

Shareef_Adonis_ASSIGNMENT1.2

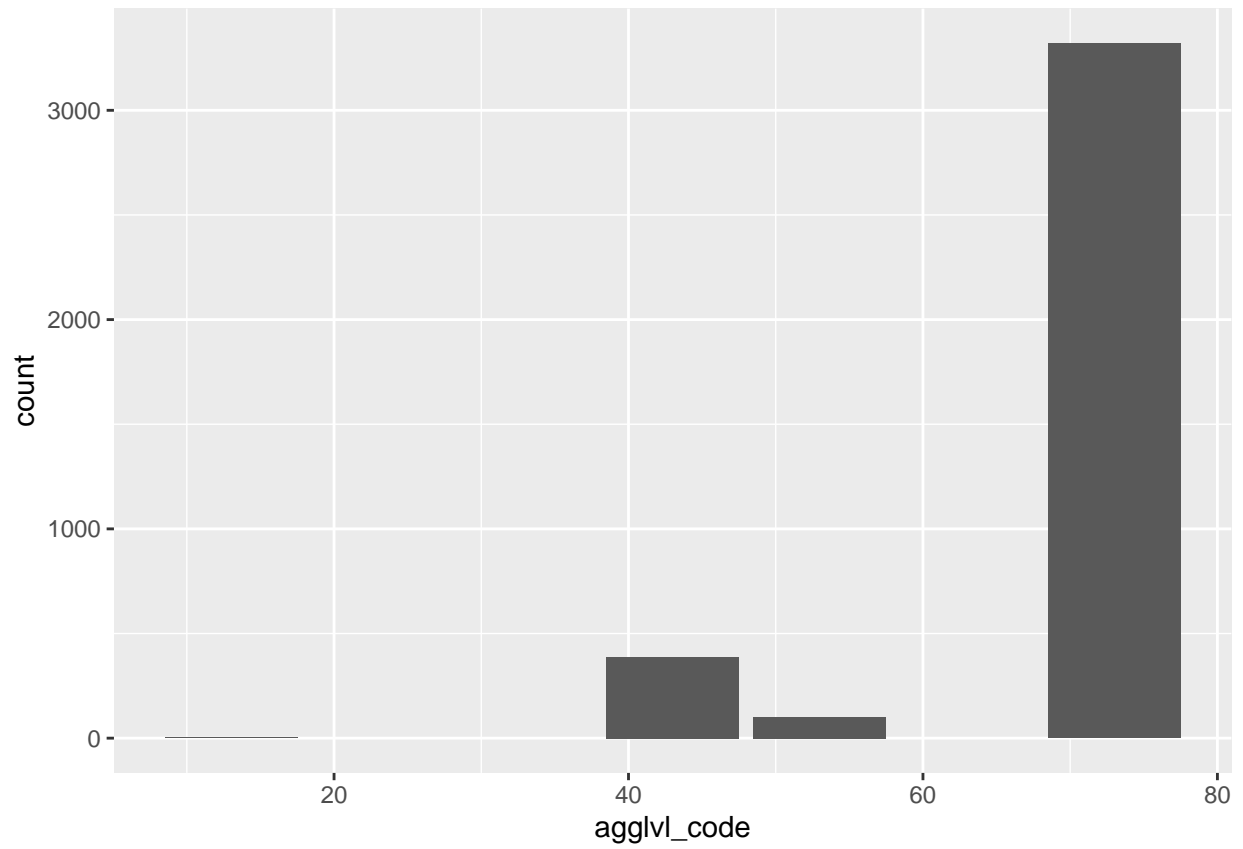
Adonis Shareef

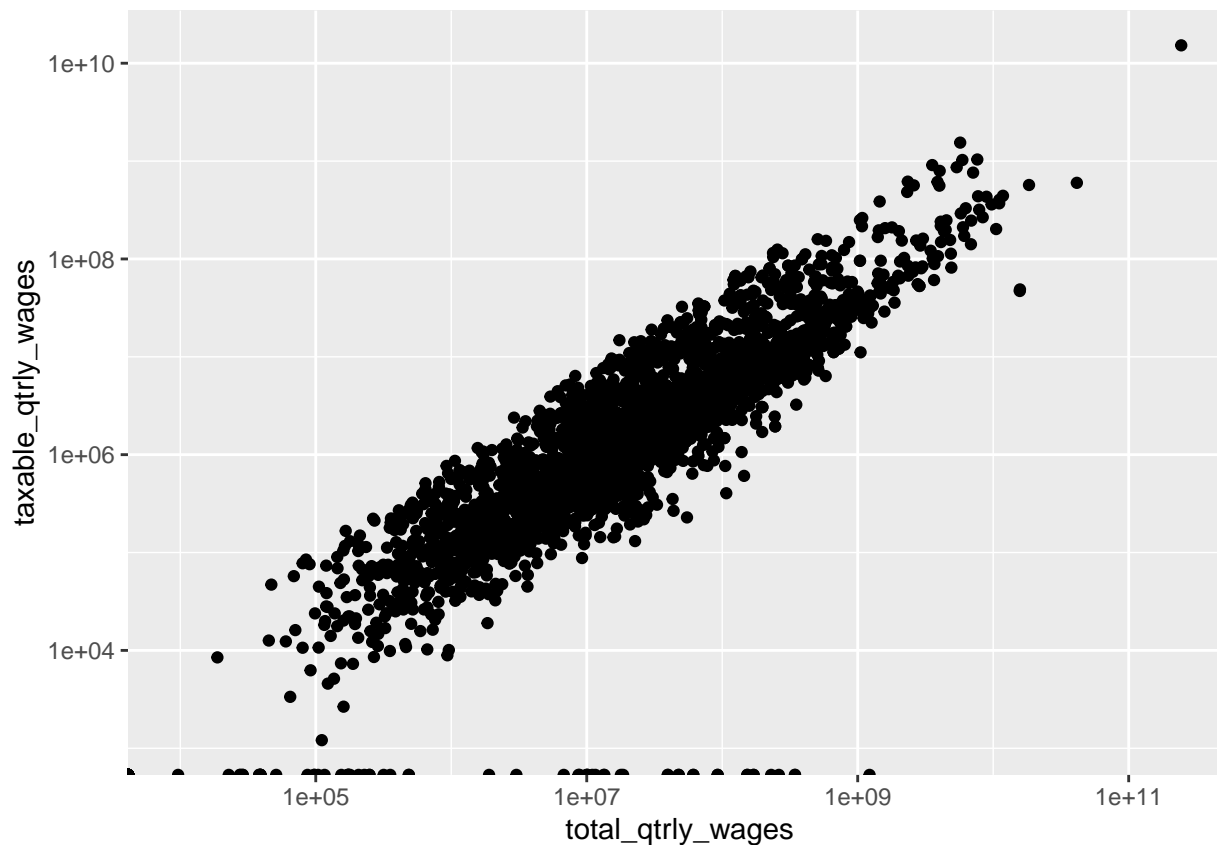
06-09-2021

#1. Import, Plot, Summarize, and Save Data

```
## area_fips own_code industry_code agglvl_code size_code year qtr
## 1 01000 3 1013 53 0 2020 4
## 2 01000 5 1013 53 0 2020 4
## 3 01001 5 1013 73 0 2020 4
## 4 01003 5 1013 73 0 2020 4
## 5 01005 5 1013 73 0 2020 4
## 6 01007 5 1013 73 0 2020 4
## disclosure_code qtrly_estabs month1_emplvl month2_emplvl month3_emplvl
## 1 N 1 0 0 0
## 2 5856 261306 261931 263123
## 3 25 1509 1502 1486
## 4 210 3624 3618 3617
## 5 25 2167 2182 2163
## 6 23 606 622 636
## total_qtrly_wages taxable_qtrly_wages qtrly_contributions avg_wkly_wage
## 1 0 0 0 0
## 2 4332565979 192240976 2670428 1271
## 3 25588180 955205 28954 1313
## 4 53710727 2204824 26057 1141
## 5 33918712 2380091 35103 1202
## 6 8135323 664302 4318 1007
## lq_disclosure_code lq_qtrly_estabs lq_month1_emplvl lq_month2_emplvl
## 1 N 2.03 0.00 0.00
## 2 1.28 1.57 1.57
## 3 0.79 1.61 1.59
## 4 0.90 0.58 0.57
## 5 1.29 3.25 3.26
## 6 1.81 1.52 1.56
## lq_month3_emplvl lq_total_qtrly_wages lq_taxable_qtrly_wages
## 1 0.00 0.00 0.00
## 2 1.56 1.57 1.53
## 3 1.57 2.05 1.53
## 4 0.56 0.64 0.42
## 5 3.20 3.78 4.43
## 6 1.56 1.38 2.38
## lq_qtrly_contributions lq_avg_wkly_wage oty_disclosure_code
## 1 0.00 0.00 N
## 2 1.67 1.00
## 3 3.50 1.29
## 4 0.43 1.12
```

## 5	4.17	1.17	
## 6	1.11	0.89	
##	oty_qtrly_estabs_chg	oty_qtrly_estabs_pct_chg	oty_month1_emplvl_chg
## 1	0	0.0	0
## 2	131	2.3	-7259
## 3	2	8.7	-95
## 4	-2	-0.9	-568
## 5	-4	-13.8	-307
## 6	-1	-4.2	36
##	oty_month1_emplvl_pct_chg	oty_month2_emplvl_chg	oty_month2_emplvl_pct_chg
## 1	0.0	0	0.0
## 2	-2.7	-7498	-2.8
## 3	-5.9	-150	-9.1
## 4	-13.5	-559	-13.4
## 5	-12.4	-310	-12.4
## 6	6.3	43	7.4
##	oty_month3_emplvl_chg	oty_month3_emplvl_pct_chg	oty_total_qtrly_wages_chg
## 1	0	0.0	0
## 2	-7407	-2.7	236573807
## 3	-161	-9.8	1370353
## 4	-578	-13.8	-10219319
## 5	-393	-15.4	6631381
## 6	10	1.6	915699
##	oty_total_qtrly_wages_pct_chg	oty_taxable_qtrly_wages_chg	
## 1	0.0	0	
## 2	5.8	15204430	
## 3	5.7	-273532	
## 4	-16.0	-324989	
## 5	24.3	111820	
## 6	12.7	174801	
##	oty_taxable_qtrly_wages_pct_chg	oty_qtrly_contributions_chg	
## 1	0.0	0	
## 2	8.6	92514	
## 3	-22.3	9166	
## 4	-12.8	-13060	
## 5	4.9	8687	
## 6	35.7	-4693	
##	oty_qtrly_contributions_pct_chg	oty_avg_wkly_wage_chg	
## 1	0.0	0	
## 2	3.6	102	
## 3	46.3	173	
## 4	-33.4	-33	
## 5	32.9	365	
## 6	-52.1	68	
##	oty_avg_wkly_wage_pct_chg		
## 1	0.0		
## 2	8.7		
## 3	15.2		
## 4	-2.8		
## 5	43.6		
## 6	7.2		





#2. Explore Some Bivariate Relations

```
##
##      own_code industry_code agglvl_code
## own_code      1.000000000      NA      0.081148143
## industry_code      NA      1      NA
## agglvl_code      0.081148143      NA      1.000000000
## size_code      NA      NA      NA
## year      NA      NA      NA
## qtr      NA      NA      NA
## qtrly_estabs      0.011545864      NA -0.147358016
## month1_emplvl      0.010192874      NA -0.146188323
## month2_emplvl      0.010195960      NA -0.146196136
## month3_emplvl      0.010207405      NA -0.146206251
## total_qtrly_wages      0.009961049      NA -0.146381129
## taxable_qtrly_wages      0.011336202      NA -0.144302051
## qtrly_contributions      0.011393392      NA -0.144978320
## avg_wkly_wage      -0.048451132      NA -0.128551069
## lq_qtrly_estabs      -0.226091859      NA  0.022381471
## lq_month1_emplvl      -0.218338405      NA  0.015396921
## lq_month2_emplvl      -0.218653908      NA  0.015566389
## lq_month3_emplvl      -0.218704442      NA  0.015557106
## lq_total_qtrly_wages      -0.224141369      NA  0.015722888
## lq_taxable_qtrly_wages      0.183804209      NA  0.101165197
## lq_qtrly_contributions      0.161365101      NA  0.083426341
## lq_avg_wkly_wage      0.119592601      NA -0.031859246
## oty_qtrly_estabs_chg      0.009961830      NA -0.127357943
```

