

Year	Value	Description
16520	31700	BP GDM NA
17130	31700	BP GDM NA
17517	31700	BP GDM NA
17526	31700	BP GDM NA
17612	31700	BP GDM NA
17970	33700	BP GDM NA
17972	33700	BP GDM NA
18006	33700	BP GDM NA
18171	33700	BP GDM NA
18172	33700	BP GDM NA
18333	31900	BP GDM NA
18348	31900	BP GDM NA
18942	31900	BP GDM NA
19155	31900	BP GDM NA
19199	31900	BP GDM NA
19290	31900	BP GDM NA
19328	35987	BP GDM NA
19365	35987	BP GDM NA
19604	35987	BP GDM NA
19622	35987	BP GDM NA
19642	35987	BP GDM NA
19700	35987	BP GDM NA
19757	35987	BP GDM NA
19757	35987	BP GDM NA
19824	35987	BP GDM NA
19825	35987	BP GDM NA

Level up your VLOOKUP



Doing VLOOKUPS

Veronique Frizzell
Veronique Frizzell

Are you counting columns for VLOOKUPS?

	A	B	C	D	E
1	state	county	fips	trump16	clinton16
2	Alabama	Autauga	1001	18172	5936
3	Alabama	Baldwin	1003	72883	18458
4	Alabama	Barbour	1005	5454	4871
5	Alabama	Bibb	1007	678	1874
6	Alabama	Blount	1009		
7	Alabama	Bullock	1011	110	3530
8	Alabama	Butler	1013	4901	3726
9	Alabama	Calhoun	1015	3286	13242
10	Alabama	Chambers	1017	7843	5784
11	Alabama	Cherokee	1019	8953	1577
12	Alabama	Chilton	1021	15081	2911
13	Alabama	Choctaw	1023	4106	3109

	AE	AF	AG
1	under_pct	age65andolder_pct	median_hh_inc
2	0.03705789	13.97845556	53099
3	5.47441231	18.71485139	51365
4	7.66438716	16.52889457	33956
5	37.3294347	14.8856991	39776
6			46212
7	7.93593632	15.13457165	29335
8	7.05621302	18.12623274	34315
9	3.78308294	15.93072323	41954
10	5.87218531	18.1732436	6027
11	2.71035255	20.2281731	8925
12	8.341242	12.7888	45
13	3.40106871	20.74960488	32622

"1, 2, 3, 4, ..., 29, 30..."

Citation: MIT Election Data and Science Lab, 2018, "County Presidential Election Returns 2000-2016", <https://doi.org/10.7910/DVN/VOQCHQ>, Harvard Dataverse, V6, UNF:6:ZZe1xuZ5H2I4NUiSRcRf8Q== [fileUNF]

A pair of GOP governors on Friday moved to impose new mitigation measures in their states amid record numbers of new coronavirus infections, with both Texas Gov. Greg Abbott and Florida Gov. Ron

Combining [Power BI](#) with statistics yields some very powerful results. In this post we'll show how easy it is to do Linear Regression with the Power BI tool.

Linear Regression is a very useful statistical tool that helps us understand the relationship between variables and the effects they have on each other. It can be used across many industries in a variety of

The Simple Linear Regression model allows us to summarize and examine relationships between two variables. It uses a single independent variable and a single dependent variable to create a function

We look at two statistical values to determine if there is a relationship between the two variables and how The [Coefficient of Correlation](#) is a statistic we use to determine if there is a relationship between two variables. The output of this statistic equals somewhere between 1 and -1. The closer to 1 the number is, the more positively related the variables are. As in, if X increases, Y increases. The closer to -1 the number

The [Coefficient of Determination](#) is a related statistic that then tells us how well our model fits the data. This statistic always ranges from 0 and 1. The closer to 1 the value is, the better our model fits the data

So how do we perform Linear Regression in Power BI? First, we make a scatter plot and visually examine the data to see if there is a relationship.

Scatter Plot in Power BI

In this example, I used my own financial data to see if I could understand the best ways to save money each month. This analysis shows the relationship between the number of times I went to restaurants and the money spent in this category of my monthly budget.

Food is my second highest budget category each month. I don't think the bank will cut my mortgage down to save me a bit each month, so my restaurant spending seems like the next best place to start. Here's how to follow along using your own data.

for his resort in New Jersey for the weekend, the president abruptly

“Everyday they would download the data and do VLOOKUPs all day long. VLOOKUPs after VLOOKUPs after VLOOKUPs. That’s all they did. I need to know how to do VLOOKUPs.”

I was working with a someone on her spreadsheet, and she was telling me about what her boss did. She quoted them as saying “I do VLOOKUPs all day long.”

The screenshot shows a Power BI interface. On the left, there's a table with columns for 'Project Name' and 'Total'. The table lists various projects like 'BP GDM US VLR COLLECTION', 'BP GDM WAHSHUTTE', etc. On the right, there's a bar chart with a legend. The legend includes categories like 'BP GDM US VLR COLLECTION' (red), 'BP GDM WAHSHUTTE' (orange), 'BP GDM TRINIDAD' (yellow), 'BP GDM CALGARY' (green), 'BP GDM SDE' (blue), 'BP GDM ARKOMA' (purple), 'BP GDM LX ORACLE' (brown), 'BP GDM CANADA' (pink), 'BP GDM NAG DATA' (grey), 'BP GDM NAG DATA PROGRAM' (light blue), 'BP GDM NAG DATA PROGRAM' (light green), 'BP GDM NAG DATA PROGRAM' (light orange), 'BP GDM NAG DATA PROGRAM' (light purple), 'BP GDM NAG DATA PROGRAM' (light brown), 'BP GDM NAG DATA PROGRAM' (light pink), 'BP GDM NAG DATA PROGRAM' (light grey), 'BP GDM NAG DATA PROGRAM' (light blue), 'BP GDM NAG DATA PROGRAM' (light green), 'BP GDM NAG DATA PROGRAM' (light orange), 'BP GDM NAG DATA PROGRAM' (light purple), 'BP GDM NAG DATA PROGRAM' (light brown), 'BP GDM NAG DATA PROGRAM' (light pink), 'BP GDM NAG DATA PROGRAM' (light grey).

