148	18476	19040	20738	20596	21283	19770	18744	20004	19169	20043	0	0	20691	4
01000	Alabama	5	SAACArtsComp	112	...	Promoters of performing arts and similar events	Thousands of dollars	5434	10248	10332	7947	8069	8972	9224	10448	13899	14466	16096	19645	21085	21989	21204	24084	16933	17545	16785	5
01000	Alabama	5	SAACArtsComp	113	...	Agents/managers for artists	Thousands of dollars	714	515	607	642	576	616	807	767	1019	1211	787	768	1079	1075	1004	1060	1019	1116	1399	6
01000	Alabama	5	SAACArtsComp	114	...	Independent artists, writers, and performers	Thousands of dollars	5707	5778	8274	7679	10599	10679	8085	9521	9002	8054	7747	7189	9964	7671	8685	10361	11660	13303	12724	7
01000	Alabama	5	SAACArtsComp	120	...	Museums	Thousands of dollars	7378	15080	0	0	0	18118	0	0	0	20448	0	24984	25117	0	0	26605	28206	29281	33294	8
01000	Alabama	5	SAACArtsComp	131	...	Advertising	Thousands of dollars	38911	37287	38565	43590	46600	49531	50895	54541	47278	47936	46162	46525	0	48445	48984	0	53981	57904	56983	9
01000	Alabama	5	SAACArtsComp	132	...	Architectural services	Thousands of dollars	65823	64200	70661	73016	80902	91094	102254	106287	98202	78814	75187	76164	77907	76784	82228	83471	99050	109369	109726	10
01000	Alabama	5	SAACArtsComp	133	...	Landscape architectural services	Thousands of dollars	5920	5603	6094	4046	3685	4756	4898	5074	5072	6660	6034	6201	6472	8274	7471	7874	8121	8307	8298	11
01000	Alabama	5	SAACArtsComp	134	...	Interior design services	Thousands of dollars	5482	5025	5063	5232	5149	5964	7266	5984	4721	4944	4295	5866	4329	6340	7107	8661	9711	11199	14121	12
01000	Alabama	5	SAACArtsComp	135	...	Industrial design services	Thousands of dollars	728	570	705	475	536	896	835	3700	3750	3748	3507	3681	1584	2204	2126	2332	2970	2292	2040	13
01000	Alabama	5	SAACArtsComp	136	...	Graphic design services	Thousands of dollars	6902	6734	7203	8309	8670	9158	9342	10654	9923	9976	8513	11077	9464	14687	16431	17329	22293	24754	26057	14
01000	Alabama	5	SAACArtsComp	137	...	Computer systems design	Thousands of dollars	9219	9689	10820	10978	11098	11535	13283	16388	16933	17637	18233	20226	18847	20037	20720	20307	20914	21983	21185	15
01000	Alabama	5	SAACArtsComp	138	...	Photography and photofinishing services	Thousands of dollars	42425	44997	40849	37160	34543	31112	30388	30971	31461	28660	0	0	0	0	0	0	0	0	28461	16
01000	Alabama	5	SAACArtsComp	139	...	All other design services	Thousands of dollars	764	876	716	923	899	941	1071	1212	1108	901	971	1284	1114	1522	1246	945	1457	1573	1587	17
01000	Alabama	5	SAACArtsComp	140	...	Fine arts education	Thousands of dollars	7444	6597	0	0	0	12767	0	0	0	13258	12789	0	0	12435	12756	13158	14142	16576	17787	18
01000	Alabama	5	SAACArtsComp	150	...	Education services	Thousands of dollars	15653	19680	19065	19605	20812	21014	20277	20771	22378	21909	22488	23873	24913	26254	27763	27526	27619	30499	31788	19
01000	Alabama	5	SAACArtsComp	200	...	Supporting arts and cultural	Thousands of dollars	1994800	2124160	2047520	2066360	2060840	1984950	1937330	1935570	1870810	1915800	1955180	1898630	1922740	1926720	1968100	2017860	2099380	2091900	2100660	20

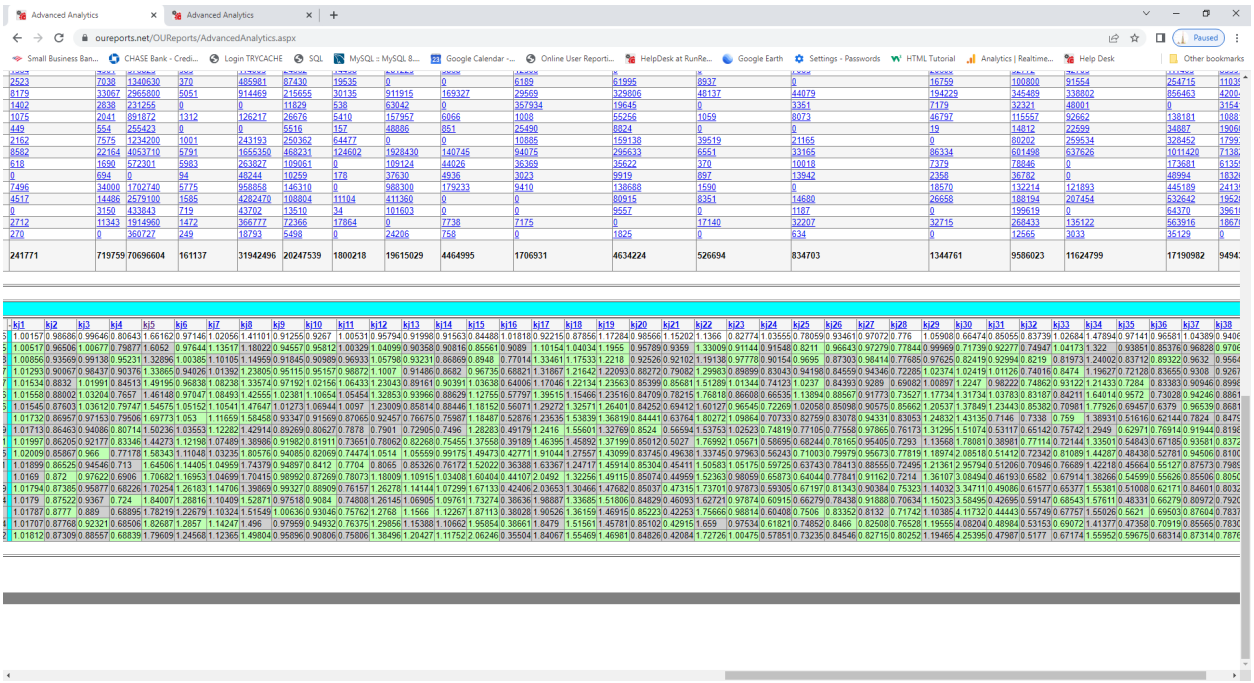
Parameters and starting matrix:



Result - Balancing coefficients by year for States:



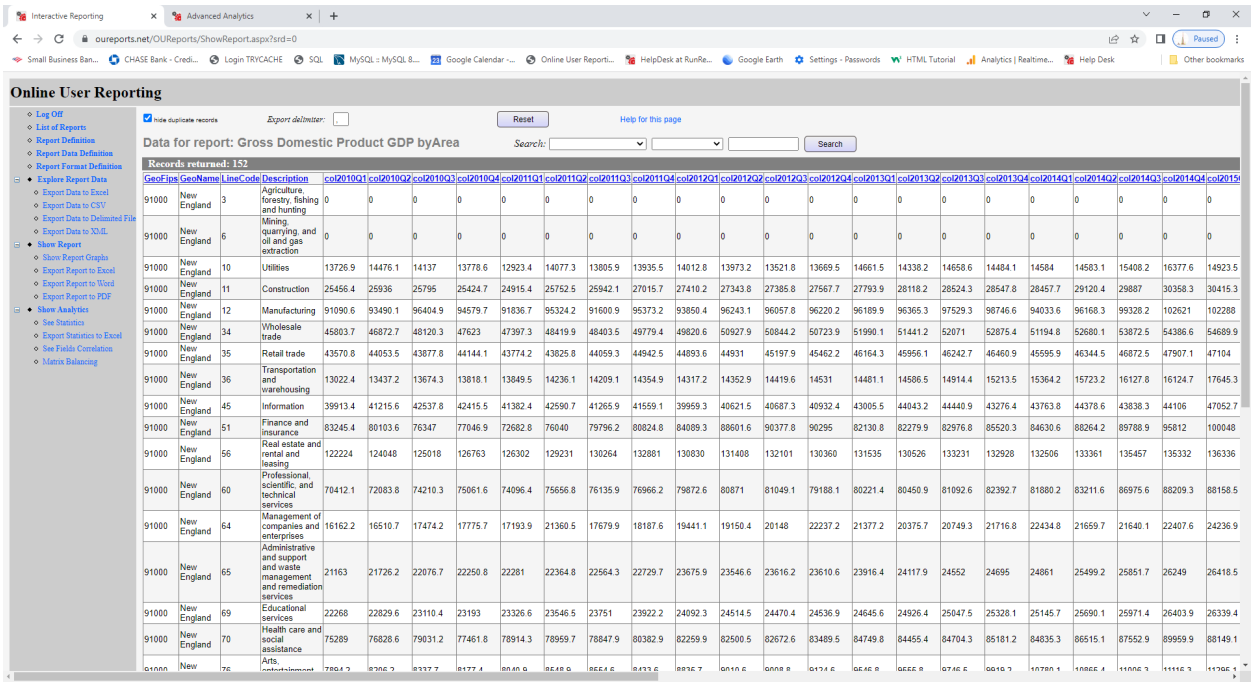
Result - Balancing coefficients by year for specific types of compensations:



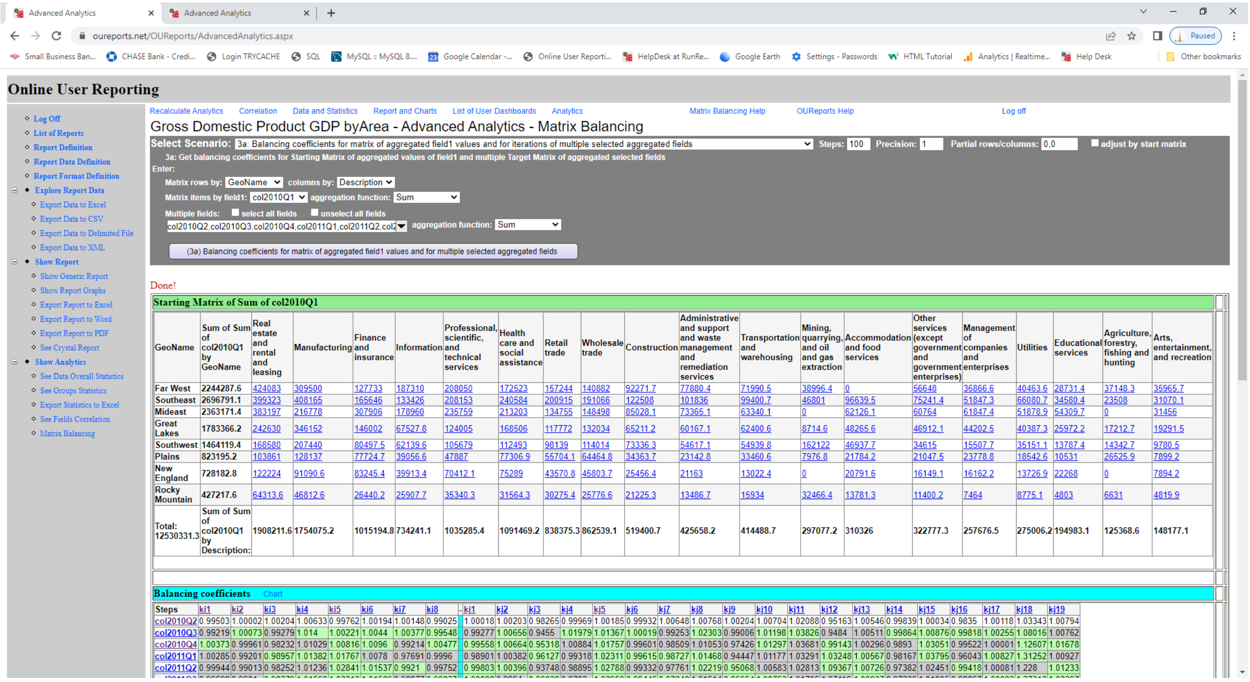
Color coded green if increased and grey if decreased with links to detail charts.

Report: Gross Domestic Product GDP by Area in our Analytics from http://OUReports.com

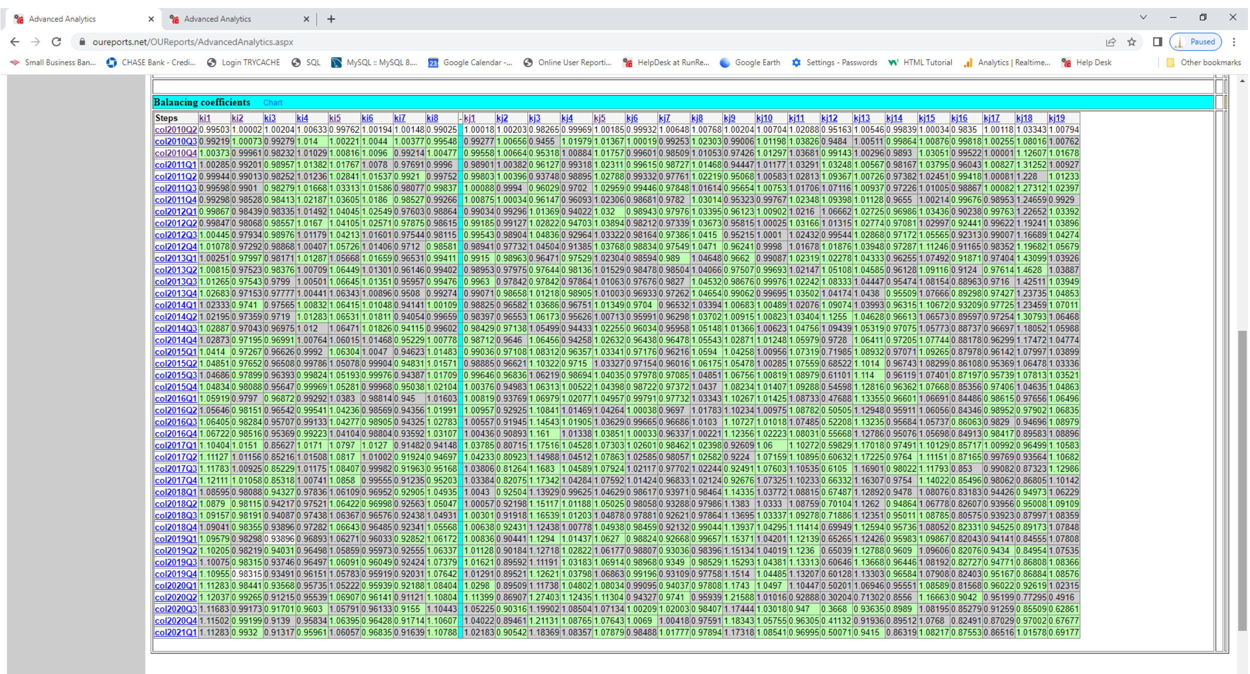
Data:



Parameters:

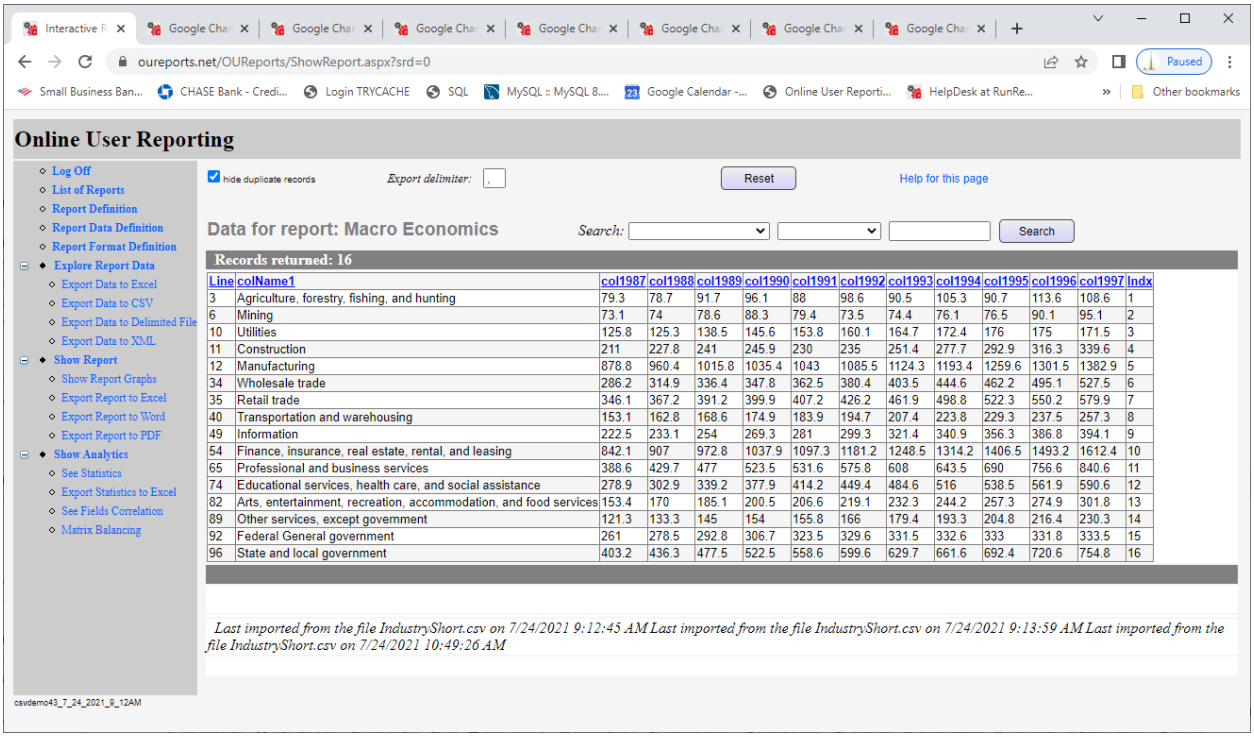


Result - Balancing coefficients by quarters for Areas and Industries:



Report: Macro Economics in our Analytics from http://OUReports.com

Data:



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Data for report: Macro Economics — Search: — Search

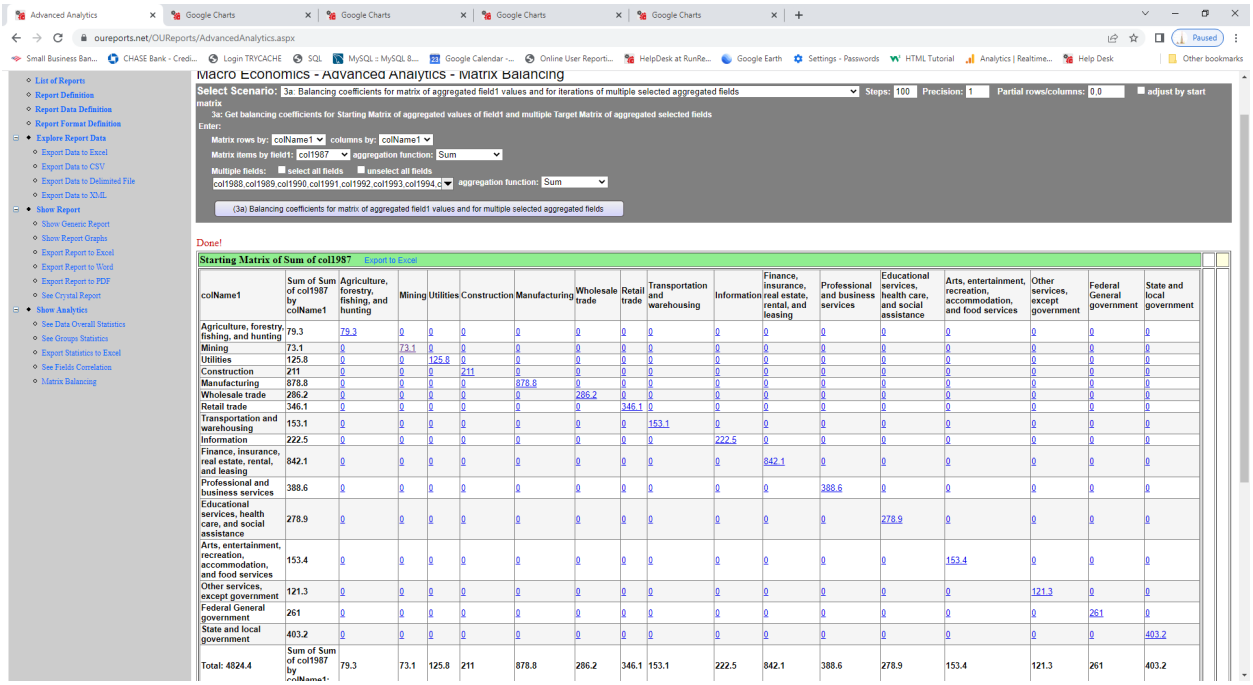
Records returned: 16

Line	colName1	col1987	col1988	col1989	col1990	col1991	col1992	col1993	col1994	col1995	col1996	col1997	Indx
3	Agriculture, forestry, fishing, and hunting	79.3	78.7	91.7	96.1	88	98.6	90.5	105.3	90.7	113.6	108.6	1
6	Mining	73.1	74	78.6	88.3	79.4	73.5	74.4	76.1	76.5	90.1	95.1	2
10	Utilities	125.8	125.3	138.5	145.6	153.8	160.1	164.7	172.4	176	175	171.5	3
11	Construction	211	227.8	241	245.9	230	235	251.4	277.7	292.9	316.3	339.6	4
12	Manufacturing	878.8	960.4	1015.8	1035.4	1043	1085.5	1124.3	1193.4	1259.6	1301.5	1382.9	5
34	Wholesale trade	286.2	314.9	336.4	347.8	362.5	380.4	403.5	444.6	462.2	495.1	527.5	6
35	Retail trade	346.1	367.2	391.2	399.9	407.2	426.2	461.9	498.8	522.3	550.2	579.9	7
40	Transportation and warehousing	153.1	162.8	168.6	174.9	183.9	194.7	207.4	223.8	229.3	237.5	257.3	8
49	Information	222.5	233.1	254	269.3	281	299.3	321.4	340.9	356.3	386.8	394.1	9
54	Finance, insurance, real estate, rental, and leasing	842.1	907	972.8	1037.9	1097.3	1181.2	1248.5	1314.2	1406.5	1493.2	1612.4	10
65	Professional and business services	388.6	429.7	477	523.5	531.6	575.8	608	643.5	690	756.6	840.6	11
74	Educational services, health care, and social assistance	278.9	302.9	339.2	377.9	414.2	449.4	484.6	516	538.5	561.9	590.6	12
82	Arts, entertainment, recreation, accommodation, and food services	153.4	170	185.1	200.5	206.6	219.1	232.3	244.2	257.3	274.9	301.8	13
89	Other services, except government	121.3	133.3	145	154	155.8	166	179.4	193.3	204.8	216.4	230.3	14
92	Federal General government	261	278.5	292.8	306.7	323.5	329.6	331.5	332.6	333	331.8	333.5	15
96	State and local government	403.2	436.3	477.5	522.5	558.6	599.6	629.7	661.6	692.4	720.6	754.8	16

Last imported from the file IndustryShort.csv on 7/24/2021 9:12:45 AM Last imported from the file IndustryShort.csv on 7/24/2021 9:13:59 AM Last imported from the file IndustryShort.csv on 7/24/2021 10:49:26 AM

csvdemo43_7_24_2021_9_12AM

Parameters and starting matrix (note that row and column groups based on the same field for industry name):



Macro Economics - Advanced Analytics - Matrix Balancing

Select Scenario: 3a: Balancing coefficients for matrix of aggregated field1 values and for iterations of multiple selected aggregated fields — Steps: 100 — Precision: 1 — Partial rows/columns: 0.0 — adjust by start matrix

3a: Get balancing coefficients for Starting Matrix of aggregated values of field1 and multiple Target Matrix of aggregated selected fields

Enter:

Matrix rows by: colName1 columns by: colName1

Matrix items by field1: col1987 aggregation function: Sum

Multiple fields: select all fields unselect all fields

col1988,col1989,col1990,col1991,col1992,col1993,col1994,c aggregation function: Sum

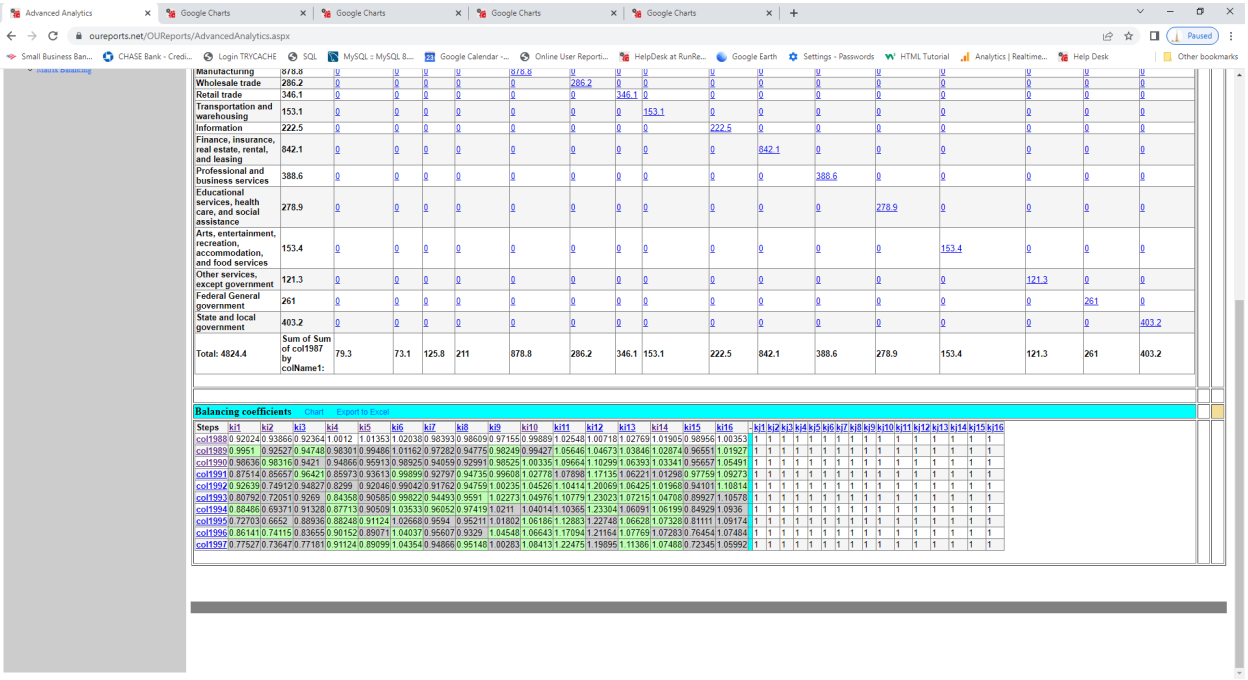
(3a) Balancing coefficients for matrix of aggregated field1 values and for multiple selected aggregated fields

Done!

Starting Matrix of Sum of col1987 — Export to Excel

colName1	Sum of Sum of col1987 by colName1	Agriculture, forestry, fishing, and hunting	Mining	Utilities	Construction	Manufacturing	Wholesale trade	Retail trade	Transportation and warehousing	Information	Finance, insurance, real estate, rental, and leasing	Professional and business services	Educational services, health care, and social assistance	Arts, entertainment, recreation, accommodation, and food services	Other services, except government	Federal General government	State and local government
Agriculture, forestry, fishing, and hunting	79.3	79.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mining	73.1	0	73.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Utilities	125.8	0	0	125.8	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	211	0	0	0	211	0	0	0	0	0	0	0	0	0	0	0	0
Manufacturing	878.8	0	0	0	0	878.8	0	0	0	0	0	0	0	0	0	0	0
Wholesale trade	286.2	0	0	0	0	0	286.2	0	0	0	0	0	0	0	0	0	0
Retail trade	346.1	0	0	0	0	0	0	346.1	0	0	0	0	0	0	0	0	0
Transportation and warehousing	153.1	0	0	0	0	0	0	0	153.1	0	0	0	0	0	0	0	0
Information	222.5	0	0	0	0	0	0	0	0	222.5	0	0	0	0	0	0	0
Finance, insurance, real estate, rental, and leasing	842.1	0	0	0	0	0	0	0	0	0	842.1	0	0	0	0	0	0
Professional and business services	388.6	0	0	0	0	0	0	0	0	0	0	388.6	0	0	0	0	0
Educational services, health care, and social assistance	278.9	0	0	0	0	0	0	0	0	0	0	0	278.9	0	0	0	0
Arts, entertainment, recreation, accommodation, and food services	153.4	0	0	0	0	0	0	0	0	0	0	0	0	153.4	0	0	0
Other services, except government	121.3	0	0	0	0	0	0	0	0	0	0	0	0	0	121.3	0	0
Federal General government	261	0	0	0	0	0	0	0	0	0	0	0	0	0	0	261	0
State and local government	403.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	403.2
Total: 4824.4	Sum of Sum of col1987 by colName1	79.3	73.1	125.8	211	878.8	286.2	346.1	153.1	222.5	842.1	388.6	278.9	153.4	121.3	261	403.2

Balancing coefficients by years:

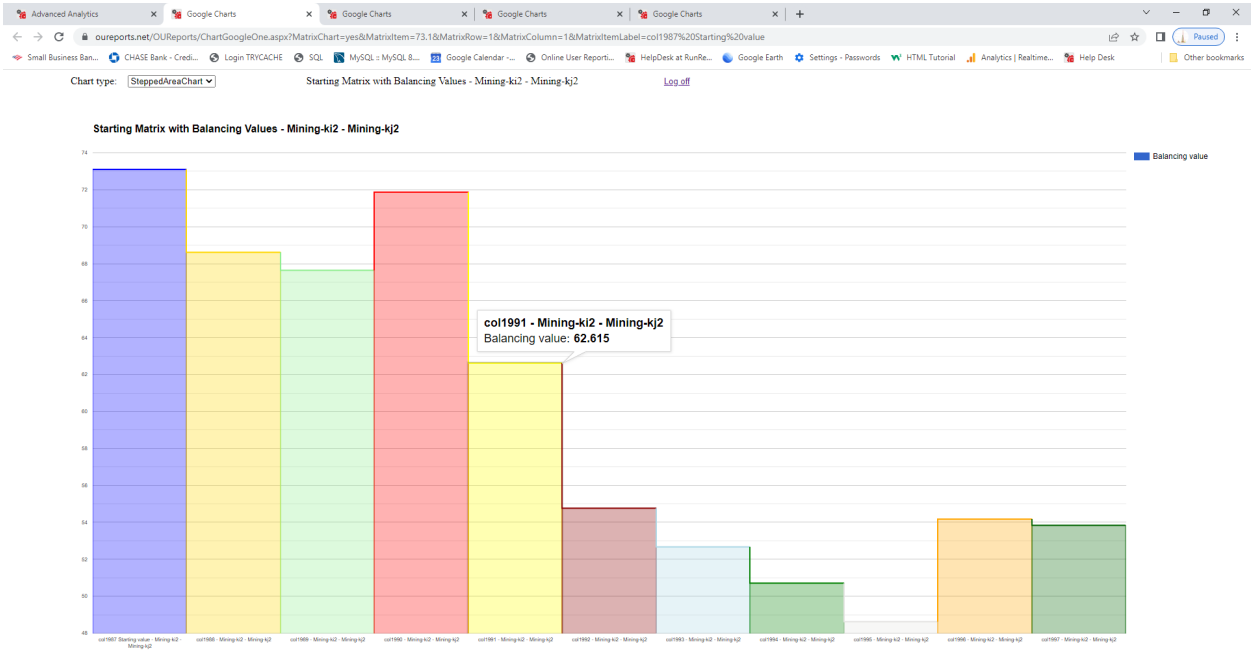


Manufacturing	878.8	U	U	U	U	878.8	U	U	U	U	U	U	U	U	U	U	U	U	U
Wholesale trade	286.2	0	0	0	0	0	286.2	0	0	0	0	0	0	0	0	0	0	0	0
Retail trade	346.1	0	0	0	0	0	0	346.1	0	0	0	0	0	0	0	0	0	0	0
Transportation and warehousing	153.1	0	0	0	0	0	0	0	153.1	0	0	0	0	0	0	0	0	0	0
Information	222.5	0	0	0	0	0	0	0	0	222.5	0	0	0	0	0	0	0	0	0
Finance, insurance, real estate, rental, and leasing	842.1	0	0	0	0	0	0	0	0	0	842.1	0	0	0	0	0	0	0	0
Professional and business services	388.6	0	0	0	0	0	0	0	0	0	0	388.6	0	0	0	0	0	0	0
Educational services, health care, and social assistance	278.9	0	0	0	0	0	0	0	0	0	0	0	278.9	0	0	0	0	0	0
Arts, entertainment, recreation, accommodation, and food services	153.4	0	0	0	0	0	0	0	0	0	0	0	0	153.4	0	0	0	0	0
Other services, except government	121.3	0	0	0	0	0	0	0	0	0	0	0	0	0	121.3	0	0	0	0
Federal General government	261	0	0	0	0	0	0	0	0	0	0	0	0	0	0	261	0	0	0
State and local government	403.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	403.2	0	0
Total: 4824.4	Sum of Sum of col1987 by colName1:	79.3	73.1	125.8	211	878.8	286.2	346.1	153.1	222.5	842.1	388.6	278.9	153.4	121.3	261	403.2		

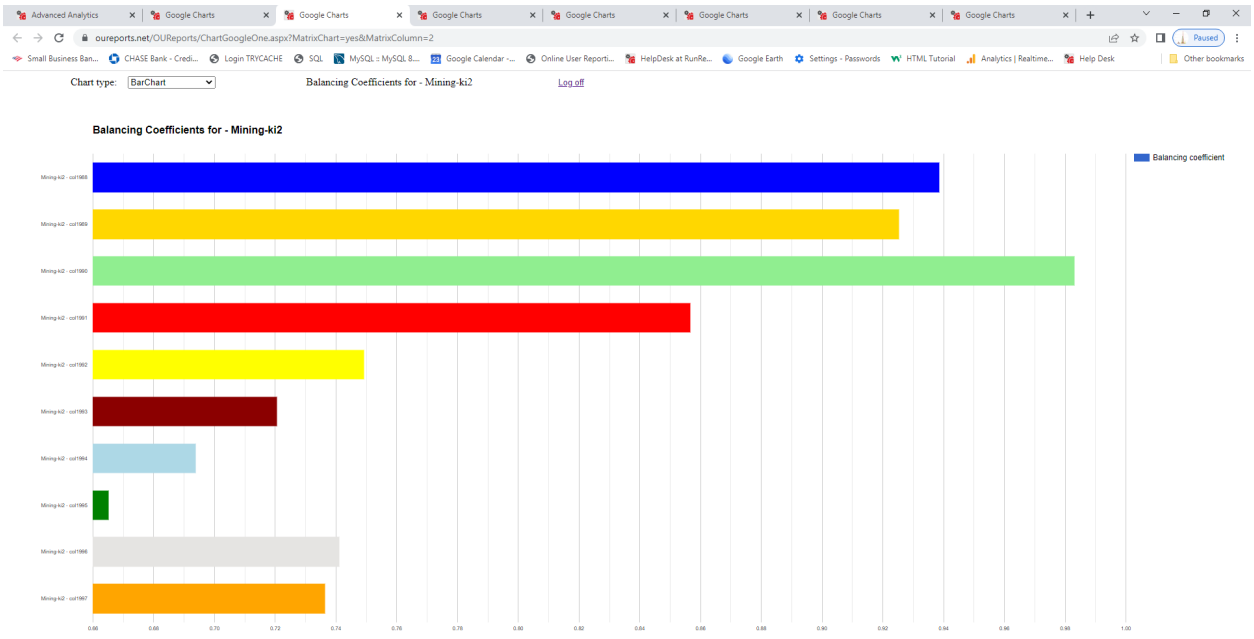
Balancing coefficients Chart Export to Excel