## oty_qtrly_estabs_pct_chg	-0.032190677	NA	0.015701224		
## oty_month1_emplvl_chg	-0.011605189	NA	0.143074564		
## oty_month1_emplvl_pct_chg	-0.140637963	NA	0.003933123		
## oty_month2_emplvl_chg	-0.011545467	NA	0.143345194		
## oty_month2_emplvl_pct_chg	-0.087212736	NA	0.019417169		
## oty_month3_emplvl_chg	-0.011467227	NA	0.143196042		
## oty_month3_emplvl_pct_chg	-0.114062166	NA	0.018095796		
## oty_total_qtrly_wages_chg	0.008421976	NA	-0.126994658		
## oty_total_qtrly_wages_pct_chg	-0.009046519	NA	0.016305224		
## oty_taxable_qtrly_wages_chg	0.009981437	NA	-0.125910401		
## oty_taxable_qtrly_wages_pct_chg	0.040620248	NA	0.040359528		
## oty_qtrly_contributions_chg	-0.008195092	NA	0.103776766		
## oty_qtrly_contributions_pct_chg	0.019272024	NA	0.034041234		
## oty_avg_wkly_wage_chg	0.069330272	NA	-0.041274798		
## oty_avg_wkly_wage_pct_chg	0.073228307	NA	0.010918879		
##	size_code	year	qtr	qtrly_estabs	month1_emplvl
## own_code	NA	NA	NA	0.011545864	0.0101928744
## industry_code	NA	NA	NA	NA	NA
## agglvl_code	NA	NA	NA	-0.147358016	-0.1461883233
## size_code	1	NA	NA	NA	NA
## year	NA	1	NA	NA	NA
## qtr	NA	NA	1	NA	NA
## qtrly_estabs	NA	NA	NA	1.000000000	0.9979415632
## month1_emplvl	NA	NA	NA	0.997941563	1.0000000000
## month2_emplvl	NA	NA	NA	0.997924049	0.9999995010
## month3_emplvl	NA	NA	NA	0.997897390	0.9999983481
## total_qtrly_wages	NA	NA	NA	0.994320678	0.9952781859
## taxable_qtrly_wages	NA	NA	NA	0.982229409	0.9852549767
## qtrly_contributions	NA	NA	NA	0.991797505	0.9934981700
## avg_wkly_wage	NA	NA	NA	0.049908177	0.0533978360
## lq_qtrly_estabs	NA	NA	NA	-0.003711619	-0.0035970900
## lq_month1_emplvl	NA	NA	NA	-0.002977049	-0.0006732220
## lq_month2_emplvl	NA	NA	NA	-0.003012836	-0.0006966975
## lq_month3_emplvl	NA	NA	NA	-0.003010437	-0.0006975364
## lq_total_qtrly_wages	NA	NA	NA	-0.003245625	-0.0009465101
## lq_taxable_qtrly_wages	NA	NA	NA	-0.015527377	-0.0081026298
## lq_qtrly_contributions	NA	NA	NA	-0.015950980	-0.0089178208
## lq_avg_wkly_wage	NA	NA	NA	0.012009025	0.0172315766
## oty_qtrly_estabs_chg	NA	NA	NA	0.942444242	0.9397009966
## oty_qtrly_estabs_pct_chg	NA	NA	NA	-0.001160878	-0.0018974613
## oty_month1_emplvl_chg	NA	NA	NA	-0.993561520	-0.9953569699
## oty_month1_emplvl_pct_chg	NA	NA	NA	-0.006192133	-0.0062394088
## oty_month2_emplvl_chg	NA	NA	NA	-0.993433145	-0.9953152829
## oty_month2_emplvl_pct_chg	NA	NA	NA	-0.009079199	-0.0092875849
## oty_month3_emplvl_chg	NA	NA	NA	-0.992687918	-0.9941295262
## oty_month3_emplvl_pct_chg	NA	NA	NA	-0.009751742	-0.0097992691
## oty_total_qtrly_wages_chg	NA	NA	NA	0.879005100	0.8777773783
## oty_total_qtrly_wages_pct_chg	NA	NA	NA	-0.001860376	-0.0012562326
## oty_taxable_qtrly_wages_chg	NA	NA	NA	0.874771708	0.8851238233
## oty_taxable_qtrly_wages_pct_chg	NA	NA	NA	-0.009140300	-0.0079259280
## oty_qtrly_contributions_chg	NA	NA	NA	-0.718160837	-0.7115926944
## oty_qtrly_contributions_pct_chg	NA	NA	NA	-0.007759807	-0.0069999563
## oty_avg_wkly_wage_chg	NA	NA	NA	0.026750573	0.0297300839
## oty_avg_wkly_wage_pct_chg	NA	NA	NA	0.006904942	0.0084538855

##	month2_emplvl	month3_emplvl	total_qtrly_wages
## own_code	0.0101959602	0.0102074048	0.0099610491
## industry_code	NA	NA	NA
## agglvl_code	-0.1461961361	-0.1462062510	-0.1463811292
## size_code	NA	NA	NA
## year	NA	NA	NA
## qtr	NA	NA	NA
## qtrly_estabs	0.9979240489	0.9978973895	0.9943206780
## month1_emplvl	0.9999995010	0.9999983481	0.9952781859
## month2_emplvl	1.0000000000	0.999995532	0.9952211125
## month3_emplvl	0.999995532	1.0000000000	0.9951723023
## total_qtrly_wages	0.9952211125	0.9951723023	1.0000000000
## taxable_qtrly_wages	0.9852484532	0.9852467590	0.9759689276
## qtrly_contributions	0.9934649777	0.9934372067	0.9888393002
## avg_wkly_wage	0.0533284666	0.0532762867	0.0751447863
## lq_qtrly_estabs	-0.0035975996	-0.0035981451	-0.0036048646
## lq_month1_emplvl	-0.0006787323	-0.0006894285	-0.0005991542
## lq_month2_emplvl	-0.0007016850	-0.0007123024	-0.0006266440
## lq_month3_emplvl	-0.0007023819	-0.0007125681	-0.0006261806
## lq_total_qtrly_wages	-0.0009522659	-0.0009622856	-0.0007107137
## lq_taxable_qtrly_wages	-0.0080808401	-0.0080423431	-0.0110838166
## lq_qtrly_contributions	-0.0088973613	-0.0088505648	-0.0116598140
## lq_avg_wkly_wage	0.0172211539	0.0172206739	0.0211326692
## oty_qtrly_estabs_chg	0.9398122810	0.9398976388	0.9272445649
## oty_qtrly_estabs_pct_chg	-0.0018882789	-0.0018824058	-0.0023279114
## oty_month1_emplvl_chg	-0.9953283062	-0.9953063221	-0.9901705427
## oty_month1_emplvl_pct_chg	-0.0062276029	-0.0062218240	-0.0060214670
## oty_month2_emplvl_chg	-0.9952923468	-0.9952747553	-0.9899759662
## oty_month2_emplvl_pct_chg	-0.0092598672	-0.0092529092	-0.0090656397
## oty_month3_emplvl_chg	-0.9940942729	-0.9940611675	-0.9895690597
## oty_month3_emplvl_pct_chg	-0.0097708527	-0.0097425326	-0.0097352435
## oty_total_qtrly_wages_chg	0.8775321271	0.8773331693	0.9171413476
## oty_total_qtrly_wages_pct_chg	-0.0012519545	-0.0012530176	0.0009962901
## oty_taxable_qtrly_wages_chg	0.8853146054	0.8854937968	0.8639499537
## oty_taxable_qtrly_wages_pct_chg	-0.0078855209	-0.0078468871	-0.0097611284
## oty_qtrly_contributions_chg	-0.7114031545	-0.7111636957	-0.7222485758
## oty_qtrly_contributions_pct_chg	-0.0069793253	-0.0069540949	-0.0077554289
## oty_avg_wkly_wage_chg	0.0296513478	0.0295930078	0.0562692165
## oty_avg_wkly_wage_pct_chg	0.0084344124	0.0084130594	0.0136707586
##	taxable_qtrly_wages	qtrly_contributions	
## own_code	0.011336202	0.011393392	
## industry_code	NA	NA	
## agglvl_code	-0.144302051	-0.144978320	
## size_code	NA	NA	
## year	NA	NA	
## qtr	NA	NA	
## qtrly_estabs	0.982229409	0.991797505	
## month1_emplvl	0.985254977	0.993498170	
## month2_emplvl	0.985248453	0.993464978	
## month3_emplvl	0.985246759	0.993437207	
## total_qtrly_wages	0.975968928	0.988839300	
## taxable_qtrly_wages	1.000000000	0.992421620	
## qtrly_contributions	0.992421620	1.000000000	
## avg_wkly_wage	0.046963779	0.052718843	

## lq_qtrly_estabs	-0.003614262	-0.003628434	
## lq_month1_emplvl	-0.002271897	-0.002297704	
## lq_month2_emplvl	-0.002298897	-0.002327210	
## lq_month3_emplvl	-0.002300554	-0.002323202	
## lq_total_qtrly_wages	-0.002583864	-0.002585839	
## lq_taxable_qtrly_wages	-0.001891100	-0.005210969	
## lq_qtrly_contributions	-0.004688632	-0.004871768	
## lq_avg_wkly_wage	0.014173565	0.015076436	
## oty_qtrly_estabs_chg	0.924733896	0.920748250	
## oty_qtrly_estabs_pct_chg	-0.002482242	-0.003289706	
## oty_month1_emplvl_chg	-0.982760832	-0.991075692	
## oty_month1_emplvl_pct_chg	-0.006937622	-0.007151415	
## oty_month2_emplvl_chg	-0.981916149	-0.991102293	
## oty_month2_emplvl_pct_chg	-0.009694889	-0.010423786	
## oty_month3_emplvl_chg	-0.980803592	-0.990479955	
## oty_month3_emplvl_pct_chg	-0.010299588	-0.010903717	
## oty_total_qtrly_wages_chg	0.842478497	0.868877328	
## oty_total_qtrly_wages_pct_chg	-0.001813063	-0.001532006	
## oty_taxable_qtrly_wages_chg	0.905722352	0.893268229	
## oty_taxable_qtrly_wages_pct_chg	-0.005129674	-0.004884346	
## oty_qtrly_contributions_chg	-0.681324890	-0.701112026	
## oty_qtrly_contributions_pct_chg	-0.005220748	-0.004756675	
## oty_avg_wkly_wage_chg	0.023592355	0.029189824	
## oty_avg_wkly_wage_pct_chg	0.007903527	0.009300604	
##	avg_wkly_wage	lq_qtrly_estabs	lq_month1_emplvl
## own_code	-0.048451132	-0.226091859	-0.2183384051
## industry_code	NA	NA	NA
## agglvl_code	-0.128551069	0.022381471	0.0153969215
## size_code	NA	NA	NA
## year	NA	NA	NA
## qtr	NA	NA	NA
## qtrly_estabs	0.049908177	-0.003711619	-0.0029770488
## month1_emplvl	0.053397836	-0.003597090	-0.0006732220
## month2_emplvl	0.053328467	-0.003597600	-0.0006787323
## month3_emplvl	0.053276287	-0.003598145	-0.0006894285
## total_qtrly_wages	0.075144786	-0.003604865	-0.0005991542
## taxable_qtrly_wages	0.046963779	-0.003614262	-0.0022718965
## qtrly_contributions	0.052718843	-0.003628434	-0.0022977037
## avg_wkly_wage	1.000000000	-0.086858077	0.0685132392
## lq_qtrly_estabs	-0.086858077	1.000000000	0.0401735997
## lq_month1_emplvl	0.068513239	0.040173600	1.0000000000
## lq_month2_emplvl	0.068735822	0.039910092	0.9999157786
## lq_month3_emplvl	0.068748263	0.039900630	0.9998816717
## lq_total_qtrly_wages	0.076090489	0.041006308	0.9933094239
## lq_taxable_qtrly_wages	0.176906838	-0.055829014	0.0328264465
## lq_qtrly_contributions	0.167439138	-0.051699045	0.0298078480
## lq_avg_wkly_wage	0.846675128	-0.116174727	0.0479463014
## oty_qtrly_estabs_chg	0.039954536	-0.003214696	-0.0031619683
## oty_qtrly_estabs_pct_chg	0.031697814	0.007657635	-0.0065921848
## oty_month1_emplvl_chg	-0.049740826	0.003578922	0.0025470052
## oty_month1_emplvl_pct_chg	-0.020717076	0.010676776	0.0036643959
## oty_month2_emplvl_chg	-0.050645877	0.003579653	0.0023952523
## oty_month2_emplvl_pct_chg	-0.065469144	0.012702710	0.0052541552
## oty_month3_emplvl_chg	-0.051645816	0.003579886	0.0023720720