Everyday they would

count columns

again and again.



But there are

3 options

to replace counting for VLOOKUPS



Project	ELIPO	Project Name	Over run	Over run	GM	Unavailable/Unbillable	Loss
			PTZM	Inst SP	of P1	LY200	PTZM
16520		BP GDM URDS VLR COMPLETION AND C					
17130		BP GDM WAMSLUTTER DATA QUALITY					
17517		BP GDM TRINIDAD DOCUMENTUM SUPPORT					
17526		BP GDM CALGARY TRADES					
17612		BP GDM SDE 9/2 DATASHEMA					
17970	337696	353 BP GDM ARKOMA BOREHOLE DO ASSUR					
17972		BP GDM ILX ORACLE SERVER					
18008		BP GDM CANADA PETROTECHNICAL DM					
18171	337684						
18172	337687	NAG DATA PROGRAM LEADS 2005					
18333	319681	GEOGRAPHY PRODUCTION DATA LOADI					
18348	319535	DAT DIRECTORY CLEAN UP AND CONSO					
18942		BP GDM ILX ORACLE SERVER PROJECT					
19155	347474	NA GAS DATA PROGRAM DATA ARCHIT					
19289	353872	BP GDM NA GAS ESEARCH MIGRATION E					
19290		BP GDM NA GAS FINDER UPDATE					
19328	359837	BP GDM BHM EXECUTE PLOT FOR GDM					
19365		NON-ELAND BP R5009 SELECTA PROJECT					
19604		BP GDM NA GAS BY ADVISORY BOARD					
19622		BP GDM TRINIDAD BHM TP CONSULTIN					
19542	EL 374380	BP GDM MISS SENSIO DATA CLEANUP					
19708	EL 375807	BP GDM NAG GAS GAE ASSIGNMENT PROJ					
19709		BP GDM TRINIDAD BHM PROJECT - EXEC					
19727	EL 375807	BP GDM BHM GLOBAL CONSULTING					
19757	EL 382102	BP GDM NA GAS FINDER UPDATE					
19824	EL 381703	BP GDM NAG DM SUPPORT OF RESEARCH					
19825	EL 383912	BP NA GAS RECALL SWEEP AND DATA I					

A pair of GOP governors on Friday moved to impose new mitigation measures in their states amid record numbers of new coronavirus infections, with both Texas Gov. Greg Abbott and Florida Gov. Ron DeSantis saying they were linked to the virus's spread.

Combining [Power BI](#) with statistics yields some very powerful results. In this post we'll show how easy it is to do Linear Regression with the Power BI tool.

Linear Regression is a very useful statistical tool that helps us understand the relationship between variables and the effects they have on each other. It can be used across many industries in a variety of ways to gain insight - to benefit businesses that have hit hard by the coronavirus pandemic. The Simple Linear Regression model allows us to summarize and examine relationships between two variables. It uses a single *independent* variable and a single *dependent* variable and finds a linear function that predicts the *dependent* variable values as a function of the *independent* variables.

We look at two statistical values to determine if there is a relationship between the two variables and how closely related they are.

The [Coefficient of Correlation](#) is a statistic we use to determine if there is a relationship between two variables. The coefficient can range from 1 and -1. The closer to 1 the number is, the more positive the relationship is. If X increases, Y increases. The closer to -1 the number is, the more negative the relationship is. If X increases, Y decreases.

The [Coefficient of Determination](#) is a related statistic that then tells us how well our model fits the data. This statistic is always between 0 and 1, and the closer to 1 the value is, the better our model fits the data set.

So how do we perform Linear Regression in Power BI? First, we make a scatter plot and visually examine the data to see if we think there is a relationship.

Scatter Plot in Power BI
In this example, I used my own financial data to see if I could understand the best ways to spend my money each month. This analysis shows the relationship between the number of times I went to restaurants and the amount in this category of my monthly budget.

Food is my second highest budget category each month. I don't think the bank will cut my mortgage down to save me a bit each month, so my restaurant spending seems like the next best place to start. Here's how to follow along using your own data:



Before I show the 3 options, let's look at a

sample

spreadsheet. we'll use.

CONTRACTUAL STATUS		ACT FINANCIAL HEALTH	
SPA	POP	Over-run	GM
Value	POP	Inst SP	PT2M
\$ cov	Proj	very etc	of P1
			LY200
6520	BP GDM UPDS VLB COMPLETION AND C	53.9%	
7130	BP GDM WAMSWATER DATA QUALITY	31.0%	
7517	BP TRINIDAD DOCUMENTUM SUPPORT	49.5%	
7526	BP GDM CALGARY TRADES	51.2%	
7612	BP GDM SDE 9/2 DATA SCHEMA	55.2%	
77970	337896_353 BP GDM ARKOMA BOREHOLE DO ASSUR	40.5%	
77972	BP GDM LX ORACLE SERVER	57.3%	
78008	BP GDM CANADA PETROTECHNICAL DM	48.6%	
78171	337884 BP GDM NAG DATA PROGRAM SEMISIC LEAD 200	55.4%	
78172	337887 NAG DATA PROGRAM LEADS 2005	52.9%	
78333	319681 GEOGRAPHIX PRODUCTION DATA LOADI	49.3%	
78348	319535 DAT DIRECTORY CLEAN UP AND CONSO	52.1%	
78942	BP GDM LX ORACLE SERVER PROJECT	46.9%	
79155	347474 NA GAS DATA PROGRAM DATA ARCHIT	46.1%	
79289	353872 BP GDM NA GAS RESEARCH MIGRATION E	46.1%	
79290	BP GDM NA GAS FINDER UPDATE	46.1%	
79328	350837 BP GDM BHM EXECUTE PLOT FOR GDM	49.3%	
79365	NON-ELAND BP R5009 SELECTA PROJECT	51.3%	
79604	BP GDM NA GAS BY ADVISORY BOARD	58.1%	
79622	BP GDM TRINIDAD BHM TP CONSULTING	51.3%	
79642	EL 374380 BP GDM MISS SEMISIC DATA CLEANUP	51.3%	
79708	EL 375807 BP GDM NAG GAE ASSIGNMENT PROJEC	53.9%	
79709	BP GDM TRINIDAD BHM PROJECT - EXEC	53.9%	
79727	EL 375807 BP GDM BHM GLOBAL CONSULTING	53.9%	
79757	EL 382102 BP GDM NA GAS FINDER UPDATE	53.9%	
79824	EL 381703 BP GDM NAG DR SUPPORT OF RESEARCH	47.0%	
79825	EL 383912 BP NA GAS RECALL SWEEP AND DATA I	53.9%	