Steps	ki1	ki2	ki3	ki4	ki5	ki6	ki7	ki8	ki9	ki10	ki11	ki12	ki13	ki14	ki15	ki16	-	kj1	kj2	kj3	kj4	kj5	kj6	kj7	kj8	kj9	kj10	kj11	kj12	kj13	kj14	kj15	kj16
col1988	0.92024	0.93866	0.92364	1.0012	1.01353	1.02038	0.98393	0.98609	0.97155	0.99889	1.02548	1.00718	1.02769	1.01905	0.98956	1.00353		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
col1989	0.9951	0.92527	0.94748	0.98301	0.99486	1.01162	0.97282	0.94775	0.98249	0.99427	1.05646	1.04673	1.03846	1.02874	0.96551	1.01927		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
col1990	0.98636	0.98316	0.9421	0.94866	0.95913	0.98925	0.94059	0.92991	0.98525	1.00335	1.09664	1.10299	1.06393	1.03341	0.95657	1.05491		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
col1991	0.87514	0.85657	0.96421	0.85973	0.93613	0.99899	0.92797	0.94735	0.99608	1.02778	1.07898	1.17135	1.06221	1.01298	0.97759	1.09273		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
col1992	0.92639	0.74912	0.94827	0.8299	0.92046	0.99042	0.91762	0.94759	1.00235	1.04526	1.10414	1.20069	1.06425	1.01968	0.94101	1.10814		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
col1993	0.80792	0.72051	0.9269	0.84358	0.90585	0.99822	0.94493	0.9591	1.02273	1.04976	1.10779	1.23023	1.07215	1.04708	0.89927	1.10578		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
col1994	0.88486	0.69371	0.91328	0.87713	0.90509	1.03533	0.96052	0.97419	1.0211	1.04014	1.10365	1.23304	1.06091	1.06199	0.84929	1.0936		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
col1995	0.72703	0.6652	0.88936	0.88248	0.91124	1.02668	0.9594	0.95211	1.01802	1.06186	1.12883	1.22748	1.06628	1.07328	0.81111	1.09174		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
col1996	0.86141	0.74115	0.83655	0.90152	0.89671	1.04037	0.95607	0.9329	1.04548	1.06643	1.17094	1.21164	1.07769	1.07283	0.76454	1.07484		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
col1997	0.77527	0.73647	0.77181	0.91124	0.89099	1.04354	0.94866	0.95148	1.00283	1.08413	1.22475	1.19895	1.11386	1.07488	0.72345	1.05992		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

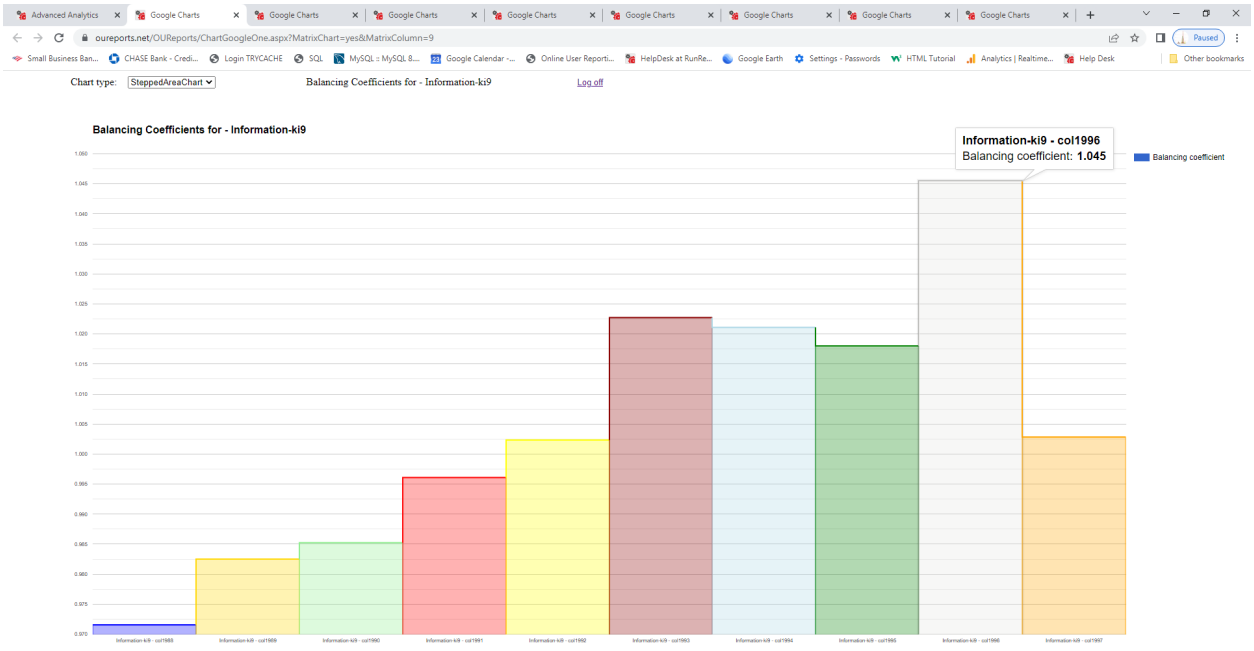
Clicking on the link for cell Mining from the starting matrix opens the chart:

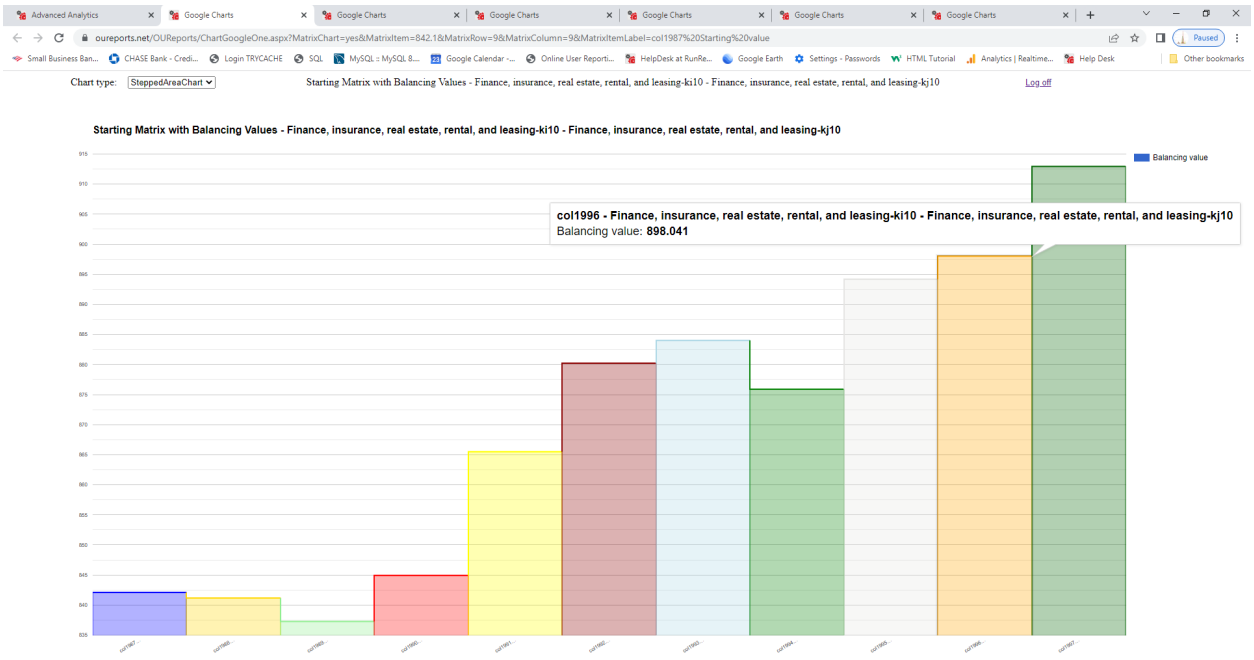


Clicking on the link ki2 in Balancing Coefficients column header opens the chart:



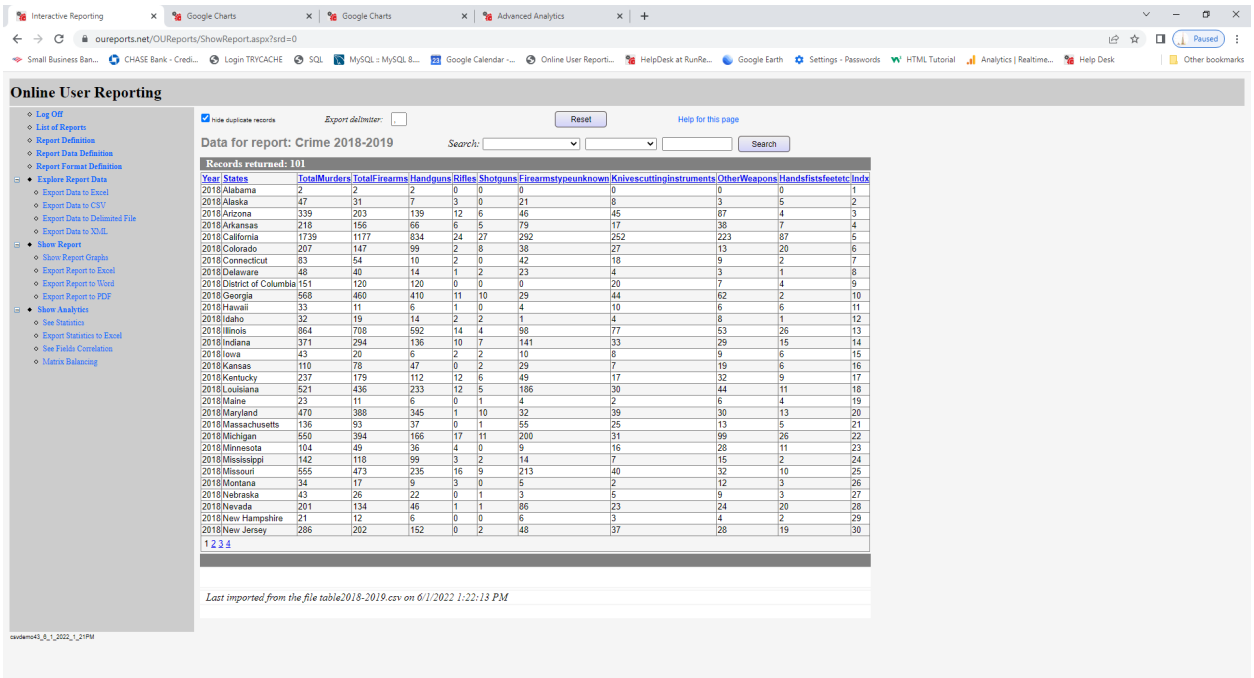
Clicking on other links gives detail information on industries weights:





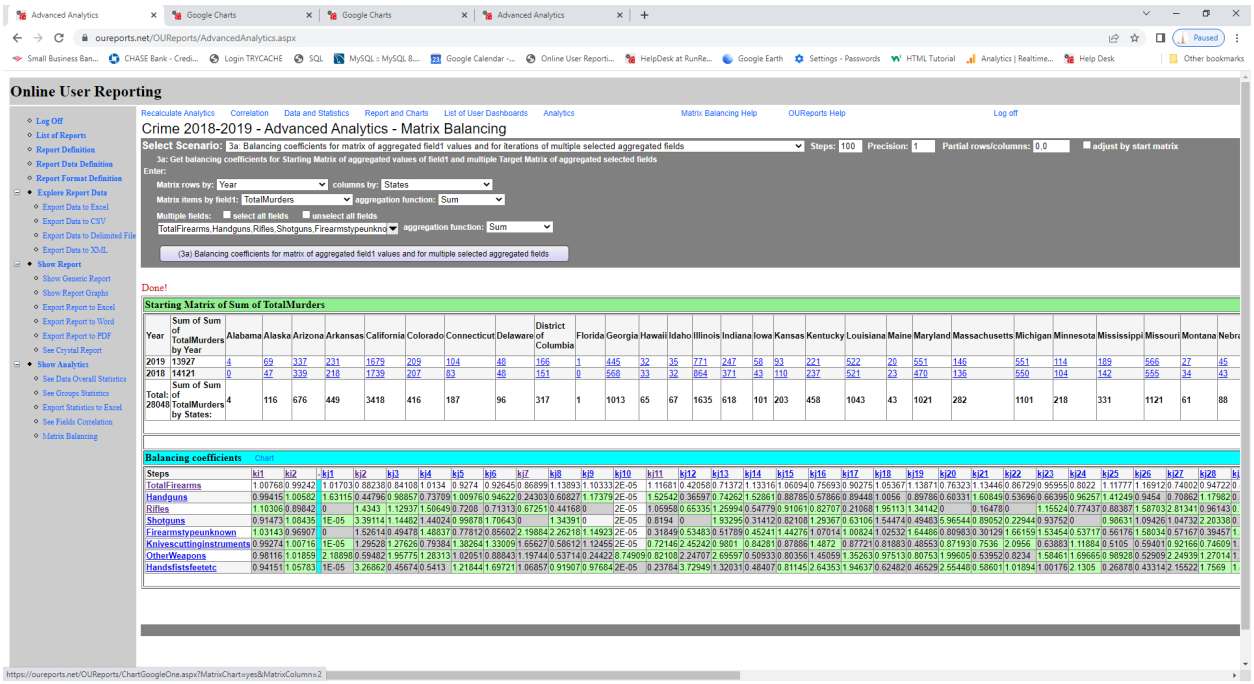
Report: Crime 2018-2019 in our Analytics from http://OUReports.com

Data:



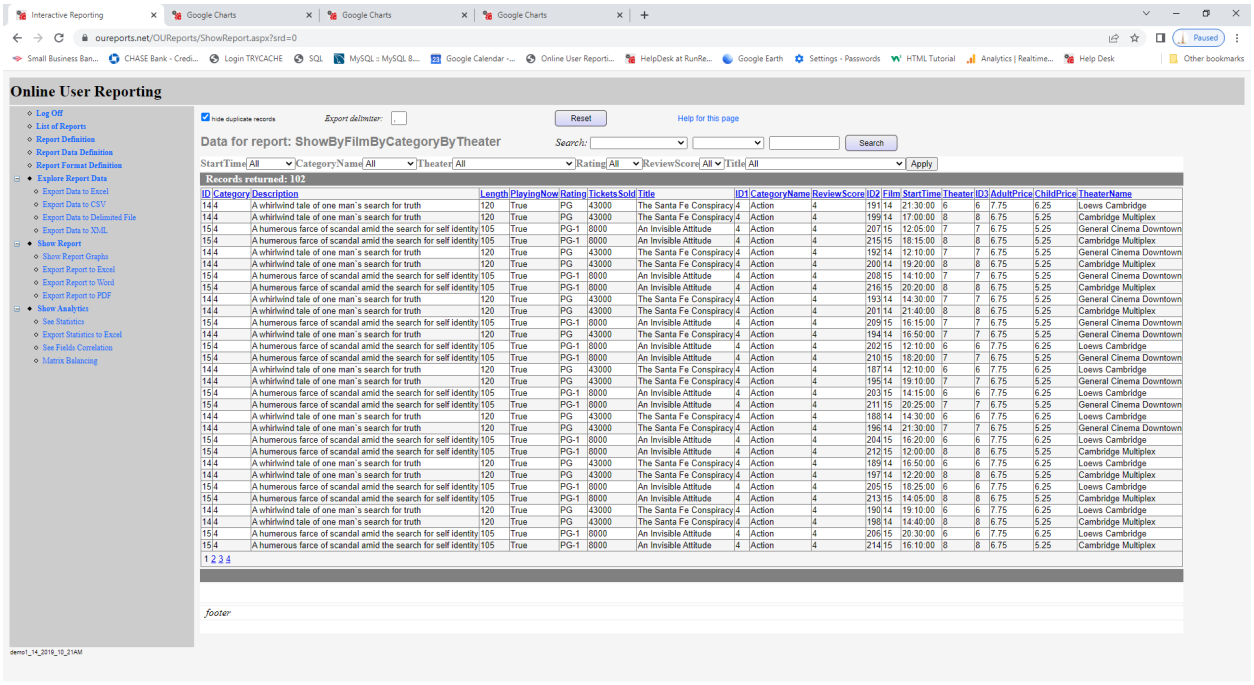
Year	States	TotalMurders	TotalFirearms	Handguns	Rifles	Shotguns	Firearmstypeunknown	Knivescuttinginstruments	OtherWeapons	Handsfistsfeetetc	Indx
2018	Alabama	2	2	2	0	0	0	0	0	0	1
2018	Alaska	47	31	7	3	0	21	8	3	5	2
2018	Arizona	339	203	139	12	6	46	45	87	4	3
2018	Arkansas	218	156	66	6	5	79	17	38	7	4
2018	California	1739	1177	834	24	27	292	252	223	87	5
2018	Colorado	207	147	99	2	8	38	27	13	20	6
2018	Connecticut	83	54	10	2	0	42	18	9	2	7
2018	Delaware	48	40	14	1	2	23	4	3	1	8
2018	District of Columbia	151	120	120	0	0	0	20	7	4	9
2018	Georgia	568	460	410	11	10	29	44	62	2	10
2018	Hawaii	33	11	6	1	0	4	10	6	6	11
2018	Idaho	32	19	14	2	2	1	4	8	1	12
2018	Illinois	864	708	592	14	4	98	77	53	26	13
2018	Indiana	371	294	136	10	7	141	33	29	15	14
2018	Iowa	43	20	6	2	2	10	8	9	6	15
2018	Kansas	110	78	47	0	2	29	7	19	6	16
2018	Kentucky	237	179	112	12	6	49	17	32	9	17
2018	Louisiana	521	436	233	12	5	186	30	44	11	18
2018	Maine	23	11	6	0	1	4	2	6	4	19
2018	Maryland	470	388	345	1	10	32	39	30	13	20
2018	Massachusetts	136	93	37	0	1	55	25	13	5	21
2018	Michigan	550	394	166	17	11	200	31	99	26	22
2018	Minnesota	104	49	36	4	0	9	16	28	11	23
2018	Mississippi	142	118	99	3	2	14	7	15	2	24
2018	Missouri	555	473	235	16	9	213	40	32	10	25
2018	Montana	34	17	9	3	0	5	2	12	3	26
2018	Nebraska	43	26	22	0	1	3	5	9	3	27
2018	Nevada	201	134	46	1	1	86	23	24	20	28
2018	New Hampshire	21	12	6	0	0	6	3	4	2	29
2018	New Jersey	286	202	152	0	2	48	37	28	19	30