## oty_month3_emplvl_pct_chg	-0.048454455	0.011409132	0.0039504325
## oty_total_qtrly_wages_chg	0.138222003	-0.003144666	-0.0004313067
## oty_total_qtrly_wages_pct_chg	0.105236645	-0.010315468	0.0091907854
## oty_taxable_qtrly_wages_chg	0.015083784	-0.003060007	-0.0004215703
## oty_taxable_qtrly_wages_pct_chg	0.003765427	-0.012705902	-0.0027209647
## oty_qtrly_contributions_chg	-0.059658431	0.002690723	0.0032423361
## oty_qtrly_contributions_pct_chg	-0.005419572	-0.006201436	-0.0022736455
## oty_avg_wkly_wage_chg	0.435626768	-0.034239007	0.0271021222
## oty_avg_wkly_wage_pct_chg	0.286560108	-0.037412437	0.0170347411
##	lq_month2_emplvl	lq_month3_emplvl	
## own_code	-0.2186539076	-0.2187044417	
## industry_code	NA	NA	
## agglvl_code	0.0155663886	0.0155571058	
## size_code	NA	NA	
## year	NA	NA	
## qtr	NA	NA	
## qtrly_estabs	-0.0030128363	-0.0030104367	
## month1_emplvl	-0.0006966975	-0.0006975364	
## month2_emplvl	-0.0007016850	-0.0007023819	
## month3_emplvl	-0.0007123024	-0.0007125681	
## total_qtrly_wages	-0.0006266440	-0.0006261806	
## taxable_qtrly_wages	-0.0022988973	-0.0023005537	
## qtrly_contributions	-0.0023272105	-0.0023232017	
## avg_wkly_wage	0.0687358219	0.0687482625	
## lq_qtrly_estabs	0.0399100916	0.0399006297	
## lq_month1_emplvl	0.9999157786	0.9998816717	
## lq_month2_emplvl	1.0000000000	0.9999706308	
## lq_month3_emplvl	0.9999706308	1.0000000000	
## lq_total_qtrly_wages	0.9927884296	0.9931830825	
## lq_taxable_qtrly_wages	0.0335123106	0.0330940534	
## lq_qtrly_contributions	0.0303242792	0.0300431812	
## lq_avg_wkly_wage	0.0482270322	0.0481990134	
## oty_qtrly_estabs_chg	-0.0032005621	-0.0032080528	
## oty_qtrly_estabs_pct_chg	-0.0066095810	-0.0065889981	
## oty_month1_emplvl_chg	0.0025842778	0.0025813362	
## oty_month1_emplvl_pct_chg	0.0036352086	0.0035783505	
## oty_month2_emplvl_chg	0.0024340912	0.0024277338	
## oty_month2_emplvl_pct_chg	0.0054701236	0.0053612932	
## oty_month3_emplvl_chg	0.0024111608	0.0024088193	
## oty_month3_emplvl_pct_chg	0.0040675054	0.0042028769	
## oty_total_qtrly_wages_chg	-0.0004632749	-0.0004648919	
## oty_total_qtrly_wages_pct_chg	0.0091652308	0.0092339398	
## oty_taxable_qtrly_wages_chg	-0.0003974078	-0.0003966726	
## oty_taxable_qtrly_wages_pct_chg	-0.0025113181	-0.0023598944	
## oty_qtrly_contributions_chg	0.0033104170	0.0033290009	
## oty_qtrly_contributions_pct_chg	-0.0021291168	-0.0020533362	
## oty_avg_wkly_wage_chg	0.0268639632	0.0270222328	
## oty_avg_wkly_wage_pct_chg	0.0168753347	0.0170492221	
##	lq_total_qtrly_wages	lq_taxable_qtrly_wages	
## own_code	-0.2241413691	0.183804209	
## industry_code	NA	NA	
## agglvl_code	0.0157228882	0.101165197	
## size_code	NA	NA	
## year	NA	NA	

## qtr	NA	NA
## qtrly_estabs	-0.0032456247	-0.015527377
## month1_emplvl	-0.0009465101	-0.008102630
## month2_emplvl	-0.0009522659	-0.008080840
## month3_emplvl	-0.0009622856	-0.008042343
## total_qtrly_wages	-0.0007107137	-0.011083817
## taxable_qtrly_wages	-0.0025838636	-0.001891100
## qtrly_contributions	-0.0025858392	-0.005210969
## avg_wkly_wage	0.0760904894	0.176906838
## lq_qtrly_estabs	0.0410063084	-0.055829014
## lq_month1_emplvl	0.9933094239	0.032826446
## lq_month2_emplvl	0.9927884296	0.033512311
## lq_month3_emplvl	0.9931830825	0.033094053
## lq_total_qtrly_wages	1.0000000000	0.031251392
## lq_taxable_qtrly_wages	0.0312513925	1.0000000000
## lq_qtrly_contributions	0.0305958239	0.876122230
## lq_avg_wkly_wage	0.0572975034	0.330860943
## oty_qtrly_estabs_chg	-0.0033953612	-0.019616308
## oty_qtrly_estabs_pct_chg	-0.0070242657	-0.021525737
## oty_month1_emplvl_chg	0.0028363645	0.010361693
## oty_month1_emplvl_pct_chg	0.0037530548	-0.011622179
## oty_month2_emplvl_chg	0.0026668215	0.011097253
## oty_month2_emplvl_pct_chg	0.0051639949	0.016169175
## oty_month3_emplvl_chg	0.0026485290	0.012177302
## oty_month3_emplvl_pct_chg	0.0039608379	0.028340659
## oty_total_qtrly_wages_chg	0.0001291751	-0.009309773
## oty_total_qtrly_wages_pct_chg	0.0121644701	0.069386616
## oty_taxable_qtrly_wages_chg	-0.0009346092	0.035851866
## oty_taxable_qtrly_wages_pct_chg	-0.0027274620	0.242427029
## oty_qtrly_contributions_chg	0.0031169174	0.040856756
## oty_qtrly_contributions_pct_chg	-0.0023643182	0.128453355
## oty_avg_wkly_wage_chg	0.0356474530	0.135811621
## oty_avg_wkly_wage_pct_chg	0.0233606787	0.168391580
##	lq_qtrly_contributions	lq_avg_wkly_wage
## own_code	0.161365101	0.119592601
## industry_code	NA	NA
## agglvl_code	0.083426341	-0.031859246
## size_code	NA	NA
## year	NA	NA
## qtr	NA	NA
## qtrly_estabs	-0.015950980	0.012009025
## month1_emplvl	-0.008917821	0.017231577
## month2_emplvl	-0.008897361	0.017221154
## month3_emplvl	-0.008850565	0.017220674
## total_qtrly_wages	-0.011659814	0.021132669
## taxable_qtrly_wages	-0.004688632	0.014173565
## qtrly_contributions	-0.004871768	0.015076436
## avg_wkly_wage	0.167439138	0.846675128
## lq_qtrly_estabs	-0.051699045	-0.116174727
## lq_month1_emplvl	0.029807848	0.047946301
## lq_month2_emplvl	0.030324279	0.048227032
## lq_month3_emplvl	0.030043181	0.048199013
## lq_total_qtrly_wages	0.030595824	0.057297503
## lq_taxable_qtrly_wages	0.876122230	0.330860943

## lq_qtrly_contributions	1.000000000	0.321507480
## lq_avg_wkly_wage	0.321507480	1.000000000
## oty_qtrly_estabs_chg	-0.019519533	0.012607478
## oty_qtrly_estabs_pct_chg	-0.020893120	0.001392259
## oty_month1_emplvl_chg	0.010580366	-0.015090710
## oty_month1_emplvl_pct_chg	-0.009133017	-0.059575656
## oty_month2_emplvl_chg	0.010679617	-0.015470822
## oty_month2_emplvl_pct_chg	0.012256945	-0.079579057
## oty_month3_emplvl_chg	0.011862216	-0.015319243
## oty_month3_emplvl_pct_chg	0.033167782	-0.061919022
## oty_total_qtrly_wages_chg	-0.010885837	0.032075098
## oty_total_qtrly_wages_pct_chg	0.065072304	0.126418186
## oty_taxable_qtrly_wages_chg	0.033289107	0.010625329
## oty_taxable_qtrly_wages_pct_chg	0.227512893	0.062580439
## oty_qtrly_contributions_chg	0.049004542	-0.016679219
## oty_qtrly_contributions_pct_chg	0.186690832	0.025125936
## oty_avg_wkly_wage_chg	0.126385562	0.370245670
## oty_avg_wkly_wage_pct_chg	0.154866262	0.344433757
##	oty_qtrly_estabs_chg	oty_qtrly_estabs_pct_chg
## own_code	0.009961830	-0.032190677
## industry_code	NA	NA
## agglvl_code	-0.127357943	0.015701224
## size_code	NA	NA
## year	NA	NA
## qtr	NA	NA
## qtrly_estabs	0.942444242	-0.001160878
## month1_emplvl	0.939700997	-0.001897461
## month2_emplvl	0.939812281	-0.001888279
## month3_emplvl	0.939897639	-0.001882406
## total_qtrly_wages	0.927244565	-0.002327911
## taxable_qtrly_wages	0.924733896	-0.002482242
## qtrly_contributions	0.920748250	-0.003289706
## avg_wkly_wage	0.039954536	0.031697814
## lq_qtrly_estabs	-0.003214696	0.007657635
## lq_month1_emplvl	-0.003161968	-0.006592185
## lq_month2_emplvl	-0.003200562	-0.006609581
## lq_month3_emplvl	-0.003208053	-0.006588998
## lq_total_qtrly_wages	-0.003395361	-0.007024266
## lq_taxable_qtrly_wages	-0.019616308	-0.021525737
## lq_qtrly_contributions	-0.019519533	-0.020893120
## lq_avg_wkly_wage	0.012607478	0.001392259
## oty_qtrly_estabs_chg	1.000000000	0.030610900
## oty_qtrly_estabs_pct_chg	0.030610900	1.000000000
## oty_month1_emplvl_chg	-0.928142415	0.003132176
## oty_month1_emplvl_pct_chg	0.002455544	0.080981338
## oty_month2_emplvl_chg	-0.927938738	0.003211358
## oty_month2_emplvl_pct_chg	0.003068452	0.107185398
## oty_month3_emplvl_chg	-0.924981501	0.003416587
## oty_month3_emplvl_pct_chg	0.002866145	0.107021284
## oty_total_qtrly_wages_chg	0.796223062	-0.002917862
## oty_total_qtrly_wages_pct_chg	0.002099853	0.068201659
## oty_taxable_qtrly_wages_chg	0.848111440	0.001685776
## oty_taxable_qtrly_wages_pct_chg	-0.003567361	0.052309336
## oty_qtrly_contributions_chg	-0.663784867	0.003375546

## oty_qtrly_contributions_pct_chg	-0.006129380	0.060359704
## oty_avg_wkly_wage_chg	0.010710750	-0.015471216
## oty_avg_wkly_wage_pct_chg	0.001219976	-0.011663230
##	oty_month1_emplvl_chg	oty_month1_emplvl_pct_chg
## own_code	-0.011605189	-0.140637963
## industry_code	NA	NA
## agglvl_code	0.143074564	0.003933123
## size_code	NA	NA
## year	NA	NA
## qtr	NA	NA
## qtrly_estabs	-0.993561520	-0.006192133
## month1_emplvl	-0.995356970	-0.006239409
## month2_emplvl	-0.995328306	-0.006227603
## month3_emplvl	-0.995306322	-0.006221824
## total_qtrly_wages	-0.990170543	-0.006021467
## taxable_qtrly_wages	-0.982760832	-0.006937622
## qtrly_contributions	-0.991075692	-0.007151415
## avg_wkly_wage	-0.049740826	-0.020717076
## lq_qtrly_estabs	0.003578922	0.010676776
## lq_month1_emplvl	0.002547005	0.003664396
## lq_month2_emplvl	0.002584278	0.003635209
## lq_month3_emplvl	0.002581336	0.003578351
## lq_total_qtrly_wages	0.002836364	0.003753055
## lq_taxable_qtrly_wages	0.010361693	-0.011622179
## lq_qtrly_contributions	0.010580366	-0.009133017
## lq_avg_wkly_wage	-0.015090710	-0.059575656
## oty_qtrly_estabs_chg	-0.928142415	0.002455544
## oty_qtrly_estabs_pct_chg	0.003132176	0.080981338
## oty_month1_emplvl_chg	1.000000000	0.017191932
## oty_month1_emplvl_pct_chg	0.017191932	1.000000000
## oty_month2_emplvl_chg	0.999270198	0.014475432
## oty_month2_emplvl_pct_chg	0.021464711	0.806040112
## oty_month3_emplvl_chg	0.999132677	0.015148687
## oty_month3_emplvl_pct_chg	0.021937403	0.806124532
## oty_total_qtrly_wages_chg	-0.863456527	0.001847859
## oty_total_qtrly_wages_pct_chg	0.007878181	0.619870572
## oty_taxable_qtrly_wages_chg	-0.864641805	0.012474619
## oty_taxable_qtrly_wages_pct_chg	0.013846412	0.217587417
## oty_qtrly_contributions_chg	0.732709977	0.022184145
## oty_qtrly_contributions_pct_chg	0.010830737	0.139438250
## oty_avg_wkly_wage_chg	-0.026083851	0.015799276
## oty_avg_wkly_wage_pct_chg	-0.008039611	0.066076611
##	oty_month2_emplvl_chg	oty_month2_emplvl_pct_chg
## own_code	-0.011545467	-0.087212736
## industry_code	NA	NA
## agglvl_code	0.143345194	0.019417169
## size_code	NA	NA
## year	NA	NA
## qtr	NA	NA
## qtrly_estabs	-0.993433145	-0.009079199
## month1_emplvl	-0.995315283	-0.009287585
## month2_emplvl	-0.995292347	-0.009259867
## month3_emplvl	-0.995274755	-0.009252909
## total_qtrly_wages	-0.989975966	-0.009065640