A pair of GOP governors on Friday moved to impose new mitigation measures in their states amid record numbers of new coronavirus infections, with both Texas Gov. Greg Abbott and Florida Gov. Ron DeSantis that have hit the hardest reopening their economies over a resurgence of the virus's spread.

Combining BI with statistics yields some very powerful results. In this post we'll show how easy it is to do linear Regression with the new BI tool.

Linear Regression is a very useful statistical tool that helps us understand the relationship between variables and the effects they have on each other. It can be used across many industries in a variety of ways - from spurring value to gaining customer insight - to benefit businesses.

The Simple Linear Regression model allows us to summarize and examine relationships between two variables. It uses a single independent variable and a single dependent variable and finds a linear function that predicts the dependent variable values as a function of the independent variables.

We look at two statistical values to determine if there is a relationship between the two variables and how closely related they are.

The **Coefficient of Determination** is a related statistic that tells us how well our model fits the data. This statistic is always between 0 and 1, and the closer to 1 the value is, the better our model fits the data set.

Scatter Plot in Power BI

In this example, I used my own financial data to see if I could understand the best ways to save money each month. This analysis shows the relationship between the number of times I went to restaurants and the money spent in the category of my month's needs.

to follow along using your own data.

A pair of GOP governors on Friday moved to impose new mitigation measures in their states amid record numbers of new coronavirus infections, with both Texas Gov. Greg Abbott and Florida Gov. Ron

Here's the front end of data pulled from a website.

Citation: MIT Election Data and Science Lab, 2018, "County Presidential Election Returns 2000-2016", <https://doi.org/10.7910/DVN/VOQCHQ>, Harvard Dataverse, V6, UNF:6:ZZe1xuZ5H2l4NUiSRcRf8Q== [fileUNF]

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	state	county	fips	trump16	clinton16	otherpres16	romney12	obama12	otherpres12	demsen16	repsen16	othersen16	demhouse16
2	Alabama	Autauga	1001	18172	5936	865	17379	6363	190	6331	18220	62	7544
3	Alabama	Baldwin	1003	72883	18458	3874	66016	18424	898	19145	74021	248	0
4	Alabama	Barbour	1005	5454	4871	144	5550	5912	47	4777	5436	16	5297
5	Alabama	Bibb	1007	6738	1874	207	6132	2202	86	2082	6612	17	1971
6	Alabama	Blount	1009	22859	2156	573	20757	2970	279	2980	22169	48	2390
7	Alabama	Bullock	1011	1140	3530	40	1251	4061	10	3364	1167	6	3517
8	Alabama	Butler	1013	4901	3726	105	5087	4374	35	3663	4840	7	4088
9	Alabama	Calhoun	1015	32865	13242	1757	30278	15511	468	14152	32976	69	14000
10	Alabama	Chambers	1017	7843	5784	273	7626	6871	114	5845	7865	18	5796
11	Alabama	Cherokee	1019	8953	1547	233	7506	2132	141	1915	8636	7	1702
12	Alabama	Chilton	1021	15081	2911	377	13932	3397	133	3327	14582	25	2996
13	Alabama	Choctaw	1023	4106	3109	77	4152	3786	30	2992	4035	8	4332
14	Alabama	Clarke	1025	7140	5749	142	7470	6334	47	5558	7158	14	5214
15	Alabama	Clay	1027	5245	1237	142	4817	1777	68	1377	5147	4	1317
16	Alabama	Cleburne	1029	5764	684	145	5272	971	62	847	5554	6	769
17	Alabama	Coffee	1031	15875	4221	671	14666	4925	179	4498	15745	49	5917
18	Alabama	Colbert	1033	16746	7312	857	13936	9166	283	8443	15866	28	0
19	Alabama	Conecuh	1035	3420	3080	85	3439	3555	28	3006	3298	7	3209

A pair of GOP governors on Friday moved to impose new mitigation measures in their states amid record numbers of new coronavirus infections, with both Texas Gov. Greg Abbott and Florida Gov. Ron

Here's the back end of the same dataset. We'll be pretending to look for median income for Blount county, Alabama or fips 1009.