1 2 3 4

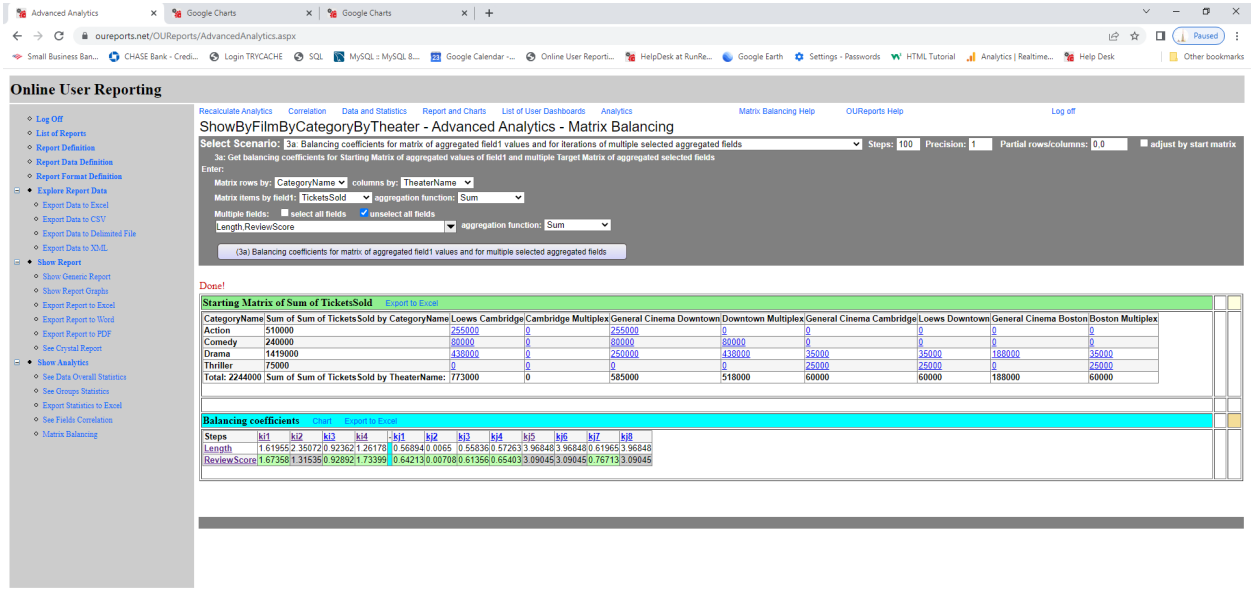


Report: ShowByFilmByCategoryByTheater in our Sandbox from http://OUReports.com

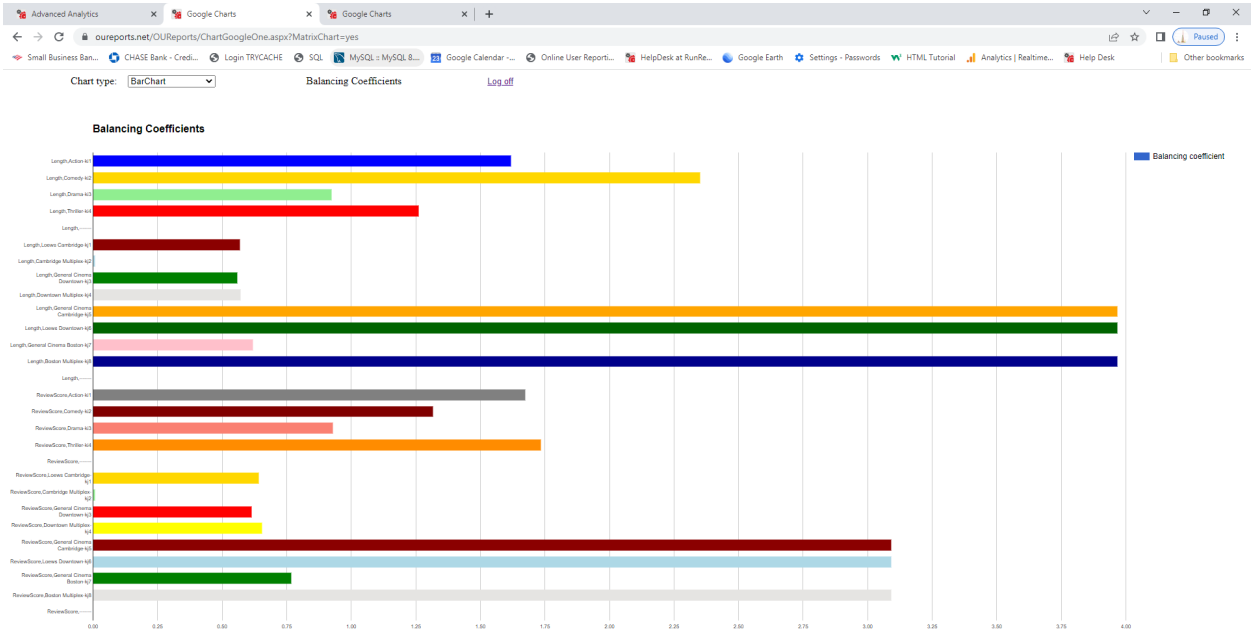
Data:



Parameters and starting matrix:



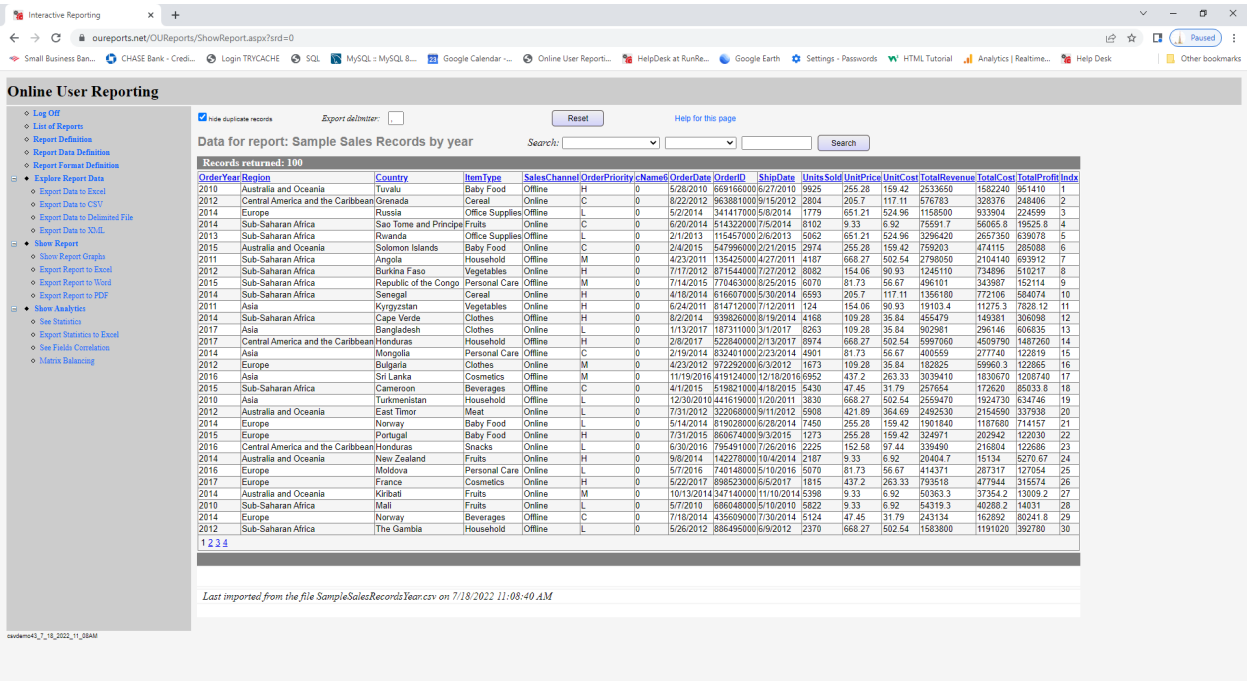
Click on the link Chart in the Balancing Coefficients:



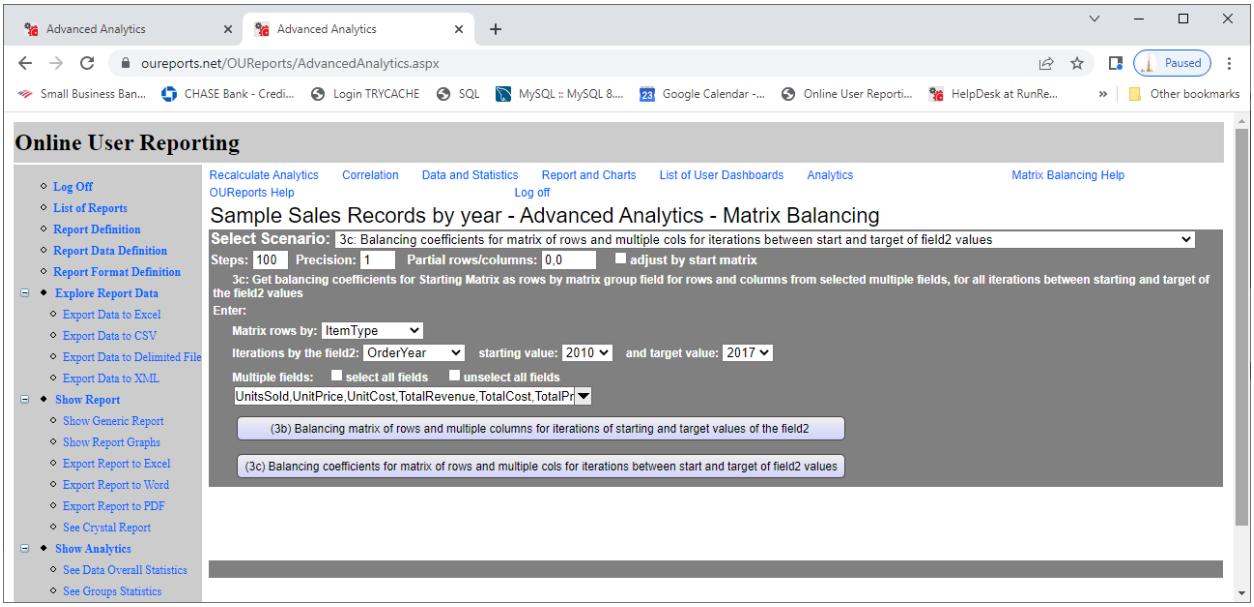
3b Scenario samples:

Report: Sample Sales Records by year in our Analytics from http://OUReports.com

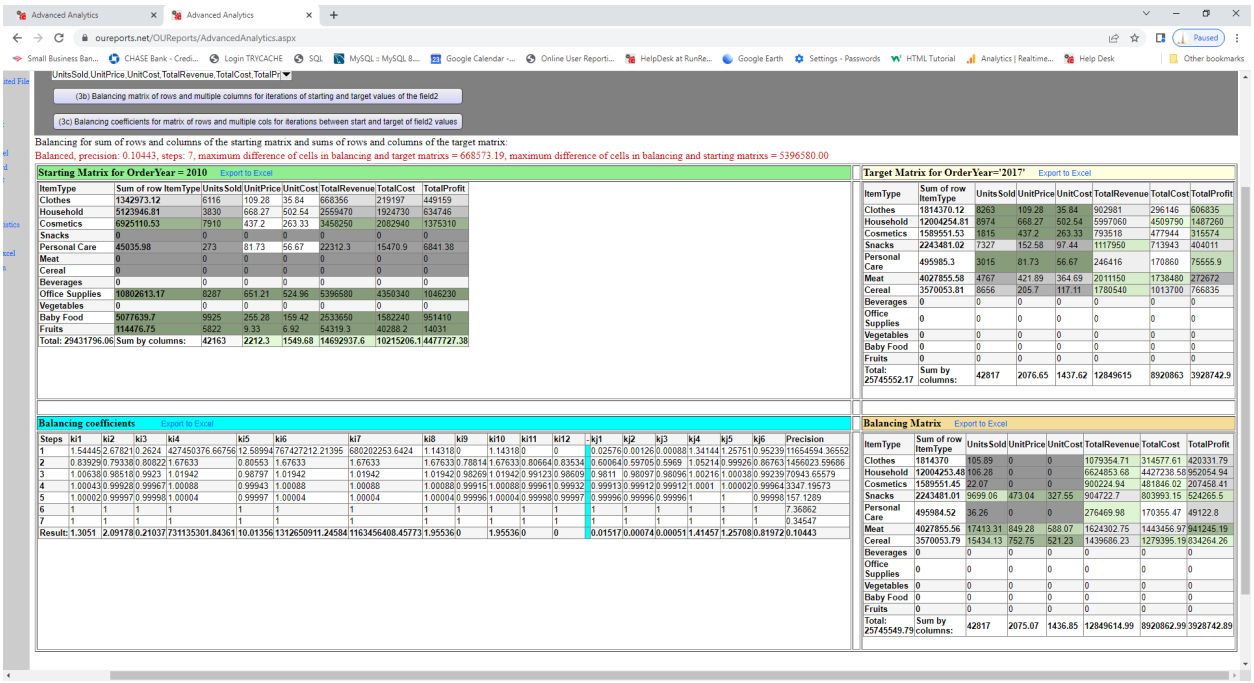
Data:



Parameters:

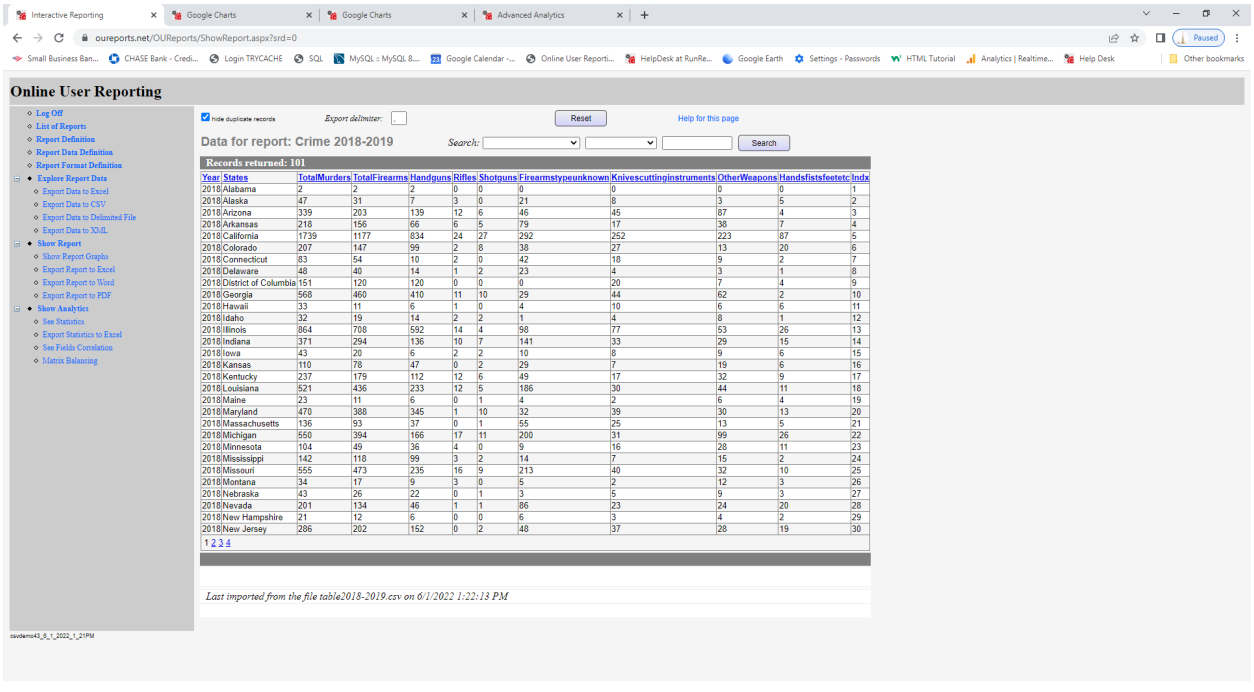


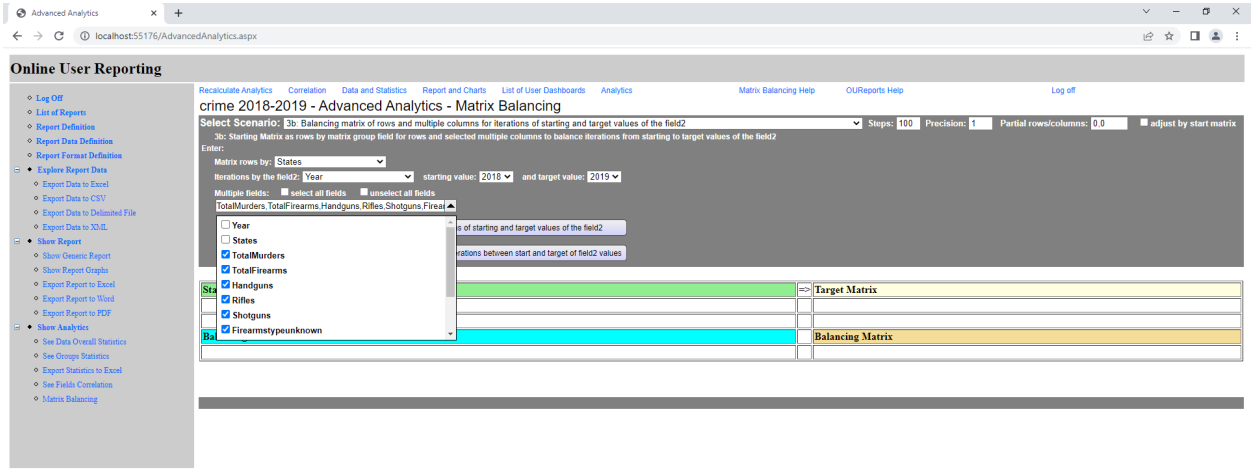
Starting, Target, and Balancing Matrices:

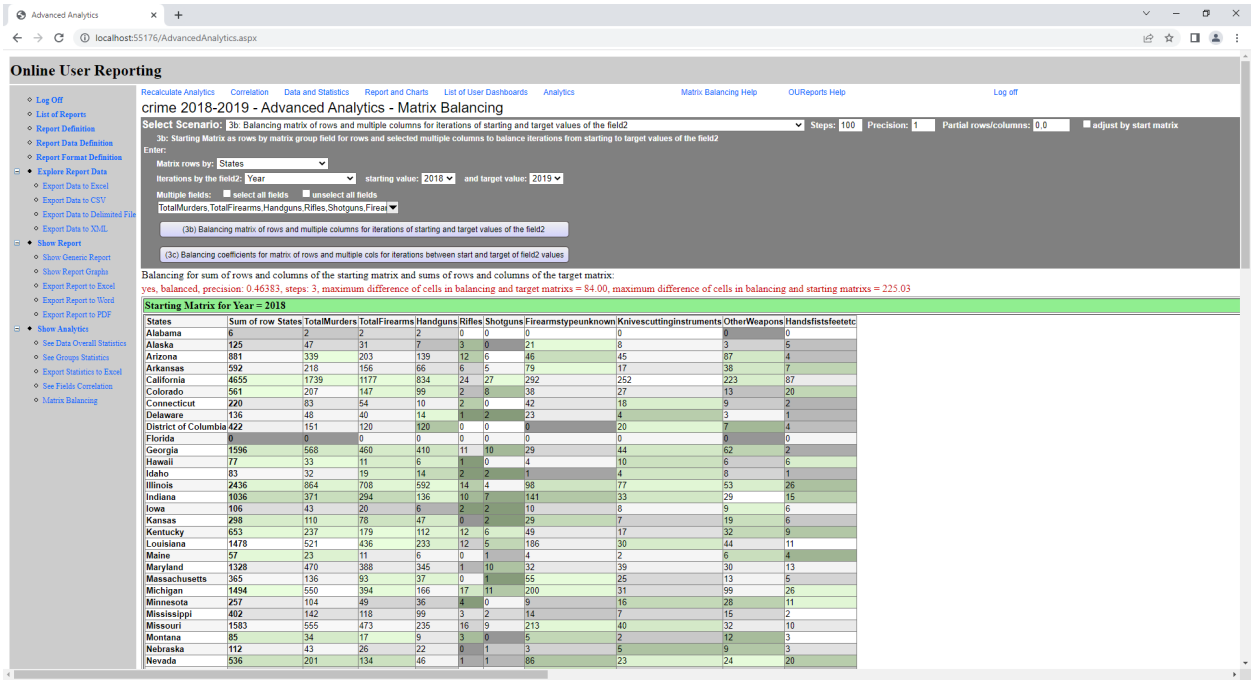


Crime 2018-2019 in our Analytics from http://OUReports.com

Data:

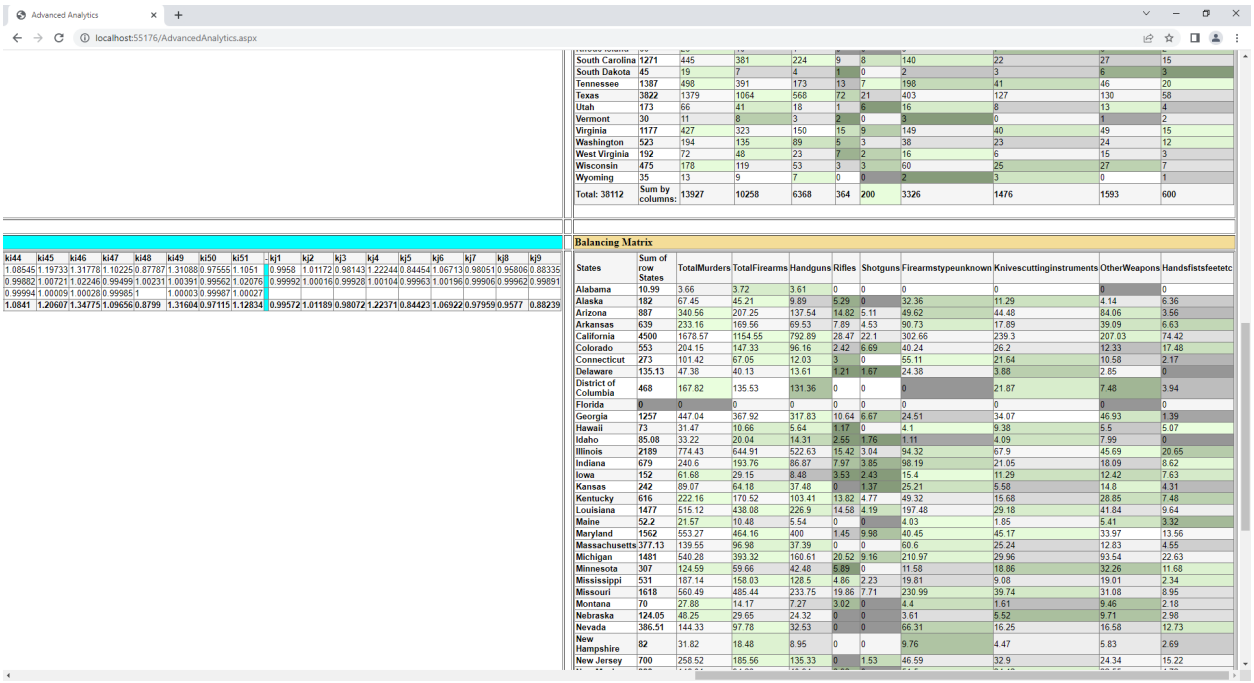






States	Sum of row States	TotalMurders	TotalFirearms	Handguns	Rifles	Shotguns	Firearmstypeunknown	Knivescuttinginstruments	OtherWeapons	Handsfistsfeetetc
Alabama	6	2	2	2	0	0	0	0	0	0
Alaska	125	47	31	7	3	0	21	8	3	5
Arizona	881	339	203	139	12	6	46	45	87	4
Arkansas	592	218	156	66	6	5	79	17	38	7
California	4655	1739	1177	834	24	27	292	252	223	87
Colorado	561	207	147	99	2	8	38	27	13	20
Connecticut	220	83	54	10	2	0	42	18	9	2
Delaware	136	48	40	14	1	2	23	4	3	1
District of Columbia	422	151	120	120	0	0	0	20	7	4
Florida	0	0	0	0	0	0	0	0	0	0
Georgia	1596	568	460	410	11	10	29	44	62	2
Hawaii	77	33	11	6	1	0	4	10	6	6
Idaho	83	32	19	14	2	2	1	4	8	1
Illinois	2436	864	708	592	14	4	98	77	53	26
Indiana	1036	371	294	136	10	7	141	33	29	15
Iowa	106	43	20	6	2	2	10	8	9	6
Kansas	298	110	78	47	0	2	29	7	19	6
Kentucky	653	237	179	112	12	6	49	17	32	9
Louisiana	1478	521	436	233	12	5	186	30	44	11
Maine	57	23	11	6	0	1	4	2	6	4
Maryland	1328	470	388	345	1	10	32	39	30	13
Massachusetts	365	136	93	37	0	1	55	25	13	5
Michigan	1494	550	394	166	17	11	200	31	99	26
Minnesota	257	104	49	36	4	0	9	16	28	11
Mississippi	402	142	118	99	3	2	14	7	15	2
Missouri	1583	555	473	235	16	9	213	40	32	10
Montana	85	34	17	9	3	0	5	2	12	3
Nebraska	112	43	26	22	0	1	3	5	9	3
Nevada	536	201	134	46	1	1	86	23	24	20

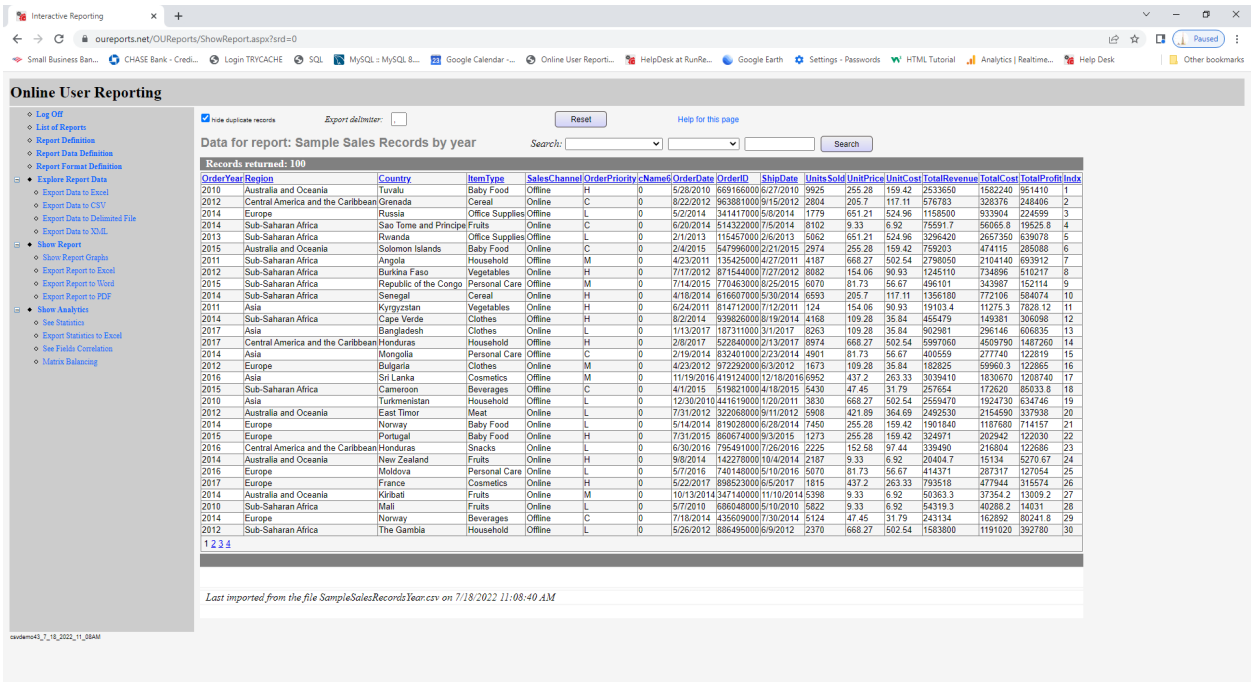
On right:



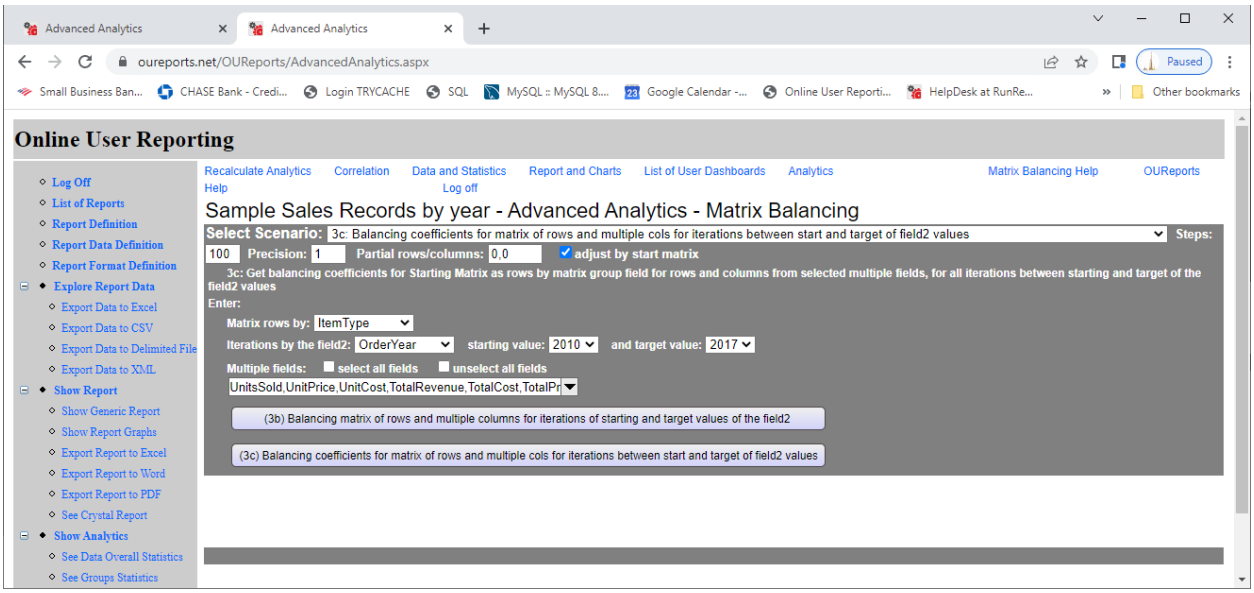
3c Scenario samples:

Report: Sample Sales Records by year in our Analytics from http://OUReports.com

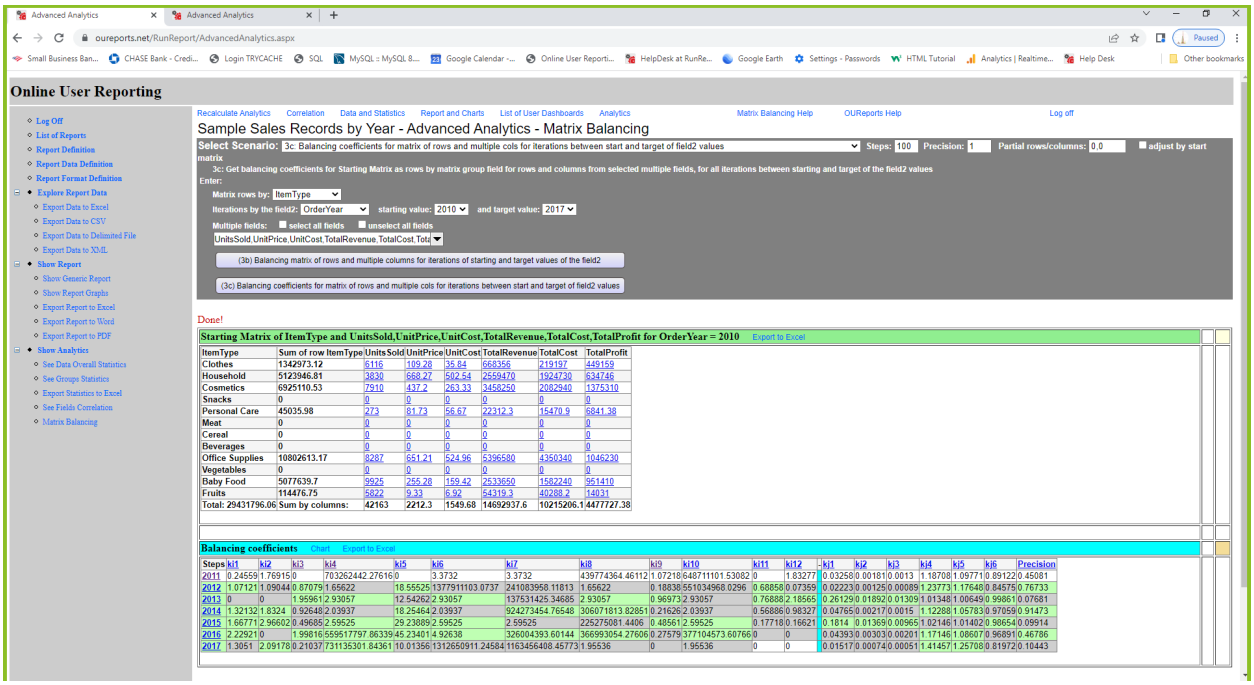
Data:



Parameters:

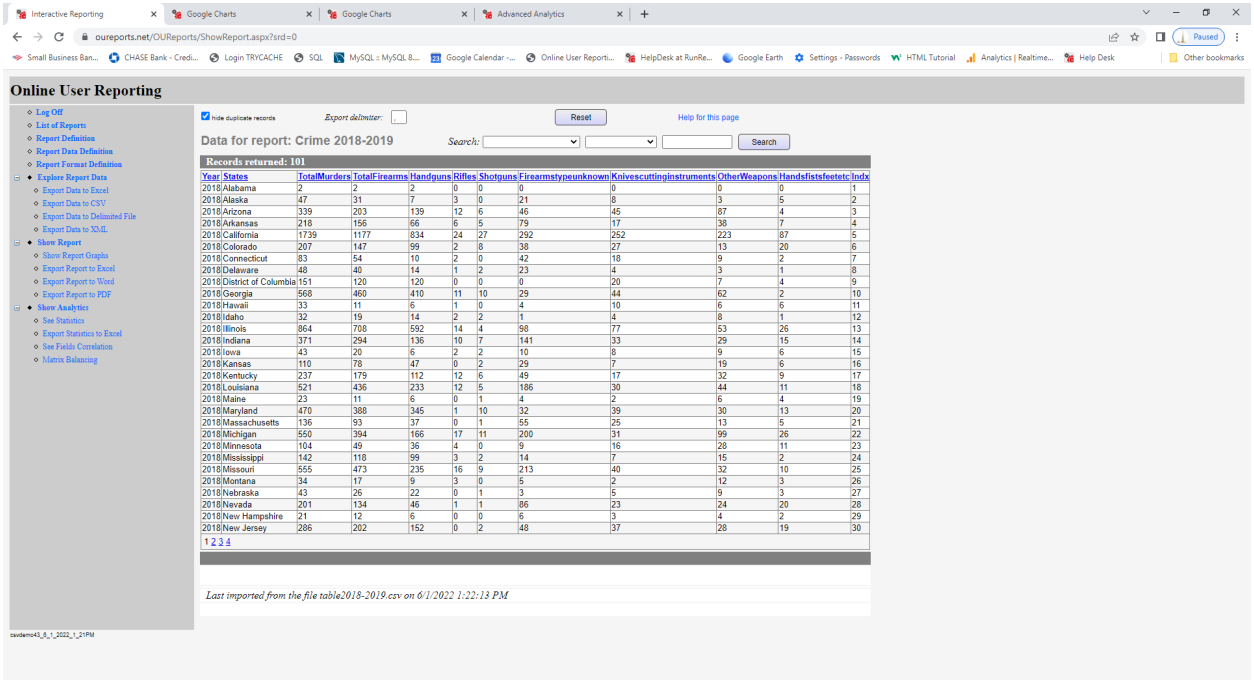


Starting Matrix and Balancing Coefficients by year:



Crime 2018-2019 in our Analytics from http://OUReports.com

Data:



Online User Reporting

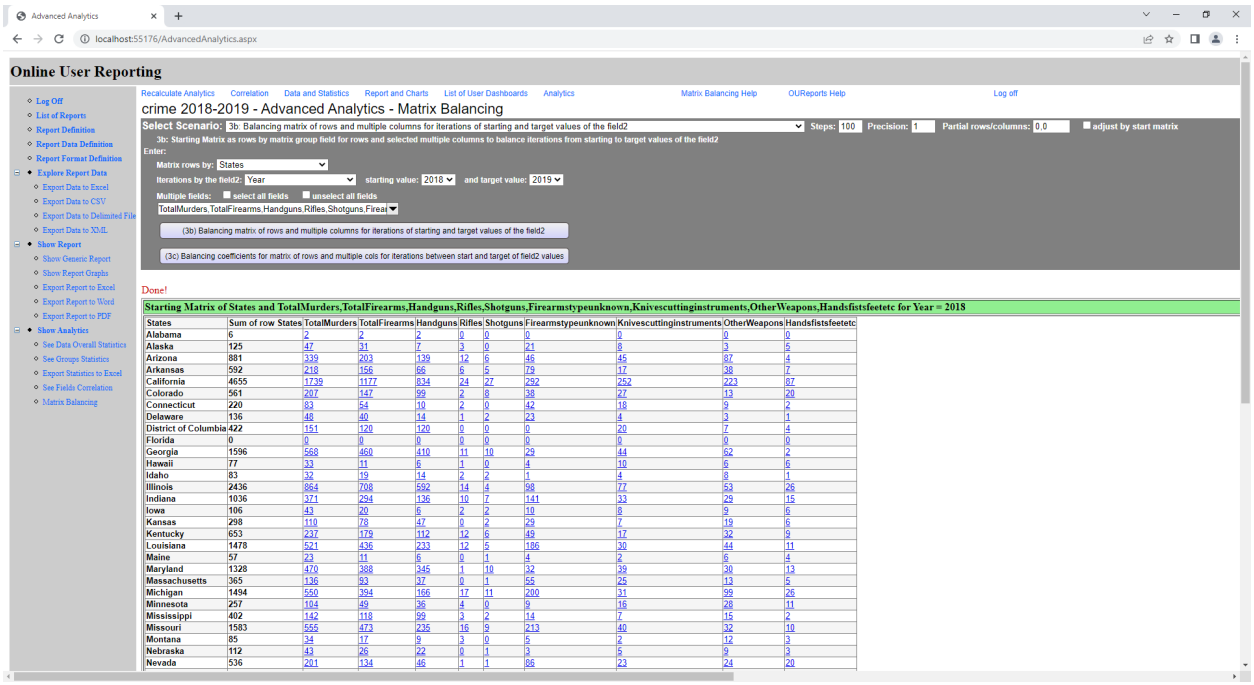
Data for report: Crime 2018-2019

Records returned: 101

Year	States	TotalMurders	TotalFirearms	Handguns	Rifles	Shotguns	Firearmstypeunknown	Knivescuttinginstruments	OtherWeapons	Handsfistsfeetetc	Index
2018	Alabama	2	2	2	0	0	0	0	0	0	1
2018	Alaska	47	31	7	3	0	21	8	3	5	2
2018	Arizona	339	203	139	12	6	46	45	87	4	3
2018	Arkansas	218	156	66	6	5	79	17	38	7	4
2018	California	1739	1177	834	24	27	292	252	223	87	5
2018	Colorado	207	147	99	2	8	38	27	13	20	6
2018	Connecticut	83	54	10	2	0	42	18	9	2	7
2018	Delaware	48	40	14	1	2	23	4	3	1	8
2018	District of Columbia	151	120	120	0	0	0	20	7	4	9
2018	Georgia	568	460	410	11	10	29	44	62	2	10
2018	Hawaii	33	11	6	1	0	4	10	6	6	11
2018	Idaho	32	19	14	2	2	1	4	8	1	12
2018	Illinois	864	708	592	14	4	98	77	53	26	13
2018	Indiana	371	294	136	10	7	141	33	29	15	14
2018	Iowa	43	20	6	2	2	10	8	9	6	15
2018	Kansas	110	78	47	0	2	29	7	19	6	16
2018	Kentucky	237	179	112	12	6	49	17	32	9	17
2018	Louisiana	521	436	233	12	5	186	30	44	11	18
2018	Maine	23	11	6	0	1	4	2	6	4	19
2018	Maryland	470	388	345	1	10	32	39	30	13	20
2018	Massachusetts	136	93	37	0	1	55	25	13	5	21
2018	Michigan	550	394	166	17	11	200	31	99	26	22
2018	Minnesota	104	49	36	4	0	9	16	28	11	23
2018	Mississippi	142	118	99	3	2	14	7	15	2	24
2018	Missouri	555	473	235	16	9	213	40	32	10	25
2018	Montana	34	17	9	3	0	5	2	12	3	26
2018	Nebraska	43	26	22	0	1	3	5	9	3	27
2018	Nevada	201	134	46	1	1	86	23	24	20	28
2018	New Hampshire	21	12	6	0	0	6	3	4	2	29
2018	New Jersey	286	202	152	0	2	48	37	28	19	30

1 2 3 4

Last imported from the file table2018-2019.csv on 6/1/2022 1:22:13 PM



Online User Reporting

crime 2018-2019 - Advanced Analytics - Matrix Balancing

Done!

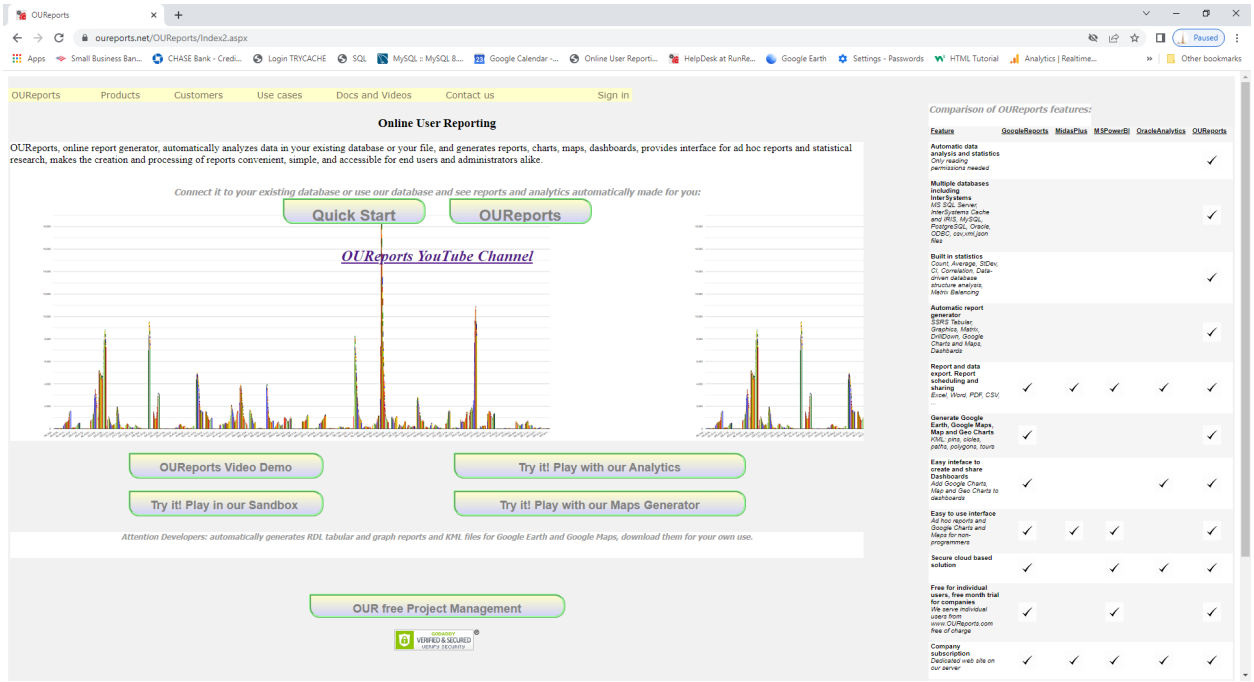
Starting Matrix of States and TotalMurders,TotalFirearms,Handguns,Rifles,Shotguns,Firearmstypeunknown,Knivescuttinginstruments,OtherWeapons,Handsfistsfeetetc for Year = 2018

States	Sum of row States	TotalMurders	TotalFirearms	Handguns	Rifles	Shotguns	Firearmstypeunknown	Knivescuttinginstruments	OtherWeapons	Handsfistsfeetetc
Alabama	6	2	2	2	0	0	0	0	0	0
Alaska	125	47	31	7	3	0	21	8	3	5
Arizona	881	339	203	139	12	6	46	45	87	4
Arkansas	592	218	156	66	6	5	79	17	38	7
California	4655	1739	1177	834	24	27	292	252	223	87
Colorado	561	207	147	99	2	8	38	27	13	20
Connecticut	220	83	54	10	2	0	42	18	9	2
Delaware	136	48	40	14	1	2	23	4	3	1
District of Columbia	422	151	120	120	0	0	0	20	7	4
Florida	0	0	0	0	0	0	0	0	0	0
Georgia	1596	568	460	410	11	10	29	44	62	2
Hawaii	77	33	11	6	1	0	4	10	6	6
Idaho	83	32	19	14	2	2	1	4	8	1
Illinois	2436	864	708	592	14	4	98	77	53	26
Indiana	1036	371	294	136	10	7	141	33	29	15
Iowa	106	43	20	6	2	2	10	8	9	6
Kansas	298	110	78	47	0	2	29	7	19	6
Kentucky	653	237	179	112	12	6	49	17	32	9
Louisiana	1478	521	436	233	12	5	186	30	44	11
Maine	57	23	11	6	0	1	4	2	6	4
Maryland	1328	470	388	345	1	10	32	39	30	13
Massachusetts	365	136	93	37	0	1	55	25	13	5
Michigan	1494	550	394	166	17	11	200	31	99	26
Minnesota	257	104	49	36	4	0	9	16	28	11
Mississippi	402	142	118	99	3	2	14	7	15	2
Missouri	1583	555	473	235	16	9	213	40	32	10
Montana	85	34	17	9	3	0	5	2	12	3
Nebraska	112	43	26	22	0	1	3	5	9	3
Nevada	536	201	134	46	1	1	86	23	24	20

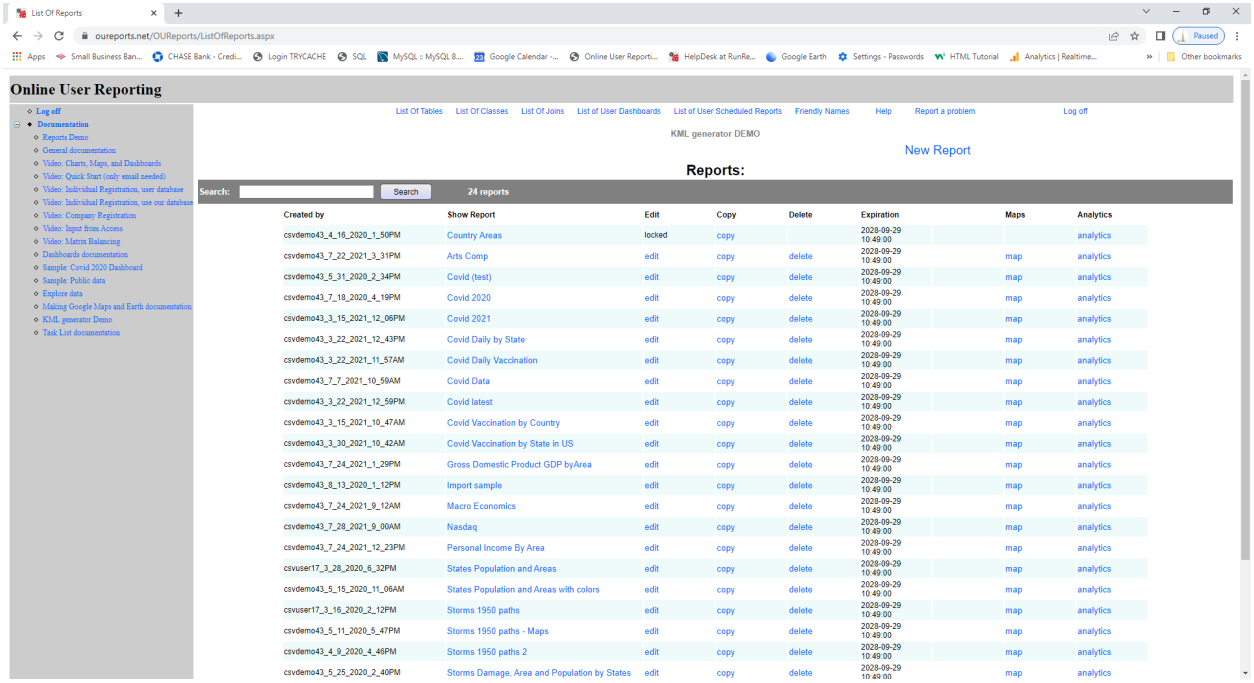
Partial Matrix Balancing

If the goal is to balance the matrix to partially given sums by rows and columns for example to balance top left corner of matrix and low right corner, then resulting balancing coefficients can be applied to the rest of the matrix, because balancing coefficients for top left matrix and balancing coefficients for low right matrix are two complementary sets of balancing coefficients.