## taxable_qtrly_wages	-0.981916149	-0.009694889
## qtrly_contributions	-0.991102293	-0.010423786
## avg_wkly_wage	-0.050645877	-0.065469144
## lq_qtrly_estabs	0.003579653	0.012702710
## lq_month1_emplvl	0.002395252	0.005254155
## lq_month2_emplvl	0.002434091	0.005470124
## lq_month3_emplvl	0.002427734	0.005361293
## lq_total_qtrly_wages	0.002666822	0.005163995
## lq_taxable_qtrly_wages	0.011097253	0.016169175
## lq_qtrly_contributions	0.010679617	0.012256945
## lq_avg_wkly_wage	-0.015470822	-0.079579057
## oty_qtrly_estabs_chg	-0.927938738	0.003068452
## oty_qtrly_estabs_pct_chg	0.003211358	0.107185398
## oty_month1_emplvl_chg	0.999270198	0.021464711
## oty_month1_emplvl_pct_chg	0.014475432	0.806040112
## oty_month2_emplvl_chg	1.000000000	0.021759750
## oty_month2_emplvl_pct_chg	0.021759750	1.000000000
## oty_month3_emplvl_chg	0.999799439	0.022681285
## oty_month3_emplvl_pct_chg	0.022161760	0.935743574
## oty_total_qtrly_wages_chg	-0.860694229	0.003489085
## oty_total_qtrly_wages_pct_chg	0.008339538	0.708956433
## oty_taxable_qtrly_wages_chg	-0.863846576	0.019890197
## oty_taxable_qtrly_wages_pct_chg	0.014084099	0.341270643
## oty_qtrly_contributions_chg	0.727867421	0.031236230
## oty_qtrly_contributions_pct_chg	0.010667357	0.247109118
## oty_avg_wkly_wage_chg	-0.023990111	0.009362742
## oty_avg_wkly_wage_pct_chg	-0.006093041	0.089534871
##	oty_month3_emplvl_chg	oty_month3_emplvl_pct_chg
## own_code	-0.011467227	-0.114062166
## industry_code	NA	NA
## agglvl_code	0.143196042	0.018095796
## size_code	NA	NA
## year	NA	NA
## qtr	NA	NA
## qtrly_estabs	-0.992687918	-0.009751742
## month1_emplvl	-0.994129526	-0.009799269
## month2_emplvl	-0.994094273	-0.009770853
## month3_emplvl	-0.994061168	-0.009742533
## total_qtrly_wages	-0.989569060	-0.009735244
## taxable_qtrly_wages	-0.980803592	-0.010299588
## qtrly_contributions	-0.990479955	-0.010903717
## avg_wkly_wage	-0.051645816	-0.048454455
## lq_qtrly_estabs	0.003579886	0.011409132
## lq_month1_emplvl	0.002372072	0.003950432
## lq_month2_emplvl	0.002411161	0.004067505
## lq_month3_emplvl	0.002408819	0.004202877
## lq_total_qtrly_wages	0.002648529	0.003960838
## lq_taxable_qtrly_wages	0.012177302	0.028340659
## lq_qtrly_contributions	0.011862216	0.033167782
## lq_avg_wkly_wage	-0.015319243	-0.061919022
## oty_qtrly_estabs_chg	-0.924981501	0.002866145
## oty_qtrly_estabs_pct_chg	0.003416587	0.107021284
## oty_month1_emplvl_chg	0.999132677	0.021937403
## oty_month1_emplvl_pct_chg	0.015148687	0.806124532

## oty_month2_emplvl_chg	0.999799439	0.022161760
## oty_month2_emplvl_pct_chg	0.022681285	0.935743574
## oty_month3_emplvl_chg	1.000000000	0.023785438
## oty_month3_emplvl_pct_chg	0.023785438	1.000000000
## oty_total_qtrly_wages_chg	-0.862106244	0.002539399
## oty_total_qtrly_wages_pct_chg	0.008787985	0.710683716
## oty_taxable_qtrly_wages_chg	-0.858385462	0.021740627
## oty_taxable_qtrly_wages_pct_chg	0.015290342	0.366419436
## oty_qtrly_contributions_chg	0.732681911	0.034476912
## oty_qtrly_contributions_pct_chg	0.011418319	0.257589886
## oty_avg_wkly_wage_chg	-0.024919102	0.051499250
## oty_avg_wkly_wage_pct_chg	-0.006417003	0.127028184
##	oty_total_qtrly_wages_chg	
## own_code	0.0084219757	
## industry_code	NA	
## agglvl_code	-0.1269946583	
## size_code	NA	
## year	NA	
## qtr	NA	
## qtrly_estabs	0.8790050999	
## month1_emplvl	0.8777773783	
## month2_emplvl	0.8775321271	
## month3_emplvl	0.8773331693	
## total_qtrly_wages	0.9171413476	
## taxable_qtrly_wages	0.8424784975	
## qtrly_contributions	0.8688773280	
## avg_wkly_wage	0.1382220033	
## lq_qtrly_estabs	-0.0031446660	
## lq_month1_emplvl	-0.0004313067	
## lq_month2_emplvl	-0.0004632749	
## lq_month3_emplvl	-0.0004648919	
## lq_total_qtrly_wages	0.0001291751	
## lq_taxable_qtrly_wages	-0.0093097732	
## lq_qtrly_contributions	-0.0108858371	
## lq_avg_wkly_wage	0.0320750980	
## oty_qtrly_estabs_chg	0.7962230621	
## oty_qtrly_estabs_pct_chg	-0.0029178619	
## oty_month1_emplvl_chg	-0.8634565273	
## oty_month1_emplvl_pct_chg	0.0018478590	
## oty_month2_emplvl_chg	-0.8606942288	
## oty_month2_emplvl_pct_chg	0.0034890855	
## oty_month3_emplvl_chg	-0.8621062437	
## oty_month3_emplvl_pct_chg	0.0025393985	
## oty_total_qtrly_wages_chg	1.0000000000	
## oty_total_qtrly_wages_pct_chg	0.0207542977	
## oty_taxable_qtrly_wages_chg	0.7298912874	
## oty_taxable_qtrly_wages_pct_chg	-0.0081989102	
## oty_qtrly_contributions_chg	-0.6619716880	
## oty_qtrly_contributions_pct_chg	-0.0048594449	
## oty_avg_wkly_wage_chg	0.1691093887	
## oty_avg_wkly_wage_pct_chg	0.0469820103	
##	oty_total_qtrly_wages_pct_chg	
## own_code	-0.0090465186	
## industry_code	NA	

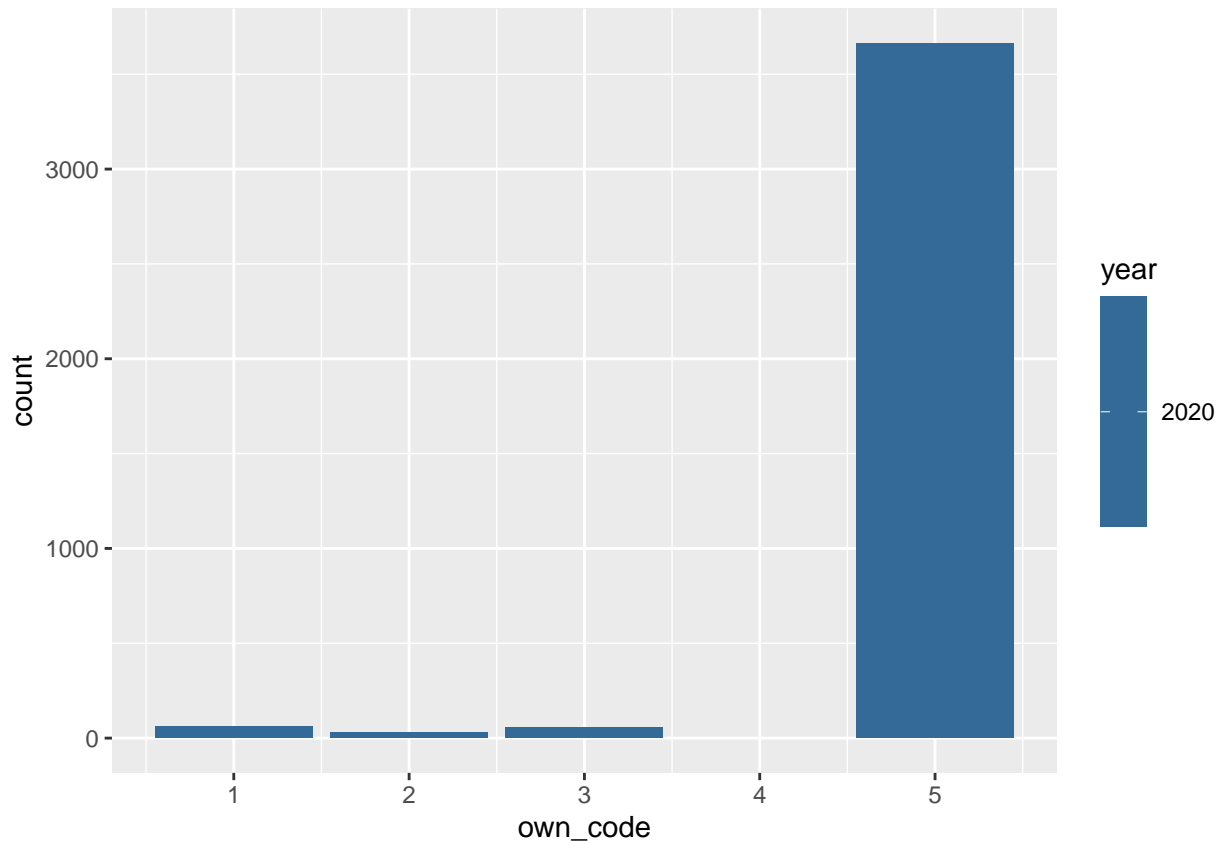
## agglvl_code	0.0163052238
## size_code	NA
## year	NA
## qtr	NA
## qtrly_estabs	-0.0018603762
## month1_emplvl	-0.0012562326
## month2_emplvl	-0.0012519545
## month3_emplvl	-0.0012530176
## total_qtrly_wages	0.0009962901
## taxable_qtrly_wages	-0.0018130634
## qtrly_contributions	-0.0015320063
## avg_wkly_wage	0.1052366455
## lq_qtrly_estabs	-0.0103154684
## lq_month1_emplvl	0.0091907854
## lq_month2_emplvl	0.0091652308
## lq_month3_emplvl	0.0092339398
## lq_total_qtrly_wages	0.0121644701
## lq_taxable_qtrly_wages	0.0693866156
## lq_qtrly_contributions	0.0650723041
## lq_avg_wkly_wage	0.1264181860
## oty_qtrly_estabs_chg	0.0020998535
## oty_qtrly_estabs_pct_chg	0.0682016587
## oty_month1_emplvl_chg	0.0078781812
## oty_month1_emplvl_pct_chg	0.6198705723
## oty_month2_emplvl_chg	0.0083395383
## oty_month2_emplvl_pct_chg	0.7089564328
## oty_month3_emplvl_chg	0.0087879852
## oty_month3_emplvl_pct_chg	0.7106837158
## oty_total_qtrly_wages_chg	0.0207542977
## oty_total_qtrly_wages_pct_chg	1.0000000000
## oty_taxable_qtrly_wages_chg	0.0146497639
## oty_taxable_qtrly_wages_pct_chg	0.2154176781
## oty_qtrly_contributions_chg	0.0145708397
## oty_qtrly_contributions_pct_chg	0.1331431684
## oty_avg_wkly_wage_chg	0.4496746474
## oty_avg_wkly_wage_pct_chg	0.6319658773
##	oty_taxable_qtrly_wages_chg
## own_code	0.0099814368
## industry_code	NA
## agglvl_code	-0.1259104013
## size_code	NA
## year	NA
## qtr	NA
## qtrly_estabs	0.8747717078
## month1_emplvl	0.8851238233
## month2_emplvl	0.8853146054
## month3_emplvl	0.8854937968
## total_qtrly_wages	0.8639499537
## taxable_qtrly_wages	0.9057223525
## qtrly_contributions	0.8932682292
## avg_wkly_wage	0.0150837843
## lq_qtrly_estabs	-0.0030600074
## lq_month1_emplvl	-0.0004215703
## lq_month2_emplvl	-0.0003974078