Combining Power BI with statistics yields some very powerful results. In this post we'll see how easy it is to use the same data for Power BI. Linear Regression is a very useful statistical tool that helps us understand the relationship between variables. The Simple Linear Regression model allows us to summarize and examine relationships between two single independent variable and a single dependent variable and finds a linear function that predicts the dependent variable values as a function of the independent variables. We look at two statistical values to determine if there is a relationship between the two variables and how

AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
elder_pct	median_hh_inc	clf_unemploy_pct	lesshs_pct	lesscollege_pct	lesshs_whites_pct	lesscollege_whites_pct	rural_pct	ruralurban_cc					
13.97845556	53099	5.591657263	12.41704602	75.40722865	10.00211164	74.06560146	42.00216232	2					
18.71485139	51365	6.286843229	9.972417933	70.45288897	7.842226994	68.40560728	42.27909911	3					
16.52889457	33956	12.82473827	26.23592756	87.13221298	19.57975167	81.36474583	67.7896347	6			fips	median inc	
14.8856991	39776	7.14682672	19.3015873	88	15.02049009	87.47177386	68.35260746	1					
17.19291557	46212	5.953832753	19.96858533	86.95024321	16.64336837	86.16360993	89.95150204	1					
15.13457165	29335	13.25852037	33.43788354	89.74498841	11.7803838	79.15778252	51.37438153	6					
18.12623274	34315	9.804827347	18.94042584	83.91999426	14.60417986	80.07599747	71.23215735	6					
15.93072323	41954	11.6818216	17.66313675	82.34703347	16.39951086	81.64061209	33.69682556	3					
18.38732436	36027	7.489945276	19.73673179	87.51572063	15.29535128	83.85879063	49.14803449	6					
20.32281731	38925	5.855731043	18.71723548	86.03830106	19.25640731	85.78324331	85.73627304	6					
15.24978889	42594	7.938580456	19.90247183	85.14545149	17.84979216	84.38193632	86.74472424	1					
20.74960488	32622	13.6428137	21.14733277	88.03979678	17.68893757	87.45892662	100	9					
18.06254276	32735	17.08333333	18.95781929	87.86276583	14.13699771	82.0841141	75.98033523	7					
19.40221019	38815	6.591530055	25.38640694	88.93711624	21.8043202	87.52223634	100	9					
18.16423187	36316	7.173601148	25.81516496	88.47192746	24.26296867	88.65947612	100	8					
15.78317742	47872	6.194262619	14.86392789	76.33327555	12.64924795	74.20530315	47.19508289	4					

I'm going to **assume** you already know how to

use VLOOKUPS

I'm showing a new approach to VLOOKUPS.

Project	EL/PO	Project Name	Contract Status	ACT FINANCIAL HEALTH
6520		BP GDM UPDS VLB COMPLETION AND		53.9%
7130		BP GDM WANSUETER DATA QUALITY		31.9%
7517		BP TRINIDAD DOCUMENTUM SUPPORT		49.5%
7526		BP GDM CALGARY TRADES		51.2%
77612		BP GDM SDE 9/2 DATASHEMA		55.2%
77970	337896	353 BP GDM ARKOMA BOREHOLE DR ASSUR		40.5%
77972		BP GDM LX ORACLE SERVER		41.3%
78008		BP GDM CANADA PETROTECHICAL DM		57.3%
78171	337884	NAG DATA PROGRAM SEMIN LEAD 200		48.6%
78172	337887	NAG DATA PROGRAM LEADS 2005		55.4%
78333	319681	GEOGRAPHIX PRODUCTION DATA LOAD		52.0%
78348	319535	DAT DIRECTORY CLEAN UP AND CONSO		49.9%
78942		BP GDM LX ORACLE SERVER PROJECT		46.6%
79155	347474	NA GAS DATA PROGRAM DATA ARCHIT		46.6%
79289	353872	BP GDM NA GAS ESEARCH MIGRATION E		49.2%
79290		BP GDM NA GAS FINDER UPDATE		47.0%
79328	359837	BP GDM BHM EXECUTE PLOT FOR GDM		57.1%
79365		NON-ELAND BP R5009 SELECT ADRPJECTS		57.1%
79604		BP GDM NA GAS BY ADVISORY BOARD		57.1%
79622		BP GDM TRINIDAD BHM TP CONSULTING		57.1%
79542	EL 374380	BP GDM MISS SENSIO DATA CLEANUP		57.1%
79708	EL 375807	BP GDM NAG GAS ASSIGNMENT PROJEC		57.1%
79709		BP GDM TRINIDAD BHM PROJECT - EXEC		57.1%
79727	EL 375807	BP GDM BHM GLOBAL CONSULTING		57.1%
79757	EL 382102	BP GDM NA GAS FINDER UPDATE		57.1%
79824	EL 381703	BP GDM NA GAS DR SUPPORT OF RESEARCH		57.1%
79825	EL 383912	BP NA GAS RECALL SWEEP AND DATA I		57.1%

A pair of GOP governors on Friday moved to impose new mitigation measures in their states amid record numbers of new coronavirus infections with Texas Gov. Greg Abbott and Florida Gov. Ron DeSantis leading the way. The move comes as the virus continues to spread across the country, with states that have hit record daily case counts.

Linear regression is a very useful statistical tool that helps understand the relationship between variables and the effects they have on each other. It can be used across many industries in a variety of ways - from spurring value to gaining customer insight - to benefit business.

The Simple Linear Regression model allows us to summarize and examine relationships between two variables. It uses a single independent variable and a single dependent variable and finds a function that best fits the data. We look at two statistical values to determine if there is a relationship between the two variables and how closely related they are.

The **Coefficient of Correlation** is a statistic we use to determine if there is a relationship between two variables. The output of this statistic equals somewhere between 1 and -1. The closer to 1 the number is, the more positively related the variables are. As in, if X increases, Y increases. The closer to -1 the number is, the more negatively related the variables are. If X increases, Y decreases.

The **Coefficient of Determination** is a related statistic that then tells us how well our model fits the data. This statistic is always between 0 and 1, and the closer to 1 the value is, the better our model fits the data.

So how do we use Linear Regression in our business? Let's take a look at a scatter plot and visually examine the relationship between two variables. In this example, I used my own financial data to see if I could understand the best ways to save money each month. This analysis shows the relationship between the number of times I went to restaurants and the money spent in this category of my monthly budget.