Open the site http://oureports.com/: OUReports Documentation

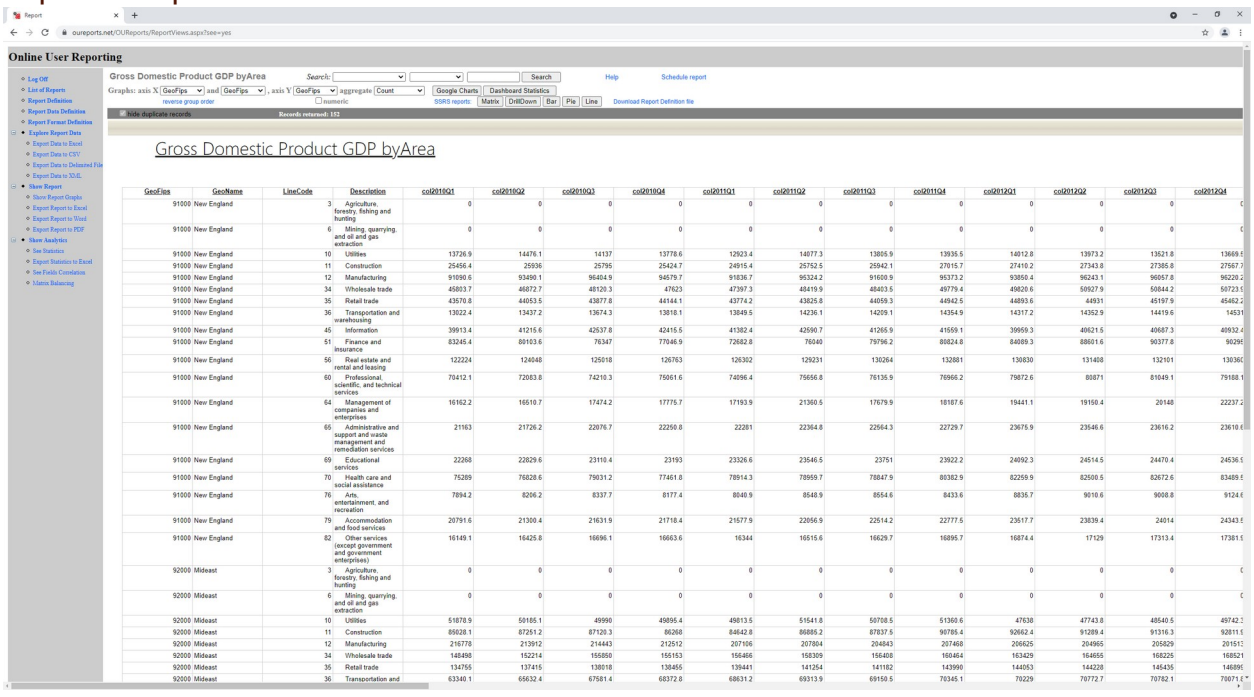


Click the button “Try it! Play with our Analytics”. It will open the list of reports:



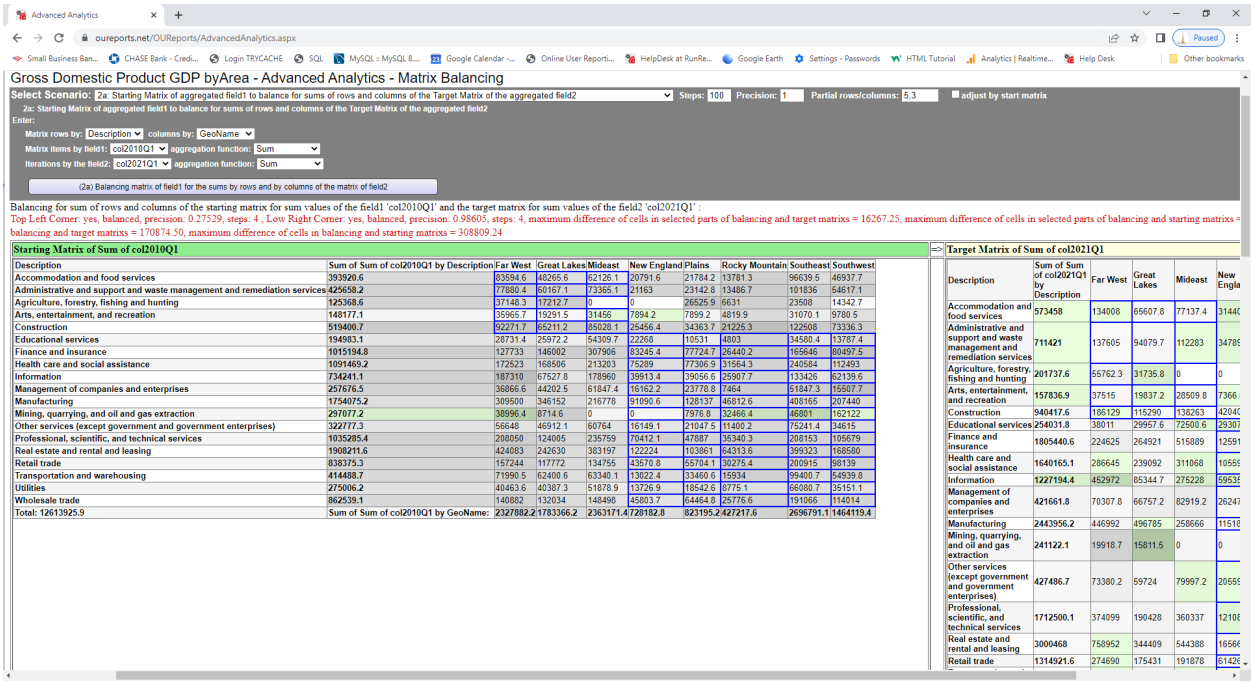
Click on the link for report “Gross Domestic Product GDP by Area”. It will open the report:

Report: Gross Domestic Product GDP by Area in our Analytics from http://OUReports.com

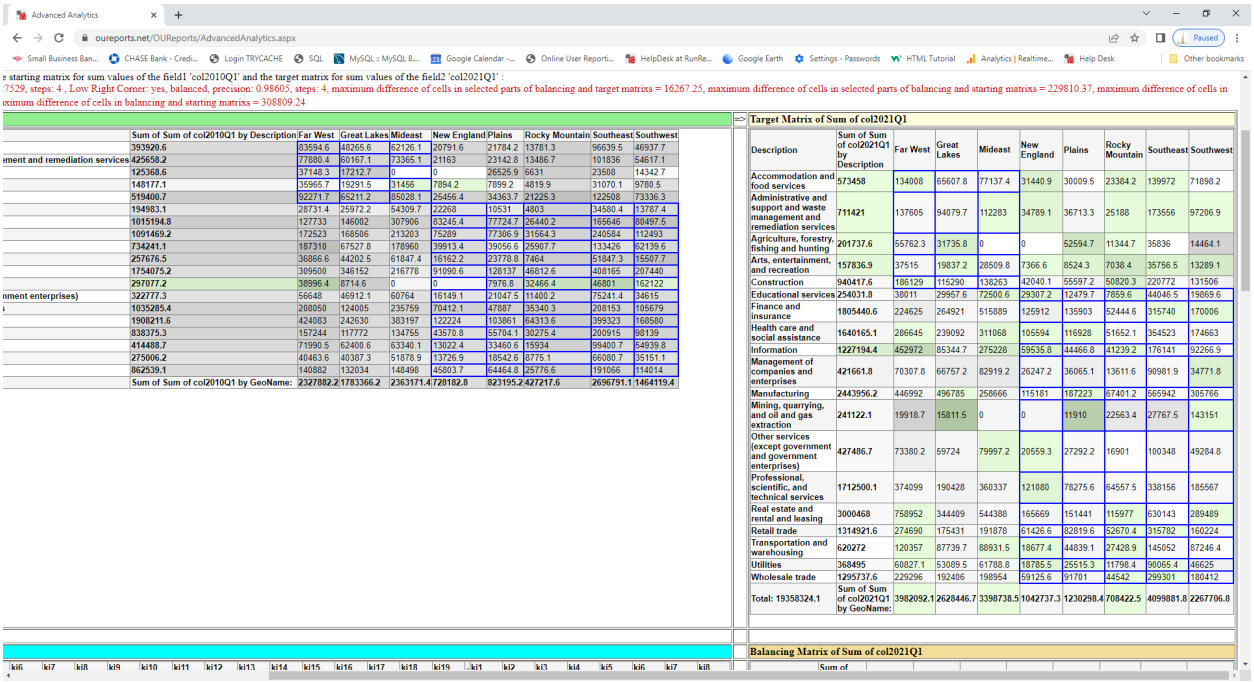


Click on the link Matrix Balancing in the bottom of the left menu and select scenario 2a and assign the Partial rows/columns to 5,3.

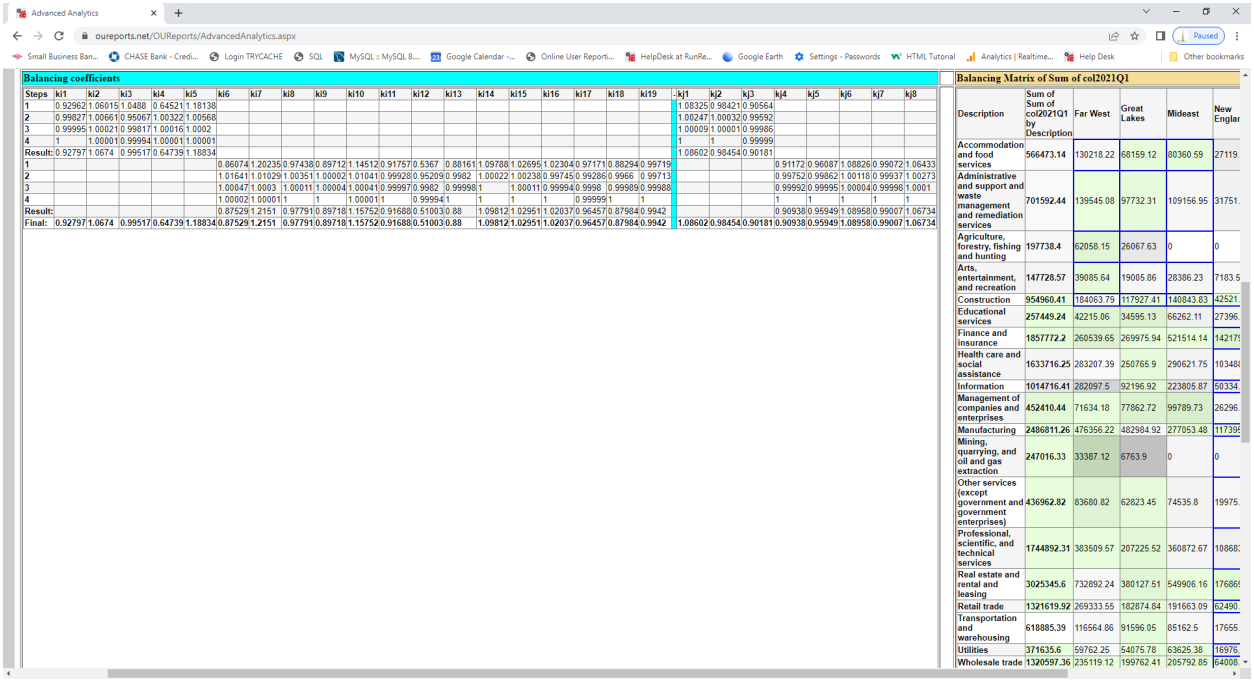
Balance top left corner matrix (5 rows and 3 columns) and low right corner matrix (14 rows and 5 columns) and applying coefficients to the rest of starting matrix to get partially balanced matrix:



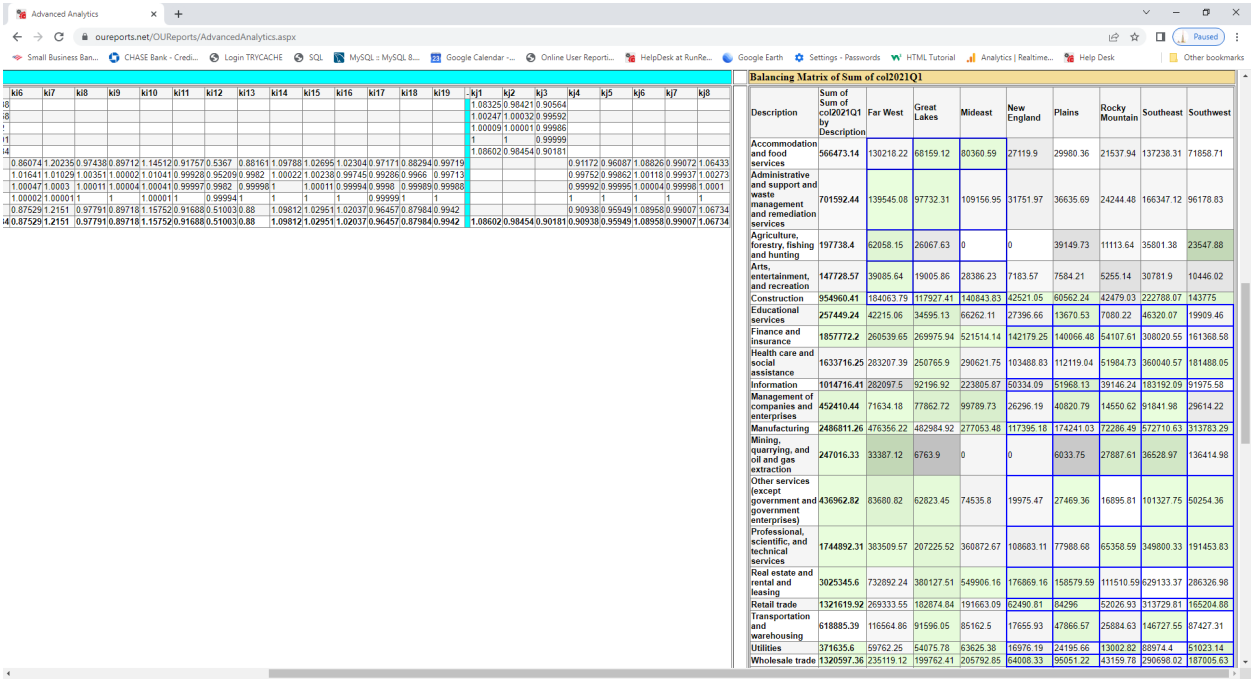
Target matrix:



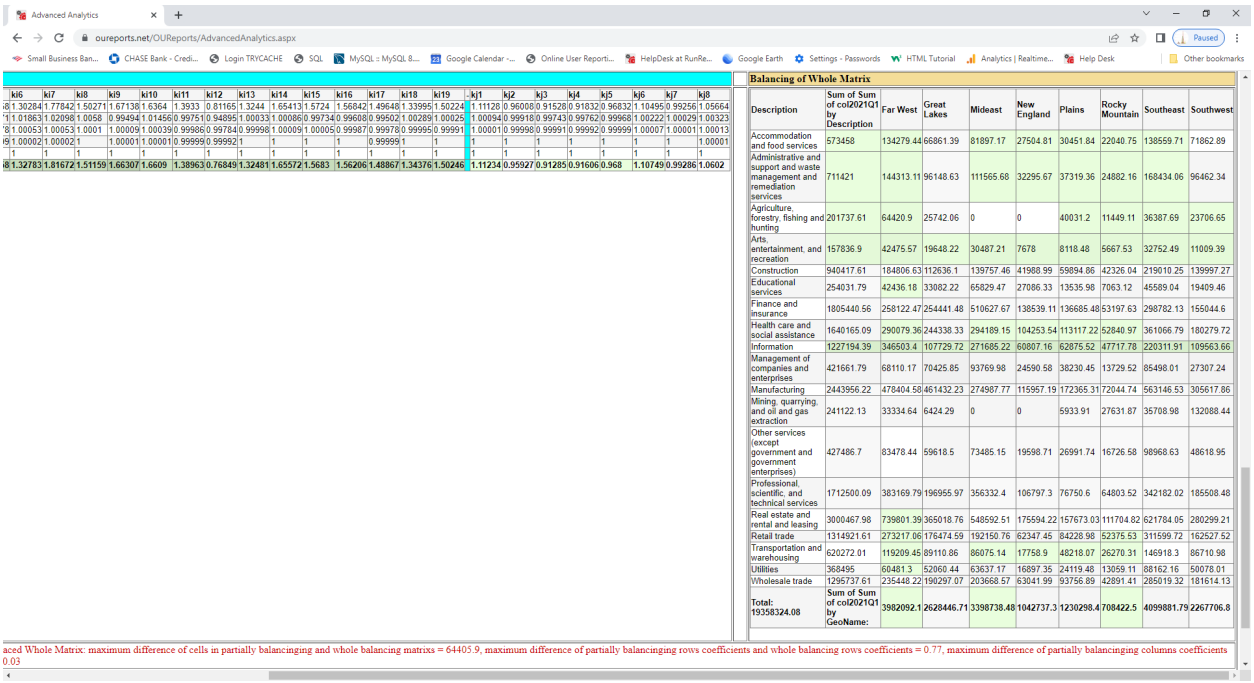
Balancing coefficients for partial balancing:



Partially balancing matrix:



Balancing algorithm for the whole matrix ignoring corners resulted in



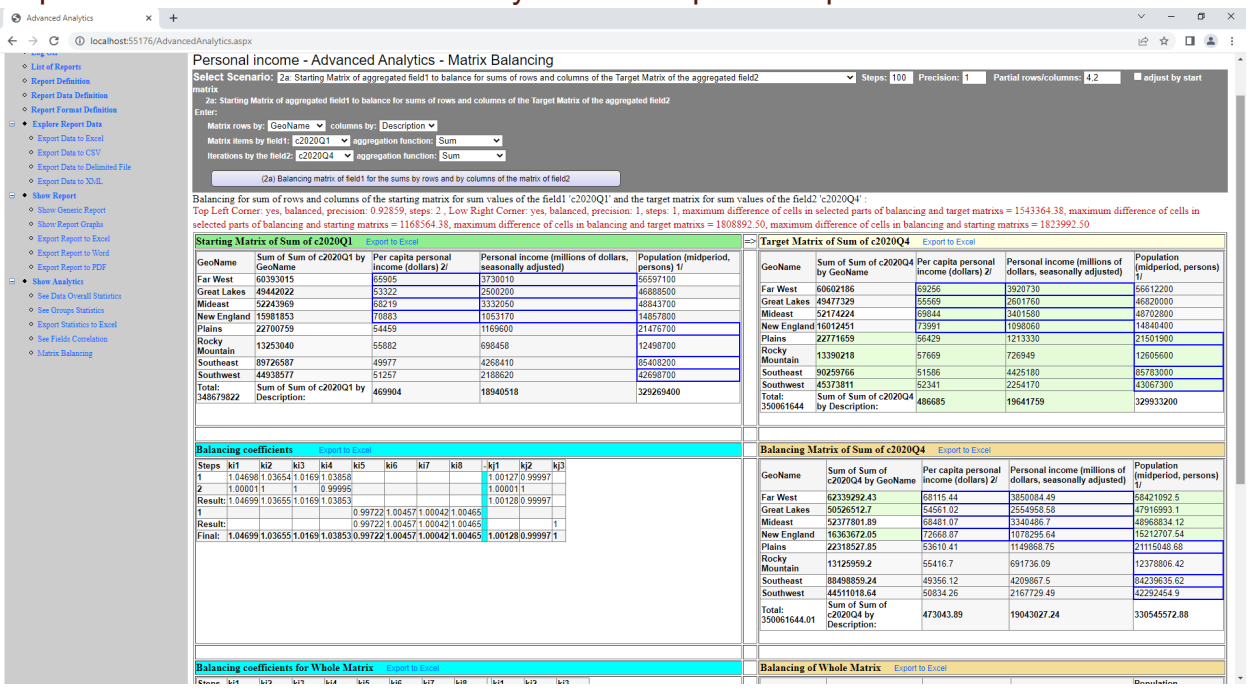
Balancing of Whole Matrix

Description	Sum of Sum of col2021Q1 by Description	Far West	Great Lakes	Mideast	New England	Plains	Rocky Mountain	Southeast	Southwest
Accommodation and food services	573458	134279.44	66861.39	81897.17	27504.81	30451.84	22040.75	138559.71	71862.89
Administrative and support and waste management and remediation services	711421	144313.11	96148.63	111565.68	32295.67	37319.36	24882.16	168434.06	96462.34
Agriculture, forestry, fishing and hunting	201737.61	64420.9	25742.06	0	0	40031.2	11449.11	36387.69	23706.65
Arts, entertainment, and recreation	157836.9	42475.57	19648.22	30487.21	7678	8118.48	5667.53	32752.49	11009.39
Construction	940417.61	184806.63	112636.1	139757.46	41988.99	59894.86	42326.04	219010.25	139997.27
Educational services	254031.79	42436.18	33082.22	65829.47	27086.33	13535.98	7063.12	45589.04	19409.46
Finance and insurance	1805440.56	258122.47	254441.48	510627.67	138539.11	136685.48	53197.63	298782.13	155044.6
Health care and social assistance	1640165.09	290079.36	244338.33	294189.15	104253.54	113117.22	52840.97	361066.79	180279.72
Information	1227194.39	346503.4	107729.72	271685.22	60807.16	62875.52	47717.78	220311.91	109563.66
Management of companies and enterprises	421661.79	68110.17	70425.85	93769.98	24590.58	38230.45	13729.52	85498.01	27307.24
Manufacturing	2443956.22	478404.58	461432.23	274987.77	115957.19	172365.31	72044.74	563146.53	305617.86
Mining, quarrying, and oil and gas extraction	241122.13	33334.64	6424.29	0	0	5933.91	27631.87	35708.98	132088.44
Other services (except government and government enterprises)	427486.7	83478.44	59618.5	73485.15	19598.71	26991.74	16726.58	98968.63	48618.95
Professional, scientific, and technical services	1712500.09	383169.79	196955.97	356332.4	106797.3	76750.6	64803.52	342182.02	185508.48
Real estate and rental and leasing	3000467.98	739801.39	365018.76	548592.51	175594.22	157673.03	111704.82	621784.05	280299.21
Retail trade	1314921.61	273217.06	176474.59	192150.76	62347.45	84228.98	52375.53	311599.72	162527.52
Transportation and warehousing	620272.01	119209.45	89110.86	86075.14	17758.9	48218.07	26270.31	146918.3	86710.98
Utilities	368495	60481.3	52060.44	63637.17	16897.35	24119.48	13059.11	88162.16	50078.01
Wholesale trade	1295737.61	235448.22	190297.07	203668.57	63041.99	93756.89	42891.41	285019.32	181614.13
Total: 19358324.08	Sum of Sum of col2021Q1 by GeoName:	3982092.1	2628446.71	3398738.48	1042737.3	1230298.4	708422.5	4099881.79	2267706.8

aced Whole Matrix: maximum difference of cells in partially balancinging and whole balancing matrixs = 64405.9, maximum difference of partially balancinging rows coefficients and whole balancing rows coefficients = 0.77, maximum difference of partially balancinging columns coefficients 0.03

The difference between partially and whole balancing is color coded and not significant.

Report: Personal income in our Analytics from http://OUReports.com



Personal income - Advanced Analytics - Matrix Balancing

Select Scenario: 2a: Starting Matrix of aggregated field1 to balance for sums of rows and columns of the Target Matrix of the aggregated field2 matrix

Steps: 100 Precision: 1 Partial rows/columns: 4.2 adjust by start

2a: Starting Matrix of aggregated field1 to balance for sums of rows and columns of the Target Matrix of the aggregated field2

Enter:

Matrix rows by: GeoName columns by: Description

Matrix items by field1: c2020Q1 aggregation function: Sum

Iterations by the field2: c2020Q4 aggregation function: Sum

(2a) Balancing matrix of field1 for the sums by rows and by columns of the matrix of field2

Balancing for sum of rows and columns of the starting matrix for sum values of the field1 'c2020Q1' and the target matrix for sum values of the field2 'c2020Q4' :

Top Left Corner: yes, balanced, precision: 0.92859, steps: 2 , Low Right Corner: yes, balanced, precision: 1, steps: 1, maximum difference of cells in selected parts of balancing and target matrixs = 1543364.38, maximum difference of cells in selected parts of balancing and starting matrixs = 1168564.38, maximum difference of cells in balancing and target matrixs = 1808892.50, maximum difference of cells in balancing and starting matrixs = 1823992.50

Starting Matrix of Sum of c2020Q1 Export to Excel

GeoName	Sum of Sum of c2020Q1 by GeoName	Per capita personal income (dollars) 2/	Personal income (millions of dollars, seasonally adjusted)	Population (midperiod, persons) 1/
Far West	60393015	66905	3730010	56597100
Great Lakes	49442022	53322	2500200	46888500
Mideast	52243969	68219	3332050	48843700
New England	15981853	70883	1053170	14857800
Plains	22700759	54459	1169600	21476700
Rocky Mountain	13253040	55882	698458	12498700
Southeast	89726587	49977	4268410	85408200
Southwest	44938577	51257	2188620	42698700
Total: 348679822	Sum of Sum of c2020Q1 by Description:	469904	18940518	329269400

Target Matrix of Sum of c2020Q4 Export to Excel

GeoName	Sum of Sum of c2020Q4 by GeoName	Per capita personal income (dollars) 2/	Personal income (millions of dollars, seasonally adjusted)	Population (midperiod, persons) 1/
Far West	60602186	69256	3920730	56612200
Great Lakes	49477329	55569	2601760	46820000
Mideast	52174224	69844	3401580	48702800
New England	16012451	73991	1098060	14840400
Plains	22771659	56429	1213330	21501900
Rocky Mountain	13390218	57669	726949	12605600
Southeast	90259766	51586	4425180	85783000
Southwest	45373811	52341	2254170	43067300
Total: 350061644	Sum of Sum of c2020Q4 by Description:	486685	19641759	329933200

Balancing coefficients Export to Excel

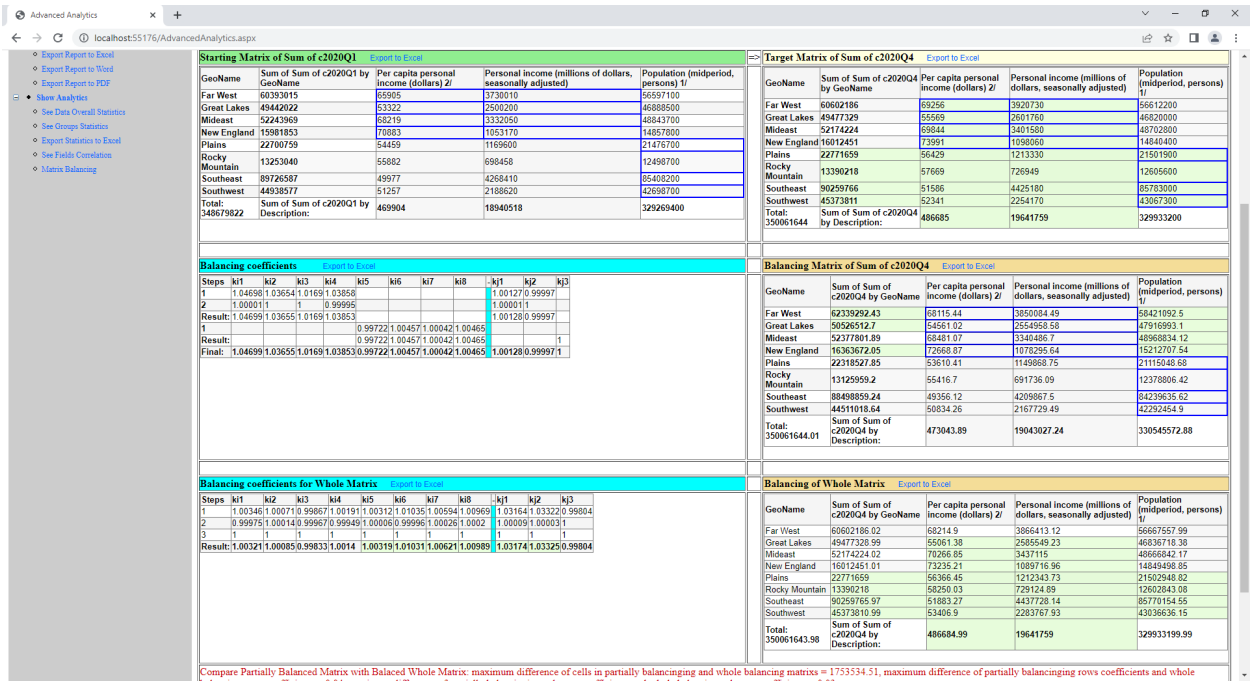
Steps	ki1	ki2	ki3	ki4	ki5	ki6	ki7	ki8	kj1	kj2	kj3
1	1.04698	1.03654	1.0169	1.03858					1.00127	0.99997	
2	1.00001	1	1	0.99995					1.00001	1	
Result:	1.04699	1.03655	1.0169	1.03853					1.00128	0.99997	
1					0.99722	1.00457	1.00042	1.00465			
Result:					0.99722	1.00457	1.00042	1.00465			1
Final:	1.04699	1.03655	1.0169	1.03853	0.99722	1.00457	1.00042	1.00465	1.00128	0.99997	1

Balancing Matrix of Sum of c2020Q4 Export to Excel

GeoName	Sum of Sum of c2020Q4 by GeoName	Per capita personal income (dollars) 2/	Personal income (millions of dollars, seasonally adjusted)	Population (midperiod, persons) 1/
Far West	62339292.43	68115.44	3850084.49	56421092.5
Great Lakes	50526512.7	54561.02	2554958.58	47916993.1
Mideast	52377801.89	68481.07	3340486.7	48968834.12
New England	16363672.05	72668.87	1078295.64	15212707.54
Plains	22318527.85	53610.41	1149868.75	21115048.68
Rocky Mountain	13125959.2	55416.7	691736.09	12378806.42
Southeast	88498859.24	49356.12	4209867.5	84239635.62
Southwest	44511018.64	50834.26	2167729.49	42292454.9
Total: 350061644.01	Sum of Sum of c2020Q4 by Description:	473043.89	19043027.24	330545572.88

Balancing coefficients for Whole Matrix Export to Excel

Balancing of Whole Matrix Export to Excel


Advanced Analytics
localhost:55176/AdvancedAnalytics.aspx
Export Report to Excel
Export Report to Word
Export Report to PDF
Show Analytics
See Data Overall Statistics
See Groups Statistics
Export Statistics to Excel
See Fields Correlation
Matrix Balancing
Starting Matrix of Sum of c2020Q1 Export to Excel
GeoName | Sum of Sum of c2020Q1 by GeoName | Per capita personal income (dollars) 2/ | Personal income (millions of dollars, seasonally adjusted) | Population (midperiod, persons) 1/
Far West | 60393015 | 66905 | 3730010 | 56597100
Great Lakes | 49442022 | 53322 | 2500200 | 46888500
Mideast | 52243969 | 68219 | 3332050 | 46843700
New England | 15981853 | 70883 | 1053170 | 14857800
Plains | 22700759 | 54459 | 1169600 | 21476700
Rocky Mountain | 13253040 | 55882 | 698458 | 12498700
Southeast | 89726587 | 49977 | 4268410 | 85408200
Southwest | 44938577 | 51257 | 2188620 | 42698700
Total: 348679822 | Sum of Sum of c2020Q1 by Description: | 469904 | 18940518 | 329269400
=>
Target Matrix of Sum of c2020Q4 Export to Excel
GeoName | Sum of Sum of c2020Q4 by GeoName | Per capita personal income (dollars) 2/ | Personal income (millions of dollars, seasonally adjusted) | Population (midperiod, persons) 1/
Far West | 60602186 | 69256 | 3920730 | 56612200
Great Lakes | 49477329 | 55569 | 2601760 | 46820000
Mideast | 52174224 | 69844 | 3401580 | 48702800
New England | 16012451 | 73991 | 1098060 | 14840400
Plains | 22771659 | 56429 | 1213330 | 21501900
Rocky Mountain | 13390218 | 57669 | 726949 | 12605600
Southeast | 90259766 | 51586 | 4425180 | 85783000
Southwest | 45373811 | 52341 | 2254170 | 43067300
Total: 350061644 | Sum of Sum of c2020Q4 by Description: | 486685 | 19641759 | 329933200
Balancing coefficients Export to Excel
Steps | ki1 | ki2 | ki3 | ki4 | ki5 | ki6 | ki7 | ki8 | kj1 | kj2 | kj3
1 | 1.04698 | 1.03654 | 1.0169 | 1.03858 | | | | | 1.00127 | 0.99997 |
2 | 1.00001 | 1 | 1 | 0.99995 | | | | | 1.00001 | 1 |
Result: | 1.04699 | 1.03655 | 1.0169 | 1.03853 | | | | | 1.00128 | 0.99997 |
1 | | | | | 0.99722 | 1.00457 | 1.00042 | 1.00465 | | | |
Result: | | | | | 0.99722 | 1.00457 | 1.00042 | 1.00465 | | | 1
Final: | 1.04699 | 1.03655 | 1.0169 | 1.03853 | 0.99722 | 1.00457 | 1.00042 | 1.00465 | 1.00128 | 0.99997 | 1
Balancing Matrix of Sum of c2020Q4 Export to Excel
GeoName | Sum of Sum of c2020Q4 by GeoName | Per capita personal income (dollars) 2/ | Personal income (millions of dollars, seasonally adjusted) | Population (midperiod, persons) 1/
Far West | 62339292.43 | 68115.44 | 3850084.49 | 56421092.5
Great Lakes | 50526512.7 | 54561.02 | 2554958.58 | 47916993.1
Mideast | 52377801.89 | 68481.07 | 3340486.7 | 48968834.12
New England | 16363672.05 | 72668.87 | 1078295.64 | 15212707.54
Plains | 22318527.85 | 53610.41 | 1149868.75 | 21115048.68
Rocky Mountain | 13125959.2 | 55416.7 | 691736.09 | 12378806.42
Southeast | 88498859.24 | 49356.12 | 4209867.5 | 84239635.62
Southwest | 44511018.64 | 50834.26 | 2167729.49 | 42292454.9
Total: 350061644.01 | Sum of Sum of c2020Q4 by Description: | 473043.89 | 19043027.24 | 330545572.88
Balancing coefficients for Whole Matrix Export to Excel
Steps | ki1 | ki2 | ki3 | ki4 | ki5 | ki6 | ki7 | ki8 | kj1 | kj2 | kj3
1 | 1.00346 | 1.00071 | 0.99867 | 1.00191 | 1.00312 | 1.01035 | 1.00594 | 1.00969 | 1.03164 | 1.03322 | 0.99804
2 | 0.99975 | 1.00014 | 0.99967 | 0.99949 | 1.00006 | 0.99996 | 1.00026 | 1.0002 | 1.00009 | 1.00003 | 1
3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1
Result: | 1.00321 | 1.00085 | 0.99833 | 1.0014 | 1.00319 | 1.01031 | 1.00621 | 1.00989 | 1.03174 | 1.03325 | 0.99804
Balancing of Whole Matrix Export to Excel
GeoName | Sum of Sum of c2020Q4 by GeoName | Per capita personal income (dollars) 2/ | Personal income (millions of dollars, seasonally adjusted) | Population (midperiod, persons) 1/
Far West | 60602186.02 | 68214.9 | 3866413.12 | 56667557.99
Great Lakes | 49477328.99 | 55061.38 | 2585549.23 | 46836718.38
Mideast | 52174224.02 | 70266.85 | 3437115 | 48666842.17
New England | 16012451.01 | 73235.21 | 1089716.96 | 14849498.85
Plains | 22771659 | 56366.45 | 1212343.73 | 21502948.82
Rocky Mountain | 13390218 | 58250.03 | 729124.89 | 12602843.08
Southeast | 90259765.97 | 51883.27 | 4437728.14 | 85770154.55
Southwest | 45373810.99 | 53406.9 | 2283767.93 | 43036636.15
Total: 350061643.98 | Sum of Sum of c2020Q4 by Description: | 486684.99 | 19641759 | 329933199.99
Compare Partially Balanced Matrix with Balaced Whole Matrix: maximum difference of cells in partially balancinging and whole balancing matrixs = 1753534.51, maximum difference of partially balancinging rows coefficients and whole