## lq_month3_emplvl	-0.0003966726
## lq_total_qtrly_wages	-0.0009346092
## lq_taxable_qtrly_wages	0.0358518661
## lq_qtrly_contributions	0.0332891065
## lq_avg_wkly_wage	0.0106253290
## oty_qtrly_estabs_chg	0.8481114403
## oty_qtrly_estabs_pct_chg	0.0016857762
## oty_month1_emplvl_chg	-0.8646418047
## oty_month1_emplvl_pct_chg	0.0124746186
## oty_month2_emplvl_chg	-0.8638465764
## oty_month2_emplvl_pct_chg	0.0198901970
## oty_month3_emplvl_chg	-0.8583854622
## oty_month3_emplvl_pct_chg	0.0217406272
## oty_total_qtrly_wages_chg	0.7298912874
## oty_total_qtrly_wages_pct_chg	0.0146497639
## oty_taxable_qtrly_wages_chg	1.0000000000
## oty_taxable_qtrly_wages_pct_chg	0.0633063848
## oty_qtrly_contributions_chg	-0.4033689960
## oty_qtrly_contributions_pct_chg	0.0357733262
## oty_avg_wkly_wage_chg	0.0062721296
## oty_avg_wkly_wage_pct_chg	0.0121871742
## oty_taxable_qtrly_wages_pct_chg	
## own_code	0.040620248
## industry_code	NA
## agglvl_code	0.040359528
## size_code	NA
## year	NA
## qtr	NA
## qtrly_estabs	-0.009140300
## month1_emplvl	-0.007925928
## month2_emplvl	-0.007885521
## month3_emplvl	-0.007846887
## total_qtrly_wages	-0.009761128
## taxable_qtrly_wages	-0.005129674
## qtrly_contributions	-0.004884346
## avg_wkly_wage	0.003765427
## lq_qtrly_estabs	-0.012705902
## lq_month1_emplvl	-0.002720965
## lq_month2_emplvl	-0.002511318
## lq_month3_emplvl	-0.002359894
## lq_total_qtrly_wages	-0.002727462
## lq_taxable_qtrly_wages	0.242427029
## lq_qtrly_contributions	0.227512893
## lq_avg_wkly_wage	0.062580439
## oty_qtrly_estabs_chg	-0.003567361
## oty_qtrly_estabs_pct_chg	0.052309336
## oty_month1_emplvl_chg	0.013846412
## oty_month1_emplvl_pct_chg	0.217587417
## oty_month2_emplvl_chg	0.014084099
## oty_month2_emplvl_pct_chg	0.341270643
## oty_month3_emplvl_chg	0.015290342
## oty_month3_emplvl_pct_chg	0.366419436
## oty_total_qtrly_wages_chg	-0.008198910
## oty_total_qtrly_wages_pct_chg	0.215417678

## oty_taxable_qtrly_wages_chg	0.063306385
## oty_taxable_qtrly_wages_pct_chg	1.000000000
## oty_qtrly_contributions_chg	0.076204552
## oty_qtrly_contributions_pct_chg	0.661590138
## oty_avg_wkly_wage_chg	0.047392969
## oty_avg_wkly_wage_pct_chg	0.083620288
##	oty_qtrly_contributions_chg
## own_code	-0.008195092
## industry_code	NA
## agglvl_code	0.103776766
## size_code	NA
## year	NA
## qtr	NA
## qtrly_estabs	-0.718160837
## month1_emplvl	-0.711592694
## month2_emplvl	-0.711403155
## month3_emplvl	-0.711163696
## total_qtrly_wages	-0.722248576
## taxable_qtrly_wages	-0.681324890
## qtrly_contributions	-0.701112026
## avg_wkly_wage	-0.059658431
## lq_qtrly_estabs	0.002690723
## lq_month1_emplvl	0.003242336
## lq_month2_emplvl	0.003310417
## lq_month3_emplvl	0.003329001
## lq_total_qtrly_wages	0.003116917
## lq_taxable_qtrly_wages	0.040856756
## lq_qtrly_contributions	0.049004542
## lq_avg_wkly_wage	-0.016679219
## oty_qtrly_estabs_chg	-0.663784867
## oty_qtrly_estabs_pct_chg	0.003375546
## oty_month1_emplvl_chg	0.732709977
## oty_month1_emplvl_pct_chg	0.022184145
## oty_month2_emplvl_chg	0.727867421
## oty_month2_emplvl_pct_chg	0.031236230
## oty_month3_emplvl_chg	0.732681911
## oty_month3_emplvl_pct_chg	0.034476912
## oty_total_qtrly_wages_chg	-0.661971688
## oty_total_qtrly_wages_pct_chg	0.014570840
## oty_taxable_qtrly_wages_chg	-0.403368996
## oty_taxable_qtrly_wages_pct_chg	0.076204552
## oty_qtrly_contributions_chg	1.000000000
## oty_qtrly_contributions_pct_chg	0.076300609
## oty_avg_wkly_wage_chg	-0.041125957
## oty_avg_wkly_wage_pct_chg	-0.003395186
##	oty_qtrly_contributions_pct_chg
## own_code	0.019272024
## industry_code	NA
## agglvl_code	0.034041234
## size_code	NA
## year	NA
## qtr	NA
## qtrly_estabs	-0.007759807
## month1_emplvl	-0.006999956

## month2_emplvl	-0.006979325	
## month3_emplvl	-0.006954095	
## total_qtrly_wages	-0.007755429	
## taxable_qtrly_wages	-0.005220748	
## qtrly_contributions	-0.004756675	
## avg_wkly_wage	-0.005419572	
## lq_qtrly_estabs	-0.006201436	
## lq_month1_emplvl	-0.002273645	
## lq_month2_emplvl	-0.002129117	
## lq_month3_emplvl	-0.002053336	
## lq_total_qtrly_wages	-0.002364318	
## lq_taxable_qtrly_wages	0.128453355	
## lq_qtrly_contributions	0.186690832	
## lq_avg_wkly_wage	0.025125936	
## oty_qtrly_estabs_chg	-0.006129380	
## oty_qtrly_estabs_pct_chg	0.060359704	
## oty_month1_emplvl_chg	0.010830737	
## oty_month1_emplvl_pct_chg	0.139438250	
## oty_month2_emplvl_chg	0.010667357	
## oty_month2_emplvl_pct_chg	0.247109118	
## oty_month3_emplvl_chg	0.011418319	
## oty_month3_emplvl_pct_chg	0.257589886	
## oty_total_qtrly_wages_chg	-0.004859445	
## oty_total_qtrly_wages_pct_chg	0.133143168	
## oty_taxable_qtrly_wages_chg	0.035773326	
## oty_taxable_qtrly_wages_pct_chg	0.661590138	
## oty_qtrly_contributions_chg	0.076300609	
## oty_qtrly_contributions_pct_chg	1.000000000	
## oty_avg_wkly_wage_chg	0.033260638	
## oty_avg_wkly_wage_pct_chg	0.048131428	
##	oty_avg_wkly_wage_chg	oty_avg_wkly_wage_pct_chg
## own_code	0.069330272	0.073228307
## industry_code	NA	NA
## agglvl_code	-0.041274798	0.010918879
## size_code	NA	NA
## year	NA	NA
## qtr	NA	NA
## qtrly_estabs	0.026750573	0.006904942
## month1_emplvl	0.029730084	0.008453886
## month2_emplvl	0.029651348	0.008434412
## month3_emplvl	0.029593008	0.008413059
## total_qtrly_wages	0.056269216	0.013670759
## taxable_qtrly_wages	0.023592355	0.007903527
## qtrly_contributions	0.029189824	0.009300604
## avg_wkly_wage	0.435626768	0.286560108
## lq_qtrly_estabs	-0.034239007	-0.037412437
## lq_month1_emplvl	0.027102122	0.017034741
## lq_month2_emplvl	0.026863963	0.016875335
## lq_month3_emplvl	0.027022233	0.017049222
## lq_total_qtrly_wages	0.035647453	0.023360679
## lq_taxable_qtrly_wages	0.135811621	0.168391580
## lq_qtrly_contributions	0.126385562	0.154866262
## lq_avg_wkly_wage	0.370245670	0.344433757
## oty_qtrly_estabs_chg	0.010710750	0.001219976

```
## oty_qtrly_estabs_pct_chg      -0.015471216      -0.011663230
## oty_month1_emplvl_chg        -0.026083851      -0.008039611
## oty_month1_emplvl_pct_chg     0.015799276       0.066076611
## oty_month2_emplvl_chg        -0.023990111      -0.006093041
## oty_month2_emplvl_pct_chg     0.009362742       0.089534871
## oty_month3_emplvl_chg        -0.024919102      -0.006417003
## oty_month3_emplvl_pct_chg     0.051499250       0.127028184
## oty_total_qtrly_wages_chg     0.169109389       0.046982010
## oty_total_qtrly_wages_pct_chg 0.449674647       0.631965877
## oty_taxable_qtrly_wages_chg   0.006272130       0.012187174
## oty_taxable_qtrly_wages_pct_chg 0.047392969       0.083620288
## oty_qtrly_contributions_chg   -0.041125957      -0.003395186
## oty_qtrly_contributions_pct_chg 0.033260638       0.048131428
## oty_avg_wkly_wage_chg         1.000000000       0.869833678
## oty_avg_wkly_wage_pct_chg     0.869833678       1.000000000
```



3. Organize a Data Report

```
## 'data.frame': 3813 obs. of 42 variables:
## $ area_fips : chr "01000" "01000" "01001" "01003" ...
## $ own_code : int 3 5 5 5 5 5 5 5 5 5 ...
## $ industry_code : int 1013 1013 1013 1013 1013 1013 1013 1013 1013 1013 ...
## $ agglvl_code : int 53 53 73 73 73 73 73 73 73 73 ...
## $ size_code : int 0 0 0 0 0 0 0 0 0 0 ...
```

```

## $ year : int 2020 2020 2020 2020 2020 2020 2020 2020 2020 2020 ...
## $ qtr : int 4 4 4 4 4 4 4 4 4 4 ...
## $ disclosure_code : chr "N" "" "" "" ...
## $ qtrly_estabs : int 1 5856 25 210 25 23 53 8 24 134 ...
## $ month1_emplvl : int 0 261306 1509 3624 2167 606 1308 786 1249 6369 ...
## $ month2_emplvl : int 0 261931 1502 3618 2182 622 1302 785 1279 6444 ...
## $ month3_emplvl : int 0 263123 1486 3617 2163 636 1303 781 1269 6471 ...
## $ total_qtrly_wages : num 0.00 4.33e+09 2.56e+07 5.37e+07 3.39e+07 ...
## $ taxable_qtrly_wages : num 0.00 1.92e+08 9.55e+05 2.20e+06 2.38e+06 ...
## $ qtrly_contributions : int 0 2670428 28954 26057 35103 4318 12472 14446 16698 41225 ...
## $ avg_wkly_wage : int 0 1271 1313 1141 1202 1007 920 736 1143 1147 ...
## $ lq_disclosure_code : chr "N" "" "" "" ...
## $ lq_qtrly_estabs : num 2.03 1.28 0.79 0.9 1.29 1.81 1.9 1.29 1.43 1.53 ...
## $ lq_month1_emplvl : num 0 1.57 1.61 0.58 3.25 1.52 1.81 3.09 2.27 1.71 ...
## $ lq_month2_emplvl : num 0 1.57 1.59 0.57 3.26 1.56 1.79 3.12 2.32 1.72 ...
## $ lq_month3_emplvl : num 0 1.56 1.57 0.56 3.2 1.56 1.79 3.09 2.29 1.71 ...
## $ lq_total_qtrly_wages : num 0 1.57 2.05 0.64 3.78 1.38 1.77 2.06 2.72 1.89 ...
## $ lq_taxable_qtrly_wages : num 0 1.53 1.53 0.42 4.43 2.38 2.07 5.65 2.16 1.49 ...
## $ lq_qtrly_contributions : num 0 1.67 3.5 0.43 4.17 1.11 2.52 4.52 2.57 1.48 ...
## $ lq_avg_wkly_wage : num 0 1 1.29 1.12 1.17 0.89 0.99 0.67 1.19 1.1 ...
## $ oty_disclosure_code : chr "N" "" "" "" ...
## $ oty_qtrly_estabs_chg : int 0 131 2 -2 -4 -1 3 0 0 -1 ...
## $ oty_qtrly_estabs_pct_chg : num 0 2.3 8.7 -0.9 -13.8 -4.2 6 0 0 -0.7 ...
## $ oty_month1_emplvl_chg : int 0 -7259 -95 -568 -307 36 -4 0 -194 -207 ...
## $ oty_month1_emplvl_pct_chg : num 0 -2.7 -5.9 -13.5 -12.4 6.3 -0.3 0 -13.4 -3.1 ...
## $ oty_month2_emplvl_chg : int 0 -7498 -150 -559 -310 43 -28 0 -130 -149 ...
## $ oty_month2_emplvl_pct_chg : num 0 -2.8 -9.1 -13.4 -12.4 7.4 -2.1 0 -9.2 -2.3 ...
## $ oty_month3_emplvl_chg : int 0 -7407 -161 -578 -393 10 -24 0 -120 -174 ...
## $ oty_month3_emplvl_pct_chg : num 0 -2.7 -9.8 -13.8 -15.4 1.6 -1.8 0 -8.6 -2.6 ...
## $ oty_total_qtrly_wages_chg : num 0 236573807 1370353 -10219319 6631381 ...
## $ oty_total_qtrly_wages_pct_chg : num 0 5.8 5.7 -16 24.3 12.7 4.7 0 7.1 3.6 ...
## $ oty_taxable_qtrly_wages_chg : int 0 15204430 -273532 -324989 111820 174801 189325 0 -150563 2 ...
## $ oty_taxable_qtrly_wages_pct_chg : num 0 8.6 -22.3 -12.8 4.9 35.7 25.8 0 -13.2 5.5 ...
## $ oty_qtrly_contributions_chg : int 0 92514 9166 -13060 8687 -4693 2202 0 -3444 -10535 ...
## $ oty_qtrly_contributions_pct_chg : num 0 3.6 46.3 -33.4 32.9 -52.1 21.4 0 -17.1 -20.4 ...
## $ oty_avg_wkly_wage_chg : int 0 102 173 -33 365 68 53 0 188 69 ...
## $ oty_avg_wkly_wage_pct_chg : num 0 8.7 15.2 -2.8 43.6 7.2 6.1 0 19.7 6.4 ...