A pair of GOP governors on Friday moved to impose new mitigation

D1 $=+C1+1$

	A	B	C	D	E	F	G	H	I	J	K	L	
1			1	2	3	4	5	6	7	8	9	10	
2	state	county	fips	trump16	clinton16	otherpres16	romney12	obama12	otherpres12	demsen16	repsen16	othersen16	demho
3	Alabama	Autauga	1001	18172	5936	865	17379	6363	190	6331	18220	62	
4	Alabama	Baldwin	1003	72883	18458	3874	66016	18424	898	19145	74021	248	
5	Alabama	Barbour	1005	5454	4871	144	5550	5912	47	4777	5436	16	
6	Alabama	Bibb	1007	6738	1874	207	6132	2202	86	2082	6612	17	
7	Alabama	Blount	1009	22859	2156	573	20757	2970	279	2980	22169	48	
8	Alabama	Bullock	1011	1140	3530	40	1251	4061	10	3364	1167	6	
9	Alabama	Butler	1013	4901	3726	105	5087	4374	35	3663	4840	7	
10	Alabama	Calhoun	1015	32865	13242	1757	30278	15511	468	14152	32976	69	
11	Alabama	Chambers	1017	7843	5784	273		6871	114	5845	7865	18	
12	Alabama	Cherokee	1019	8953	1547	233		2132	141	1915	8636	7	
13	Alabama	Chilton	1021	15211	2911	77	13111	3397	133	3327	14582	25	
14	Alabama	Cibola	1023	1091	1091	77	4111	3786	30	2992	4035	8	
15	Alabama	Clay	1025	1091	1091	77	4111	6334	47	5558	7158	14	

Option 1

Let Excel do the counting

- For the inexperienced
- Non Office 365

A pair of GOP governors on Friday moved to impose new mitigation

	A	B	C	D	E	F	G	H	I	J	K	L	
1			1	2	3	4	5	6	7	8	9	10	
2	state	county	fips	trump16	clinton16	otherpres16	romney12	obama12	otherpres12	demsen16	repsen16	othersen16	demho
3	Alabama	Autauga	1001	18172	5936	865	17379	6363	190	6331	18220	62	
4	Alabama	Baldwin	1003	72883	18458	3874	66016	18416	88	54	704	25	
5	Alabama	Barbour	1005	5454	4871	144	5550	5912	47	4777	5436	16	
6	Alabama	Bibb	1007	6738	1874	207	6132	330	85	251	613	17	
7	Alabama	Blount	1009	22859	2156	573	20757	2976	275	2980	22165	45	
8	Alabama	Bullock	1011	1140	3530	40	1251	4061	10	3364	1167	6	
9	Alabama	Butler	1013	4901	3726	105	5087	3314	35	3663	4840	7	
10	Alabama	Calhoun	1015	32865	13242	1757	30278	15511	468	14152	32976	69	
11	Alabama	Chambers	1017	7843	5784	273	7626	6871	114	5845	7865	18	
12	Alabama	Cherokee	1019	8953	1547	233	7506	2112	41	831	831	17	
13	Alabama	Chilton	1021	15081	2911	377	13932	3397	133	3327	14582	25	
14	Alabama	Choctaw	1023	4106	3109	77	4152	278	20	292	405	8	
15	Alabama	Clarke	1025	7140	5749	142	7470	6334	47	5558	7158	14	
16	Alabama	Clay	1027	5245	1237	142	4817	1177	68	1377	5147	4	
17	Alabama	Cleburne	1029	5764	684	145	5272	157	8	55	55	1	
18	Alabama	Coffee	1031	15875	4221	671	14666	4925	179	4498	15745	49	
19	Alabama	Colbert	1033	16746	7312	857	13936	2116	12	443	588	28	
20	Alabama	Conecuh	1035	3420	3080	85	3439	3555	28	3006	3298	7	
21	Alabama	Coosa	1037	3381	1782	89	3049	219	49	1788	400	1	
22	Alabama	Covington	1039	13267	2387	286	12153	3158	112	2740	400	1	
23	Alabama	Crenshaw	1041	4513	1664	90	4331	2050	37	1734	400	1	
24	Alabama	Cullman	1043	32989	3798	1086	28999	5052	406	5207	32001	57	