```

```
## [1] "242,761,898.63 $\pm$ 4,093,863,153.67"
```

```
## [1] "14,805,085.44 $\pm$ 253,008,856.43"
```

```

## area_fips own_code industry_code agglvl_code size_code
## Length:3813 Min. :1.00 Min. :1013 Min. :13.00 Min. :0
## Class :character 1st Qu.:5.00 1st Qu.:1013 1st Qu.:73.00 1st Qu.:0
## Mode :character Median :5.00 Median :1013 Median :73.00 Median :0
## Mean :4.88 Mean :1013 Mean :69.35 Mean :0
## 3rd Qu.:5.00 3rd Qu.:1013 3rd Qu.:73.00 3rd Qu.:0
## Max. :5.00 Max. :1013 Max. :73.00 Max. :0
## year qtr disclosure_code qtrly_estabs
## Min. :2020 Min. :4 Length:3813 Min. : 0.0
## 1st Qu.:2020 1st Qu.:4 Class :character 1st Qu.: 11.0
## Median :2020 Median :4 Mode :character Median : 33.0

```

```

## Mean      :2020      Mean      :4              Mean      : 360.5
## 3rd Qu.:2020      3rd Qu.:4              3rd Qu.: 114.0
## Max.      :2020      Max.      :4              Max.      :361742.0
## month1_emplvl      month2_emplvl      month3_emplvl      total_qtrly_wages
## Min.      : 0      Min.      : 0      Min.      : 0      Min.      :0.000e+00
## 1st Qu.: 156      1st Qu.: 158      1st Qu.: 161      1st Qu.:1.818e+06
## Median : 1125      Median : 1117      Median : 1116      Median :1.639e+07
## Mean      : 11878      Mean      : 11894      Mean      : 11957      Mean      :2.428e+08
## 3rd Qu.: 4304      3rd Qu.: 4296      3rd Qu.: 4327      3rd Qu.:7.034e+07
## Max.      :12075301      Max.      :12090772      Max.      :12153960      Max.      :2.442e+11
## taxable_qtrly_wages qtrly_contributions avg_wkly_wage lq_disclosure_code
## Min.      :0.000e+00      Min.      : 0      Min.      : 0      Length:3813
## 1st Qu.:1.682e+05      1st Qu.: 1875      1st Qu.: 856      Class :character
## Median :1.165e+06      Median : 16665      Median :1109      Mode :character
## Mean      :1.481e+07      Mean      : 244928      Mean      :1043
## 3rd Qu.:4.603e+06      3rd Qu.: 74775      3rd Qu.:1306
## Max.      :1.523e+10      Max.      :250410081      Max.      :9010
## lq_qtrly_estabs      lq_month1_emplvl lq_month2_emplvl lq_month3_emplvl
## Min.      : 0.000      Min.      : 0.00      Min.      : 0.000      Min.      : 0.000
## 1st Qu.: 0.800      1st Qu.: 0.37      1st Qu.: 0.380      1st Qu.: 0.380
## Median : 1.130      Median : 0.98      Median : 0.990      Median : 0.990
## Mean      : 7.728      Mean      : 1.79      Mean      : 1.798      Mean      : 1.801
## 3rd Qu.: 1.590      3rd Qu.: 1.84      3rd Qu.: 1.850      3rd Qu.: 1.840
## Max.      :4277.160      Max.      :665.75      Max.      :661.550      Max.      :660.650
## lq_total_qtrly_wages lq_taxable_qtrly_wages lq_qtrly_contributions
## Min.      : 0.000      Min.      : 0.000      Min.      : 0.000
## 1st Qu.: 0.350      1st Qu.: 0.360      1st Qu.: 0.350
## Median : 1.040      Median : 0.960      Median : 1.010
## Mean      : 1.943      Mean      : 1.354      Mean      : 1.525
## 3rd Qu.: 2.060      3rd Qu.: 1.940      3rd Qu.: 2.130
## Max.      :661.840      Max.      :11.180      Max.      :25.040
## lq_avg_wkly_wage oty_disclosure_code oty_qtrly_estabs_chg
## Min.      :0.000      Length:3813      Min.      : -172.000
## 1st Qu.:0.860      Class :character      1st Qu.: -1.000
## Median :1.020      Mode :character      Median : 0.000
## Mean      :0.915
## 3rd Qu.:1.140
## Max.      :5.190
## oty_qtrly_estabs_pct_chg oty_month1_emplvl_chg oty_month1_emplvl_pct_chg
## Min.      : -100.000      Min.      : -635230.0      Min.      : -83.900
## 1st Qu.: -1.800      1st Qu.: -221.0      1st Qu.: -7.700
## Median : 0.000      Median : -27.0      Median : -2.800
## Mean      : 1.597      Mean      : -615.4      Mean      : -2.711
## 3rd Qu.: 3.600      3rd Qu.: 0.0      3rd Qu.: 0.000
## Max.      : 260.000      Max.      : 5369.0      Max.      :600.000
## oty_month2_emplvl_chg oty_month2_emplvl_pct_chg oty_month3_emplvl_chg
## Min.      : -656001      Min.      : -81.800      Min.      : -601148.0
## 1st Qu.: -212      1st Qu.: -7.300      1st Qu.: -190.0
## Median : -24      Median : -2.900      Median : -18.0
## Mean      : -637      Mean      : -2.805      Mean      : -584.2
## 3rd Qu.: 0      3rd Qu.: 0.000      3rd Qu.: 0.0
## Max.      : 5104      Max.      :276.500      Max.      : 5125.0
## oty_month3_emplvl_pct_chg oty_total_qtrly_wages_chg
## Min.      : -81.800      Min.      : -3.590e+08

```

```

## 1st Qu.: -6.800          1st Qu.: 0.000e+00
## Median : -2.300          Median : 3.485e+05
## Mean   : -2.276          Mean    : 1.345e+07
## 3rd Qu.: 0.000           3rd Qu.: 3.281e+06
## Max.    :282.400         Max.     : 1.357e+10
## oty_total_qtrly_wages_pct_chg oty_taxable_qtrly_wages_chg
## Min.     : -73.800        Min.      : -43160674
## 1st Qu.: 0.000           1st Qu.: -76124
## Median : 3.700           Median : 0
## Mean    : 6.055          Mean     : 528604
## 3rd Qu.: 10.500          3rd Qu.: 294249
## Max.    :1403.100        Max.      :569824297
## oty_taxable_qtrly_wages_pct_chg oty_qtrly_contributions_chg
## Min.     : -100.00        Min.      : -9466510
## 1st Qu.: -7.40           1st Qu.: -4504
## Median : 0.00            Median : 0
## Mean    : 10.38          Mean     : -9583
## 3rd Qu.: 16.90           3rd Qu.: 2681
## Max.    : 932.50         Max.      : 2316888
## oty_qtrly_contributions_pct_chg oty_avg_wkly_wage_chg
## Min.     : -100.000       Min.      : -1186.00
## 1st Qu.: -20.000         1st Qu.: 2.00
## Median : 0.000           Median : 88.00
## Mean    : 9.004          Mean     : 90.23
## 3rd Qu.: 14.400          3rd Qu.: 140.00
## Max.    :1836.400        Max.      : 2021.00
## oty_avg_wkly_wage_pct_chg
## Min.     : -56.900
## 1st Qu.: 0.200
## Median : 8.500
## Mean    : 8.838
## 3rd Qu.: 13.400
## Max.    :287.200

## df$own_code: 1
## area_fips          own_code industry_code agglvl_code    size_code
## Length:63          Min.   :1   Min.   :1013   Min.   :13.00   Min.   :0
## Class :character    1st Qu.:1   1st Qu.:1013   1st Qu.:53.00   1st Qu.:0
## Mode  :character    Median :1   Median :1013   Median :73.00   Median :0
##                               Mean   :1   Mean   :1013   Mean   :64.75   Mean   :0
##                               3rd Qu.:1   3rd Qu.:1013   3rd Qu.:73.00   3rd Qu.:0
##                               Max.   :1   Max.   :1013   Max.   :73.00   Max.   :0
## year              qtr    disclosure_code    qtrly_estabs
## Min.   :2020      Min.   :4   Length:63      Min.   : 1.000
## 1st Qu.:2020      1st Qu.:4   Class :character 1st Qu.: 1.000
## Median :2020      Median :4   Mode  :character Median : 1.000
## Mean   :2020      Mean   :4              Mean   : 2.286
## 3rd Qu.:2020      3rd Qu.:4              3rd Qu.: 2.000
## Max.   :2020      Max.   :4              Max.   :48.000
## month1_emplvl     month2_emplvl     month3_emplvl     total_qtrly_wages
## Min.   : 0.0      Min.   : 0.0      Min.   : 0.0      Min.   :0.000e+00
## 1st Qu.: 2.5      1st Qu.: 2.5      1st Qu.: 2.5      1st Qu.:4.507e+04
## Median : 10.0     Median : 10.0     Median : 10.0     Median :3.170e+05
## Mean   : 2433.7    Mean   : 2432.7    Mean   : 2425.8    Mean   :5.824e+07