1. Insert a row above table;

2. Key in 1 for the first column in the lookup range;

3. In next column, key in formula =C1 + 1. Obviously, you adjust formula for your situation.

A pair of GOP governors on Friday moved to impose new mitigation

	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS
1	30	31	32	33	34	35	36	37	end					
2	median_hh_inc	clf_unemploy_pct	lesschs_pct	lesscollege_pct	lesschs_whites_pct	lesscollege_whites_pct	rural_pct	ruralurban_cc						
3	53099	5.591657263	12.41704602	75.40722865	10.00211164	74.06560146	42.00216232	2						
4	51365	6.286843229	9.972417933	70.45288897	7.842226994	68.40560728	42.27909911	3						
5	33956	12.82473827	26.23592756	87.13221298	19.57975167	81.36474583	67.7896347	6		fips	median inc			
6	39776	7.14682672	19.3015873	88	15.02049009	87.47177386	68.35260746	1		1009	46,212			
7	46212	5.953832753	19.96858533	86.95024321	16.64336837	86.16360993	89.95150204	1						
8	29335	13.25852037	33.43788354	89.74498841	11.7803838	79.15778252	51.37438153	6						
9	34315	9.804827347	18.94042584	83.91999426	14.60417986	80.07599747	71.2327735	6						
10	41954	11.6818216	17.66313675	82.34703347	16.39951086	81.64061209	33.6566756	6						
11	36027	7.489945276	19.73673179	87.51572063	15.29535128	83.85879063	49.14803449	6						
12	38925	5.855731043	18.71723548	86.03830106	19.25640731	85.78324331	85.7777777	6						
13	42594	7.938580456	19.90247183	85.14545149	17.84979216	84.38193632	86.7472724	7						
14	32622	13.6428137	21.14733277	88.03979678	17.68893757	87.45892662	100	9						
15	32735	17.08333333	18.95781929	87.86276583	14.13699771	82.0841141	75.98033523	7						
16	38815	6.591530055	25.38640694	88.93711624	21.8043202	87.52223634	100	9						
17	36316	7.173601148	25.81516496	88.47192746	24.26296867	88.65947612	100	8						
18	47872	6.194262619	14.86392789	76.33327555	12.64924795	74.20530315	47.19728	7						
19	43786	7.5258899	16.57652008	81.52909514	15.23726459	81.24495268	43.89468056	5						
20	27609	20.42785235	20.57220708	91.33742053	19.67814219	89.346099	80.949510	7						
21	31910	12.57582828	27.06462628	90.059441	22.33138107	90.00566786		6						
22	37313	10.65949023	19.06613317	85.07851427	17.97342485	83.80851813	69.65179399	6						
23	37557	7.355573637	21.68359334	85.35231913	20.75146996	84.58339309		8						
24	39297	6.064756798	17.84350976	85.03098201	16.80474043	84.79930554	73.23524	4						
25	44093	10.39244186	14.1653928	83.93130114	12.7444233	83.18286709	50.88853953	4						
26	28136	14.89701705	20.98158148	86.21569643	14.35320585	80.01124859	45.6397764	4						
27	38248	6.33996117	27.36298482	88.63406408	22.25846803	88.02825538	90.1	6						
28	53398	7.47316153	13.17197452	77.76160146	11.42097643	75.87401799	54.18836614	2						
29	32334	15.23708422	19.54429004	88.37434982	16.45287564	86.32941885	63.51157389	6						

4

4. Copy the formula to the end of the range.

Excel tells us column AF (median income) is 30 which is then used in VLOOKUP.

A pair of GOP governors on Friday moved to impose new mitigation

=VLOOKUP(AP7,C2:AM3115,COLUMN(AF1)-COLUMN(B1),FALSE)

	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
inc	clf_unemploy_pct	lesshs_pct	lesscollege_pct	lesshs_whites_pct	lesscollege_whites_pct	rural_pct	ruralurban_cc				
53099	5.591657263	12.41704602	75.40722865	10.00211164	74.06560146	42.00216232	2				
51365	6.286843229	9.972417933	70.45288897	7.842226994	68.40560728	42.27909911	3				
33956	12.82473827	26.23592756	87.13221298	19.57975167	81.36474583	67.7896347	6				
39776	7.14682672	19.3015873	88	15.02049009	87.47177386	68.35260746	1	Row 5	fips	1009	median inc 46,212
46212	5.953832753	19.96858533	86.95024321	16.64336837	86.16360993	89.95150204	1	Row 7		1009	46,212
29335	13.25852037	33.43788354	89.74498841	11.7803838	79.15778252	51.37438153	6				
34315	9.804827347	18.94042584	83.91999426	14.60417986	80.07599747	71.23215735	6				
41954	11.6818216	17.66313675	82.34703347	16.39951086	81.64061209	33.69682556	3				
36027	7.489945276	19.73673179	87.5111063	15.29535128	83.85879063	49.14803449	6				
38925	8.55731043	18.71723548	86.01106	19.25640731	85.7111063	5.73627304	6				
42512	5.580111111	14.71811111	85.11111111	17.84911111	84.51111111	74472424	1				
37111	11.28111111	11.11111111	83.01111111	15.58111111	87.45892611	100	9				
32111	11.33111111	18.95111111	87.81111111	15.36111111	82.08111111	75.98033523	7				

Option 2

Replace the count with COLUMN function

- For the experienced
- Non Office 365

A pair of GOP governors on Friday moved to impose new mitigation

`=VLOOKUP(AP7,C2:AM3115,COLUMN(AF1)-COLUMN(B1),FALSE)`

Formula in cell AQ7

	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
inc	clf_unemploy_pct	lesshs_pct	lesscollege_pct	lesshs_whites_pct	lesscollege_whites_pct	rural_pct	ruralurban_cc					
53099	5.591657263	12.41704602	75.40722865	10.00211164	74.06560146	42.00216232	2					
51365	6.286843229	9.972417933	70.45288897	7.842226994	68.40560728	42.27909911	3					
33956	12.82473827	26.23592756	87.13221298	19.57975167	81.36474583	67.7896347	6					
39776	7.14682672	19.3015873	88	15.02049009	87.47177386	68.35260746	1			fips	median inc	
46212	5.953832753	19.96858533	86.95024321	16.64336837	86.16360993	89.95150204	1	Row 5	1009	46,212		
29335	13.25852037	33.43788354	89.74498841	11.7803838	79.15778252	51.37438153	6	Row 7	1009	46,212		
34315	9.804827347	18.94042584	83.91999426	14.60417986	80.07599747	71.23215735	6					
41954	11.6818216	17.66313675	82.34703347	16.39951086	81.64061209	33.69682556	3					
36027	7.459515276	18.73673179	85.5397203	15.49351088	81.85878063	49.480444	4					
38925	5.859731293	18.7152548	88.93856209	19.2510731	85.83524333	85.93627301	6					
42594	7.938580456	19.90247183	85.14545149	17.84979216	84.38193632	86.74472424	1					
32622	1.6694197	19.169132	84.0191478	1.6889757	87.4585116	87.4585116	9					
32735	17.08333333	18.95781929	87.86276583	14.13699771	82.0841141	75.98033523	7					
38815	6.51530055	25.3810694	88.93711624	21.804372	81.5212253	100	4					
36316	7.1369448	19.295169	88.789375	10.2629687	81.094451	100	8					
47872	6.194262619	14.8632789	76.33327555	12.64924795	74.20530315	47.19508289	4					
43786	12.65389	15.37622905	81.2905	15.23726459	81.24495268	43.89468656	3					
27609	20.42785235	20.57220708	91.33742053	19.67814219	89.346099	80.94950106	7					
31910	11.57512828	27.06462628	81.058411	22.21138187	80.9356676	100	8					
37313	10.6599902	19.169132	89.17851427	19.934185	83.8085116	86.119319	4					
37557	7.355573637	21.68359334	85.35231913	20.75146996	84.58339309	100	8					
39297	6.075798	15.8497076	86.03098201	16.80474043	84.79930554	73.23955924	4					
44093	10.39244186	14.1653928	83.93130114	12.7444233	83.18286709	50.88853953	4					