```

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## 3rd Qu.: 1756.0    3rd Qu.: 1722.0    3rd Qu.: 1743.0    3rd Qu.:3.969e+07
## Max.    :51107.0  Max.    :51086.0  Max.    :50942.0  Max.    :1.223e+09
## taxable_qtrly_wages qtrly_contributions avg_wkly_wage lq_disclosure_code
## Min.    :0        Min.    :0        Min.    : 0      Length:63
## 1st Qu.:0        1st Qu.:0        1st Qu.:1754   Class :character
## Median :0        Median :0        Median :1921   Mode  :character
## Mean    :0        Mean    :0        Mean    :2094
## 3rd Qu.:0        3rd Qu.:0        3rd Qu.:2192
## Max.    :0        Max.    :0        Max.    :9010
## lq_qtrly_estabs    lq_month1_emplvl lq_month2_emplvl lq_month3_emplvl
## Min.    : 0.130   Min.    : 0.00   Min.    : 0.00   Min.    : 0.00
## 1st Qu.: 3.115   1st Qu.: 0.01   1st Qu.: 0.01   1st Qu.: 0.01
## Median : 6.340   Median : 0.30   Median : 0.29   Median : 0.31
## Mean    : 33.773   Mean    : 33.38   Mean    : 33.32   Mean    : 33.46
## 3rd Qu.: 33.560   3rd Qu.: 11.15   3rd Qu.: 11.24   3rd Qu.: 11.34
## Max.    :246.030   Max.    :665.75   Max.    :661.55   Max.    :660.65
## lq_total_qtrly_wages lq_taxable_qtrly_wages lq_qtrly_contributions
## Min.    : 0.000   Min.    :0        Min.    :0
## 1st Qu.: 0.010   1st Qu.:0        1st Qu.:0
## Median : 0.350   Median :0        Median :0
## Mean    : 36.078   Mean    :0        Mean    :0
## 3rd Qu.: 9.515   3rd Qu.:0        3rd Qu.:0
## Max.    :661.840   Max.    :0        Max.    :0
## lq_avg_wkly_wage oty_disclosure_code oty_qtrly_estabs_chg
## Min.    :0.000   Length:63        Min.    :0.00000
## 1st Qu.:0.890   Class :character  1st Qu.:0.00000
## Median :1.090   Mode  :character  Median :0.00000
## Mean    :1.142                               Mean    :0.07937
## 3rd Qu.:1.260                               3rd Qu.:0.00000
## Max.    :5.190                               Max.    :1.00000
## oty_qtrly_estabs_pct_chg oty_month1_emplvl_chg oty_month1_emplvl_pct_chg
## Min.    : 0.000   Min.    : -39.00   Min.    : -83.90
## 1st Qu.: 0.000   1st Qu.: 0.00    1st Qu.: 0.00
## Median : 0.000   Median : 0.00    Median : 0.00
## Mean    : 5.324   Mean    : 36.05   Mean    : 20.75
## 3rd Qu.: 0.000   3rd Qu.: 22.00   3rd Qu.: 5.10
## Max.    :100.000   Max.    :757.00   Max.    :600.00
## oty_month2_emplvl_chg oty_month2_emplvl_pct_chg oty_month3_emplvl_chg
## Min.    : -141.00   Min.    : -81.800   Min.    : -230.00
## 1st Qu.: 0.00    1st Qu.: 0.000   1st Qu.: 0.00
## Median : 0.00    Median : 0.000   Median : 0.00
## Mean    : 28.05   Mean    : 6.092   Mean    : 19.97
## 3rd Qu.: 27.50   3rd Qu.: 6.200   3rd Qu.: 29.00
## Max.    : 589.00   Max.    :166.700   Max.    : 420.00
## oty_month3_emplvl_pct_chg oty_total_qtrly_wages_chg
## Min.    : -50.00   Min.    : -171795
## 1st Qu.: 0.00    1st Qu.: 0
## Median : 0.00    Median : 98412
## Mean    : 10.37   Mean    : 3657052
## 3rd Qu.: 5.60    3rd Qu.: 1646946
## Max.    :200.00   Max.    :76824126
## oty_total_qtrly_wages_pct_chg oty_taxable_qtrly_wages_chg
## Min.    : -49.90   Min.    :0
## 1st Qu.: 0.00    1st Qu.:0

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## Median : 5.10 Median :0
## Mean : 13.02 Mean :0
## 3rd Qu.: 10.25 3rd Qu.:0
## Max. :286.40 Max. :0
## oty_taxable_qtrly_wages_pct_chg oty_qtrly_contributions_chg
## Min. :0 Min. :0
## 1st Qu.:0 1st Qu.:0
## Median :0 Median :0
## Mean :0 Mean :0
## 3rd Qu.:0 3rd Qu.:0
## Max. :0 Max. :0
## oty_qtrly_contributions_pct_chg oty_avg_wkly_wage_chg
## Min. :0 Min. : -521.00
## 1st Qu.:0 1st Qu.: -37.00
## Median :0 Median : 42.00
## Mean :0 Mean : 66.52
## 3rd Qu.:0 3rd Qu.: 115.00
## Max. :0 Max. :1669.00
## oty_avg_wkly_wage_pct_chg
## Min. : -17.700
## 1st Qu.: -1.850
## Median : 2.300
## Mean : 6.671
## 3rd Qu.: 6.000
## Max. :119.700
## -----
## df$own_code: 2
## area_fips own_code industry_code agglvl_code size_code
## Length:30 Min. :2 Min. :1013 Min. :13 Min. :0
## Class :character 1st Qu.:2 1st Qu.:1013 1st Qu.:73 1st Qu.:0
## Mode :character Median :2 Median :1013 Median :73 Median :0
## Mean :2 Mean :1013 Mean :67 Mean :0
## 3rd Qu.:2 3rd Qu.:1013 3rd Qu.:73 3rd Qu.:0
## Max. :2 Max. :1013 Max. :73 Max. :0
## year qtr disclosure_code qtrly_estabs month1_emplvl
## Min. :2020 Min. :4 Length:30 Min. : 1.0 Min. : 0.0
## 1st Qu.:2020 1st Qu.:4 Class :character 1st Qu.: 1.0 1st Qu.: 0.0
## Median :2020 Median :4 Mode :character Median : 1.0 Median : 0.0
## Mean :2020 Mean :4 Mean : 2.4 Mean : 20.5
## 3rd Qu.:2020 3rd Qu.:4 3rd Qu.: 1.0 3rd Qu.: 0.0
## Max. :2020 Max. :4 Max. :24.0 Max. :615.0
## month2_emplvl month3_emplvl total_qtrly_wages taxable_qtrly_wages
## Min. : 0.00 Min. : 0.00 Min. : 0 Min. :0
## 1st Qu.: 0.00 1st Qu.: 0.00 1st Qu.: 0 1st Qu.:0
## Median : 0.00 Median : 0.00 Median : 0 Median :0
## Mean : 20.57 Mean : 20.77 Mean : 331387 Mean :0
## 3rd Qu.: 0.00 3rd Qu.: 0.00 3rd Qu.: 0 3rd Qu.:0
## Max. :617.00 Max. :623.00 Max. :9941598 Max. :0
## qtrly_contributions avg_wkly_wage lq_disclosure_code lq_qtrly_estabs
## Min. :0 Min. : 0.00 Length:30 Min. : 1.00
## 1st Qu.:0 1st Qu.: 0.00 Class :character 1st Qu.: 18.57
## Median :0 Median : 0.00 Mode :character Median : 57.88
## Mean :0 Mean : 41.23 Mean : 196.83
## 3rd Qu.:0 3rd Qu.: 0.00 3rd Qu.: 174.65

```

```

## Max.      :0          Max.      :1237.00          Max.      :3046.75
## lq_month1_emplvl lq_month2_emplvl lq_month3_emplvl lq_total_qtrly_wages
## Min.      :0.00000 Min.      :0.00000 Min.      :0.00000 Min.      :0.00000
## 1st Qu.:0.00000 1st Qu.:0.00000 1st Qu.:0.00000 1st Qu.:0.00000
## Median :0.00000 Median :0.00000 Median :0.00000 Median :0.00000
## Mean     :0.03333 Mean     :0.03333 Mean     :0.03333 Mean     :0.03333
## 3rd Qu.:0.00000 3rd Qu.:0.00000 3rd Qu.:0.00000 3rd Qu.:0.00000
## Max.      :1.00000 Max.      :1.00000 Max.      :1.00000 Max.      :1.00000
## lq_taxable_qtrly_wages lq_qtrly_contributions lq_avg_wkly_wage
## Min.      :0          Min.      :0          Min.      :0.00000
## 1st Qu.:0          1st Qu.:0          1st Qu.:0.00000
## Median :0          Median :0          Median :0.00000
## Mean     :0          Mean     :0          Mean     :0.03333
## 3rd Qu.:0          3rd Qu.:0          3rd Qu.:0.00000
## Max.      :0          Max.      :0          Max.      :1.00000
## oty_disclosure_code oty_qtrly_estabs_chg oty_qtrly_estabs_pct_chg
## Length:30          Min.      :0.0000 Min.      : 0.000
## Class :character 1st Qu.:0.0000 1st Qu.: 0.000
## Mode  :character Median :0.0000 Median : 0.000
##                  Mean     :0.1667 Mean     : 7.287
##                  3rd Qu.:0.0000 3rd Qu.: 0.000
##                  Max.      :2.0000 Max.      :100.000
## oty_month1_emplvl_chg oty_month1_emplvl_pct_chg oty_month2_emplvl_chg
## Min.      :-18.0      Min.      :-2.80000 Min.      :-17.0000
## 1st Qu.: 0.0          1st Qu.: 0.00000 1st Qu.: 0.0000
## Median : 0.0          Median : 0.00000 Median : 0.0000
## Mean     : -0.6        Mean     :-0.09333 Mean     : -0.5667
## 3rd Qu.: 0.0          3rd Qu.: 0.00000 3rd Qu.: 0.0000
## Max.      : 0.0          Max.      : 0.00000 Max.      : 0.0000
## oty_month2_emplvl_pct_chg oty_month3_emplvl_chg oty_month3_emplvl_pct_chg
## Min.      :-2.70      Min.      :-15.0 Min.      :-2.40
## 1st Qu.: 0.00          1st Qu.: 0.0 1st Qu.: 0.00
## Median : 0.00          Median : 0.0 Median : 0.00
## Mean     :-0.09        Mean     : -0.5 Mean     : -0.08
## 3rd Qu.: 0.00          3rd Qu.: 0.0 3rd Qu.: 0.00
## Max.      : 0.00          Max.      : 0.0 Max.      : 0.00
## oty_total_qtrly_wages_chg oty_total_qtrly_wages_pct_chg
## Min.      : 0          Min.      : 0.0000
## 1st Qu.: 0          1st Qu.: 0.0000
## Median : 0          Median : 0.0000
## Mean     : 31291      Mean     : 0.3467
## 3rd Qu.: 0          3rd Qu.: 0.0000
## Max.      :938736      Max.      :10.4000
## oty_taxable_qtrly_wages_chg oty_taxable_qtrly_wages_pct_chg
## Min.      :0          Min.      :0
## 1st Qu.:0          1st Qu.:0
## Median :0          Median :0
## Mean     :0          Mean     :0
## 3rd Qu.:0          3rd Qu.:0
## Max.      :0          Max.      :0
## oty_qtrly_contributions_chg oty_qtrly_contributions_pct_chg
## Min.      :0          Min.      :0
## 1st Qu.:0          1st Qu.:0
## Median :0          Median :0

```



```

## Mean      :0                      Mean      :0
## 3rd Qu.:0                      3rd Qu.:0
## Max.      :0                      Max.      :0
## oty_avg_wkly_wage_chg oty_avg_wkly_wage_pct_chg
## Min.      : 0.000          Min.      : 0.0000
## 1st Qu.: 0.000          1st Qu.: 0.0000
## Median : 0.000          Median : 0.0000
## Mean      : 4.867          Mean      : 0.4467
## 3rd Qu.: 0.000          3rd Qu.: 0.0000
## Max.      :146.000        Max.      :13.4000
## -----
## df$own_code: 3
## area_fips          own_code industry_code agglvl_code      size_code
## Length:57          Min.      :3  Min.      :1013  Min.      :13.00  Min.      :0
## Class :character    1st Qu.:3  1st Qu.:1013  1st Qu.:53.00  1st Qu.:0
## Mode  :character    Median :3  Median :1013  Median :73.00  Median :0
##                               Mean  :3  Mean  :1013  Mean  :65.28  Mean  :0
##                               3rd Qu.:3  3rd Qu.:1013  3rd Qu.:73.00  3rd Qu.:0
##                               Max.   :3  Max.   :1013  Max.   :73.00  Max.   :0
## year              qtr      disclosure_code      qtrly_estabs
## Min.      :2020    Min.      :4  Length:57          Min.      : 1.000
## 1st Qu.:2020    1st Qu.:4  Class :character    1st Qu.: 1.000
## Median :2020    Median :4  Mode  :character    Median : 1.000
## Mean      :2020    Mean      :4          Mean      : 2.053
## 3rd Qu.:2020    3rd Qu.:4          3rd Qu.: 1.000
## Max.      :2020    Max.      :4          Max.      :39.000
## month1_emplvl      month2_emplvl      month3_emplvl      total_qtrly_wages
## Min.      : 0.00    Min.      : 0.00    Min.      : 0.00    Min.      : 0
## 1st Qu.: 0.00    1st Qu.: 0.00    1st Qu.: 0.00    1st Qu.: 0
## Median : 0.00    Median : 0.00    Median : 0.00    Median : 0
## Mean      : 34.46    Mean      : 35.47    Mean      : 36.51    Mean      : 626296
## 3rd Qu.: 0.00    3rd Qu.: 0.00    3rd Qu.: 0.00    3rd Qu.: 0
## Max.      :1346.00    Max.      :1382.00    Max.      :1417.00    Max.      :22497818
## taxable_qtrly_wages qtrly_contributions avg_wkly_wage lq_disclosure_code
## Min.      : 0      Min.      : 0      Min.      : 0      Length:57
## 1st Qu.: 0      1st Qu.: 0      1st Qu.: 0      Class :character
## Median : 0      Median : 0      Median : 0      Mode  :character
## Mean      : 39872    Mean      : 1185    Mean      : 94
## 3rd Qu.: 0      3rd Qu.: 0      3rd Qu.: 0
## Max.      :2122938    Max.      :51385    Max.      :1979
## lq_qtrly_estabs lq_month1_emplvl lq_month2_emplvl lq_month3_emplvl
## Min.      : 0.33    Min.      : 0.0000    Min.      : 0.0000    Min.      : 0.0000
## 1st Qu.: 3.16    1st Qu.: 0.0000    1st Qu.: 0.0000    1st Qu.: 0.0000
## Median : 29.22    Median : 0.0000    Median : 0.0000    Median : 0.0000
## Mean      : 298.52    Mean      : 0.3921    Mean      : 0.3944    Mean      : 0.3982
## 3rd Qu.: 186.98    3rd Qu.: 0.0000    3rd Qu.: 0.0000    3rd Qu.: 0.0000
## Max.      :4277.16    Max.      :13.4500    Max.      :13.4000    Max.      :13.5700
## lq_total_qtrly_wages lq_taxable_qtrly_wages lq_qtrly_contributions
## Min.      : 0.0000    Min.      :0.0000    Min.      : 0.0000
## 1st Qu.: 0.0000    1st Qu.:0.0000    1st Qu.: 0.0000
## Median : 0.0000    Median :0.0000    Median : 0.0000
## Mean      : 0.5261    Mean      :0.1202    Mean      : 0.4568
## 3rd Qu.: 0.0000    3rd Qu.:0.0000    3rd Qu.: 0.0000
## Max.      :23.4800    Max.      :5.8500    Max.      :25.0400

```

```

## lq_avg_wkly_wage oty_disclosure_code oty_qtrly_estabs_chg
## Min. :0.00000 Length:57 Min. : -3.00000
## 1st Qu.:0.00000 Class :character 1st Qu.: 0.00000
## Median :0.00000 Mode :character Median : 0.00000
## Mean :0.07544 Mean : -0.08772
## 3rd Qu.:0.00000 3rd Qu.: 0.00000
## Max. :1.74000 Max. : 0.00000
## oty_qtrly_estabs_pct_chg oty_month1_emplvl_chg oty_month1_emplvl_pct_chg
## Min. : -50.000 Min. : -182.000 Min. : -12.7000
## 1st Qu.: 0.000 1st Qu.: 0.000 1st Qu.: 0.0000
## Median : 0.000 Median : 0.000 Median : 0.0000
## Mean : -1.002 Mean : -3.614 Mean : -0.4526
## 3rd Qu.: 0.000 3rd Qu.: 0.000 3rd Qu.: 0.0000
## Max. : 0.000 Max. : 10.000 Max. : 2.8000
## oty_month2_emplvl_chg oty_month2_emplvl_pct_chg oty_month3_emplvl_chg
## Min. : -98.000 Min. : -7.7000 Min. : -89.00
## 1st Qu.: 0.000 1st Qu.: 0.0000 1st Qu.: 0.00
## Median : 0.000 Median : 0.0000 Median : 0.00
## Mean : -1.421 Mean : -0.1719 Mean : -1.14
## 3rd Qu.: 0.000 3rd Qu.: 0.0000 3rd Qu.: 0.00
## Max. : 25.000 Max. : 7.0000 Max. : 32.00
## oty_month3_emplvl_pct_chg oty_total_qtrly_wages_chg
## Min. : -5.90000 Min. : 0
## 1st Qu.: 0.00000 1st Qu.: 0
## Median : 0.00000 Median : 0
## Mean : -0.06842 Mean : 66983
## 3rd Qu.: 0.00000 3rd Qu.: 0
## Max. : 8.80000 Max. : 2240879
## oty_total_qtrly_wages_pct_chg oty_taxable_qtrly_wages_chg
## Min. : 0.0000 Min. : -41449
## 1st Qu.: 0.0000 1st Qu.: 0
## Median : 0.0000 Median : 0
## Mean : 0.7825 Mean : -104
## 3rd Qu.: 0.0000 3rd Qu.: 0
## Max. : 29.6000 Max. : 35521
## oty_taxable_qtrly_wages_pct_chg oty_qtrly_contributions_chg
## Min. : -1.9000 Min. : 0.0
## 1st Qu.: 0.0000 1st Qu.: 0.0
## Median : 0.0000 Median : 0.0
## Mean : 0.5123 Mean : 321.4
## 3rd Qu.: 0.0000 3rd Qu.: 0.0
## Max. : 31.1000 Max. : 13794.0
## oty_qtrly_contributions_pct_chg oty_avg_wkly_wage_chg
## Min. : 0.000 Min. : 0.00
## 1st Qu.: 0.000 1st Qu.: 0.00
## Median : 0.000 Median : 0.00
## Mean : 1.328 Mean : 12.72
## 3rd Qu.: 0.000 3rd Qu.: 0.00
## Max. : 39.000 Max. : 356.00
## oty_avg_wkly_wage_pct_chg
## Min. : 0.000
## 1st Qu.: 0.000
## Median : 0.000
## Mean : 1.035

```

```

## 3rd Qu.: 0.000
## Max. :21.900
## -----
## df$own_code: 5
## area_fips own_code industry_code agglvl_code size_code
## Length:3663 Min. :5 Min. :1013 Min. :13.00 Min. :0
## Class :character 1st Qu.:5 1st Qu.:1013 1st Qu.:73.00 1st Qu.:0
## Mode :character Median :5 Median :1013 Median :73.00 Median :0
## Mean :5 Mean :1013 Mean :69.52 Mean :0
## 3rd Qu.:5 3rd Qu.:1013 3rd Qu.:73.00 3rd Qu.:0
## Max. :5 Max. :1013 Max. :73.00 Max. :0
## year qtr disclosure_code qtrly_estabs
## Min. :2020 Min. :4 Length:3663 Min. : 0.0
## 1st Qu.:2020 1st Qu.:4 Class :character 1st Qu.: 12.0
## Median :2020 Median :4 Mode :character Median : 36.0
## Mean :2020 Mean :4 Mean : 375.1
## 3rd Qu.:2020 3rd Qu.:4 3rd Qu.: 121.0
## Max. :2020 Max. :4 Max. :361742.0
## month1_emplvl month2_emplvl month3_emplvl total_qtrly_wages
## Min. : 0 Min. : 0 Min. : 0 Min. :0.000e+00
## 1st Qu.: 198 1st Qu.: 196 1st Qu.: 198 1st Qu.:2.456e+06
## Median : 1204 Median : 1207 Median : 1218 Median :1.771e+07
## Mean : 12322 Mean : 12338 Mean : 12404 Mean :2.517e+08
## 3rd Qu.: 4506 3rd Qu.: 4491 3rd Qu.: 4509 3rd Qu.:7.309e+07
## Max. :12075301 Max. :12090772 Max. :12153960 Max. :2.442e+11
## taxable_qtrly_wages qtrly_contributions avg_wkly_wage lq_disclosure_code
## Min. :0.000e+00 Min. : 0 Min. : 0 Length:3663
## 1st Qu.:2.282e+05 1st Qu.: 2740 1st Qu.: 874 Class :character
## Median :1.306e+06 Median : 18983 Median :1112 Mode :character
## Mean :1.541e+07 Mean : 254939 Mean :1048
## 3rd Qu.:4.890e+06 3rd Qu.: 79885 3rd Qu.:1298
## Max. :1.523e+10 Max. :250410081 Max. :7339
## lq_qtrly_estabs lq_month1_emplvl lq_month2_emplvl lq_month3_emplvl
## Min. :0.000 Min. :0.000 Min. :0.000 Min. :0.000
## 1st Qu.:0.790 1st Qu.:0.430 1st Qu.:0.430 1st Qu.:0.440
## Median :1.100 Median :1.010 Median :1.020 Median :1.020
## Mean :1.206 Mean :1.283 Mean :1.292 Mean :1.293
## 3rd Qu.:1.525 3rd Qu.:1.860 3rd Qu.:1.870 3rd Qu.:1.870
## Max. :6.750 Max. :9.330 Max. :9.040 Max. :9.000
## lq_total_qtrly_wages lq_taxable_qtrly_wages lq_qtrly_contributions
## Min. :0.000 Min. : 0.000 Min. : 0.00
## 1st Qu.:0.410 1st Qu.: 0.430 1st Qu.: 0.42
## Median :1.080 Median : 1.020 Median : 1.07
## Mean :1.394 Mean : 1.408 Mean : 1.58
## 3rd Qu.:2.080 3rd Qu.: 1.990 3rd Qu.: 2.21
## Max. :8.430 Max. :11.180 Max. :11.14
## lq_avg_wkly_wage oty_disclosure_code oty_qtrly_estabs_chg
## Min. :0.0000 Length:3663 Min. : -172.000
## 1st Qu.:0.8800 Class :character 1st Qu.: -1.000
## Median :1.0300 Mode :character Median : 0.000
## Mean :0.9314 Mean : 4.453
## 3rd Qu.:1.1400 3rd Qu.: 2.000
## Max. :2.3100 Max. :4725.000
## oty_qtrly_estabs_pct_chg oty_month1_emplvl_chg oty_month1_emplvl_pct_chg

```

```

## Min.      :-100.000      Min.      :-635230.0      Min.      :-79.100
## 1st Qu.:  -1.900      1st Qu.:  -237.0      1st Qu.:  -7.800
## Median :    0.000      Median :   -33.0      Median :  -3.200
## Mean   :    1.527      Mean   :  -641.2      Mean   :  -3.171
## 3rd Qu.:    3.800      3rd Qu.:    0.0      3rd Qu.:   0.000
## Max.   :   260.000      Max.   :   5369.0      Max.   :  306.200
## oty_month2_emplvl_chg oty_month2_emplvl_pct_chg oty_month3_emplvl_chg
## Min.      :-656001.0      Min.      :-77.400      Min.      :-601148.0
## 1st Qu.:  -228.0      1st Qu.:  -7.500      1st Qu.:  -204.5
## Median :   -30.0      Median :  -3.100      Median :   -22.0
## Mean   :  -663.6      Mean   :  -3.021      Mean   :  -608.4
## 3rd Qu.:    0.0      3rd Qu.:   0.000      3rd Qu.:    0.0
## Max.   :   5104.0      Max.   :  276.500      Max.   :   5125.0
## oty_month3_emplvl_pct_chg oty_total_qtrly_wages_chg
## Min.      :-81.800      Min.      :-3.590e+08
## 1st Qu.:  -7.000      1st Qu.:  0.000e+00
## Median :  -2.700      Median :  4.056e+05
## Mean   :  -2.546      Mean   :  1.394e+07
## 3rd Qu.:   0.000      3rd Qu.:  3.415e+06
## Max.   :  282.400      Max.   :  1.357e+10
## oty_total_qtrly_wages_pct_chg oty_taxable_qtrly_wages_chg
## Min.      : -73.800      Min.      :-43160674
## 1st Qu.:   0.000      1st Qu.:  -90664
## Median :   3.800      Median :    0
## Mean   :   6.064      Mean   :   550251
## 3rd Qu.:  10.700      3rd Qu.:   321686
## Max.   : 1403.100      Max.   : 569824297
## oty_taxable_qtrly_wages_pct_chg oty_qtrly_contributions_chg
## Min.      :-100.00      Min.      :-9466510
## 1st Qu.:  -8.00      1st Qu.:  -5034
## Median :    0.00      Median :    0
## Mean   :   10.79      Mean   :  -9980
## 3rd Qu.:   18.20      3rd Qu.:   3054
## Max.   :   932.50      Max.   : 2316888
## oty_qtrly_contributions_pct_chg oty_avg_wkly_wage_chg
## Min.      :-100.000      Min.      :-1186.00
## 1st Qu.:  -21.050      1st Qu.:   16.50
## Median :    0.000      Median :   92.00
## Mean   :    9.352      Mean   :   92.54
## 3rd Qu.:   15.700      3rd Qu.:  142.00
## Max.   :  1836.400      Max.   :  2021.00
## oty_avg_wkly_wage_pct_chg
## Min.      :-56.900
## 1st Qu.:   1.700
## Median :   8.800
## Mean   :   9.065
## 3rd Qu.:  13.600
## Max.   :  287.200

```

#Summary

This data is showing what is to be expected when it comes to wages because we can see from some of the plots I made that the taxable wage goes up in value as the total wage goes up, this is important because in the real world we might see the percentage go down but we see the value go up like this and richer people. Also I am glad this data is broken up into areas and codes to help organize it a bit because a lot of this

was hard to follow at first and getting this as raw data would be impossible to go through and these can be taken as keys for an SQL table if need be. The information for the year and qtr seem to all fall at the same time because like tax season we want a total of all the months and qtr to get the entire year and for this it is 2020 and qtr 4. Overall you could really make something out of this data maybe even build models and predictions for the rest of the Labor force. Although this data is not really good for Bivariate Relations because there is no data from other qtrs or years.