Doing =COLUMN(AF1) gives 32 but the lookup range starts in column C, so we need 30.

To adjust we use =COLUMN(AF1)-COLUMN(B1) to arrive at 30.

The rest of the VLOOKUP formula proceeds as normal.

If the field “fips” were in column A rather than C

VLOOKUPS

would look like:

```
=VLOOKUP(AP7,A2:AM3115,COLUMN(AF1),FALSE)
```




There's an

advantage

to using

COLUMN

The formula will automatically adjust whenever you add or delete a column in the range of data.



Project	EURO	Project Name	Completion %
6520		BP GDM UPDS VLB COMPLETION ANGLE	53.9%
7130		BP GDM WAMUSITER DATA QUALITY	31.0%
7517		BP TRINIDAD DOCUMENTAL SUPPORT	49.5%
7526		BP GDM CALGARY VLB	51.2%
7612		BP GDM SDE 92 DATA	55.2%
7970	337696	353 BP GDM ARKOMA BOREHOLE	49.5%
7972		BP GDM LX ORACLE SER	51.2%
8006		BP GDM CANADA PETROBRAS	51.2%
8171	337694	NAG DATA PROGRAM SEMIC LEAD 200	51.2%
8172	337687	NAG DATA PROGRAM LEADS 2003	52.9%
8333	319681	GEOGRAPHIC PRODUCTION DATA LOAD	49.0%
8348	319535	DAT DIRECTORY CLEAN UP AND CONSOL	52.1%
8942		BP GDM LX ORACLE SERVER PROJECT	46.4%
8955	347474	NA GAS DATA PROGRAM DATA ARCHIT	51.2%
9299	353872	BP GDM NA GAS ESEARCH MIGRATION E	51.2%
9299		BP GDM NA GAS FINDER UPDATE	51.2%
9328	359837	BP GDM BHM EXECUTE PLOT FOR GDM	51.2%
9365		NON-ELAND BP R0095 SELECTA SUBJECTS	3.0%
9604		BP GDM NA GAS BY ADVISORY BOARD	51.2%
9622		BP GDM TRINIDAD BHM TRIP CONSISTEN	51.2%
9642	EL 374380	BP GDM HSB FEEDBACK	51.2%
9708	EL 375817	BP GDM NAG GAS DATA	51.2%
9709		BP GDM TRINIDAD BHM TRIP CONSISTEN	51.2%
9727	EL 375807	BP GDM BHM GLOBE CONSTRUCTION	51.2%
9757	EL 382102	BP GDM NA GAS FINDER UPDATE	51.2%
9824	EL 381703	BP GDM NA GAS SUPPORT OF	51.2%
9825	EL 383912	BP NA GAS REC	51.2%

A pair of GOP governors on Friday moved to impose new mitigation measures in their states amid record numbers of new coronavirus infections, with both Texas Gov. Greg Abbott and Florida Gov. Ron DeSantis.

Combining [Power BI](#) with statistics yields some very powerful results. In this post we'll show how easy it is to do Linear Regression with the Power BI tool. [For said](#) were linked to the virus's

Linear Regression is a very useful statistical tool that helps us understand the relationship between variables and the effects they have on each other. It can be used across many industries in a variety of ways - from spurring value to gaining customer insight - to benefit businesses.

The Simple Linear Regression model allows us to summarize and examine relationships between two variables. The output of this statistic equals somewhere between 1 and -1 (the number is 1, the more positively related the variables are. As in, if X increases, Y increases; the more negatively related the variables are. If X increases, Y decreases.

Scatter Plot in Power BI

Scatter Plot in Power BI

Scatter Plot in Power BI

Food is my second highest budget category each month. I don't think the bank will cut my mortgage down to save me a bit each month, so my restaurant spending seems like the next best place to start. Here's how to follow along using your own data.

A pair of GOP governors on Friday moved to impose new mitigation

=XLOOKUP(AP5,C2:C3115,AF2:AF3115,"not found",0)

AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
hh_inc	clf_unemploy_pct	lesschs_pct	lesscollege_pct	lesschs_whites_pct	lesscollege_whites_pct	rural_pct	ruralurban_cc				
53099	5.591657263	12.41704602	75.40722865	10.00211164	74.06560146	42.00216232	2				
51365	6.286843229	9.972417933	70.45288897	7.842226994	68.40560728	42.27909911	3				
33956	12.82473827	26.23592756	87.13221298	19.57975167	81.36474583	67.7896347	6				
39776	7.14682672	19.3015873	88	15.02049009	87.47177386	68.35260746	1				
46212	5.953832753	19.96858533	86.95024321	16.64336837	86.16360993	89.95150204	1				
29335	13.25852037	33.43788354	89.74498841	11.7803838	79.15778252	51.37438153	6				
34315	9.804827347	18.94042584	83.91999426	14.60417986	80.07599747	71.23215735	6				
41954	11.6818216	17.66313675	87.703347	16.39951086	81.64061209	33.69682556	3				
7489945276	19.73673	872063	15.29535128	8	9.14803449	6					
85	717	8	330106	19.2	85.7837	85.73627304	6				
594	93	8	645	7.8	84.38	86.74472424	1				
622	3.4	137 21	33	8	97	1.6	757				
87.458926						100	9				

Row 5

fips 1009 median inc 46,212

Option 3

Replace VLOOKUP with XLOOKUP

- For Office 365

A pair of GOP governors on Friday moved to impose new mitigation measures in their states amid record numbers of new coronavirus

=XLOOKUP(AP5,C2:C3115,AF2:AF3115,"not found",0) **Formula in cell AQ5**

AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
hh_inc	clf_unemploy_pct	lesshs_pct	lesscollege_pct	lesshs_whites_pct	lesscollege_whites_pct	rural_pct	ruralurban_cc					
53099	5.591657263	12.41704602	75.40722865	10.00211164	74.06560146	42.00216232	2					
51365	6.286843229	9.972417933	70.45288897	7.842226994	68.40560728	42.27909911	3					
33956	12.82473827	26.23592756	87.13221298	19.57975167	81.36474583	67.7896347	6					
39776	7.14682672	19.3015873	88	15.02049009	87.47177386	68.35260746	1		fips		median inc	
46212	5.953832753	19.96858533	86.95024321	16.64336837	86.16360993	89.95150204	1		1009		46,212	
29335	13.25852037	33.43788354	89.74498841	11.7803838	79.15778252	51.37438153	6					

Row 5

Here's a comparison of VLOOKUP against XLOOKUP

=VLOOKUP(AP5,C2:AM3115,30,false)

=XLOOKUP(AP5,C2:C3115,AF2:AF3115,"not found",0)

=VLOOKUP(AP5,C2:AM3115,30,false)

= XLOOKUP(AP5,C2:C3115,AF2:AF3115, "not found",0)

Lookup value, lookup array, return array

- The lookup value (AP5 or “fips”) does not change;
- The lookup array for lookup value no longer has to be in the first column;
- The return or answer array is no longer a number (such as 30); return array can be before the lookup array (see next slide);
- Columns (or rows) can be added or deleted without affecting XLOOKUP formula.

A pair of GOP governors on Friday moved to impose new mitigation measures in their states amid record numbers of new coronavirus

=XLOOKUP(AP9,C2:C3115,A2:A3115,"not found",0) **Formula in cell AQ9**

AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
hh_inc	clf_unemploy_pct	lesshs_pct	lesscollege_pct	lesshs_whites_pct	lesscollege_whites_pct	rural_pct	ruralurban_cc				
53099	5.591657263	12.41704602	75.40722865	10.00211164	74.06560146	42.00216232	2				
51365	6.286843229	9.972417933	70.45288897	7.842226994	68.40560728	42.27909911	3				
33956	12.82473827	26.23592756	87.13221298	19.57975167	81.36474583	67.7896347	6		fips	median inc	
39776	7.14682672	19.3015873	88	15.02049009	87.47177386	68.35260746	1	Row 5	1009	46,212	
46212	5.953832753	19.96858533	86.95024321	16.64336837	86.16360993	89.95150204	1				
29335	13.25852037	33.43788354	89.74498841	11.7803838	79.15778252	51.37438153	6				
34315	9.804827347	18.94042584	83.91999426	14.60417986	80.07599747	71.23215735	6	Row 9	fips	state	
41954	11.6818216	17.66313675	82.34703347	16.39951086	81.64061209	33.69682556	3	1009	Alabama		
36027	7.489945276	19.73673179	87.51572063	15.29535128	83.85879063	49.14803449	6				
38925	5.855731043	18.71723548	86.03830106	19.25640731	85.78324331	85.73627304	6				
42594	7.938580456	19.90247183	85.14545149	17.84979216	84.38193632	86.74472424	1				
32735	17.08333333	18.95781925	77.80276383	14.15695771	82.08411111	75.98033323	7				
38845	6.59550055	25.38640684	88.93711624	21.8043202	87.52223634	100	9				
19289	14.41111926	14.41111926	76.41111926	24.26296867	88.65947612	100	8				
47872	6.194262619	14.86392789	76.33327555	12.64924795	74.20530315	47.19508289	4				
43786	7.5258899	16.57652008	81.52909514	15.23726459	81.24495268	43.89468656	3				
31510	12.57582828	27.00462609	90.053441	22.55156107	90.00360780	100	6				
37313	10.65949023	19.06613317	85.07851427	17.97342485	83.80851813	69.65179399	6				
37657	10.65511637	24.68553344	85.07851427	17.97342485	84.58323309	69.65179399	8				

=XLOOKUP(AP5,C2:C3115,AF2:AF3115, "not found",0) for income

=XLOOKUP(AP9,C2:C3115,A2:A3115, "not found",0) for state in col A

Here's an example of return array being before the lookup array:

That wraps up the 3 options.

The last one, if you have it is a **gamechanger**

Year	Project
19620	BP GDM NA
17130	BP GDM NA
17517	BP GDM NA
17526	BP GDM NA
17612	BP GDM NA
17970	BP GDM NA
17972	BP GDM NA
18006	BP GDM NA
18171	BP GDM NA
18172	BP GDM NA
18333	BP GDM NA
18348	BP GDM NA
18942	BP GDM NA
19155	BP GDM NA
19299	BP GDM NA
19290	BP GDM NA
19328	BP GDM NA
19365	BP GDM NA
19604	BP GDM NA
19622	BP GDM NA
19642	BP GDM NA
19700	BP GDM NA
19757	BP GDM NA
19824	BP GDM NA
19825	BP GDM NA

Okay, that got complicated there at the end, so if you need any clarification, you can connect with me on LinkedIn at

<https://www.linkedin.com/in/veroniquefrizzell/>

Just know that XLOOKUP some really wonderful advantages.