# Chapter 4

## Using Pivot Tables in Excel (Live Exercise with Data)

In chapter four, we used B.C.'s political donations data to learn how to build pivot tables, which group elements in your data and summarize the information using totals and subtotals. Because pivot tables feature so prominently in the work of journalists, we'll use a live dataset to explore some of the ways we can group, sort, count and sum data in order to come up with great stories.

For this tutorial, we'll take a deep dive into the database that the <u>Atlantic Canada Opportunities</u> <u>Agency (ACOA)</u> uses to record the money it distributes to institutions that apply.

#### What we will learn:

- 1) How to download tables from an open-data site;
- 2) How to prepare for a pivot table;
- 3) How to create a pivot table
- 4) How to SUM, COUNT and group by year
- 5) How to filter by project length.

#### Task one: How to download tables from an open-data site

		ACOAbist - Exc	el		David McKie ED - D
	Home Insert Page Layout Formulas Data Review View Developer Tab	leau 🛛 🖓 Tell me what you want to do			
aste	Copy -	General • \$ • % • * * * * * * Conditional Fo Formatting • T	irmat as Neutral C	ad Good alculation Check	. 🖽 🖽 🖽 🖬 🖬 🖬 🖌 🔶 🦯
5	· @ - # :				
2					
	- i × √ fr Project Number				
	· · · · · · · · · · · · · · · · · · ·				
	A B	C	D	E	F
		C Client Address	D Client City	E Client Postal Code	F Project Description
	AB	C Client Address Ross Ferry, B1X 1N9		E Client Postal Code B1X 1N9	F Project Description Infrastructure upgrades
	A B ect Number Client Name		Client City		
	A B ect Number Client Name 804262 Ross Ferry Stewardship Society	Ross Ferry, B1X 1N9	Client City Ross Ferry	B1X 1N9	Infrastructure upgrades
	A B ect Number [Client Name 804262 Rois Ferry Stewardship Society 804260 D'Escousse Civic Improvement Society	Ross Ferry, B1X 1N9 D'Escousse, BOE IKO	Client City Ross Ferry D'Escousse	B1X 1N9 BOE IKO	Infrastructure upgrades Upgrades to community centre infrastructure
	A B ect Number Client Name 804262 Ross Ferry Stewardship Society 804260 D'Escousse Civic Improvement Society 804239 Mira Boat Club	Ross Ferry, B1X 1N9 D'Escousse, BOE IKO Albert Bridge, B1K 3H9	Client City Ross Ferry D'Escousse Albert Bridge	B1X 1N9 BOE IKO B1K 3H9	Infrastructure upgrades Upgrades to community centre infrastructure Upgrades to tourism infrastructure
	A B ect Number Client Name 804262 Ross Ferry Stewardship Society 804260 D'Escousse Cinic Improvement Society 804239 Mire Boat Club 804239 The Dobson Yacht Club	Ross Ferry, B1X 1N9 D'Escousse, BOE IKO Albert Bridge, B1K 3H9 Sydney, B1R 1A6	Client City Ross Ferry D'Escousse Albert Bridge Sydney	B1X 1N9 BOE IKO B1K 3H9 B1R 1A6	Infrastructure upgrades Upgrades to community centre infrastructure Upgrades to tourism infrastructure Infrastructure upgrades
	A B ect Number Client Name 804262 Ross Ferry Stewardship Society 804260 D'Escousse Civic Improvement Society 804239 Mira Boat Club 804208 The Dobson Yacht Club 804208 The Dobson Yacht Club 804200 LENNOX PASSAGE YACHT CLUB	Ross Ferry, B1X 1N9 D'Escousse, BOE IKO Albert Bridge, B1K 3H9 Sydney, B1R 1A6 D'Escousse, B0E1K0	Client City Ross Ferry D'Escousse Albert Bridge Sydney D'Escousse	B1X 1N9 BOE IKO B1K 3H9 B1R 1A6 B0E1K0	Infrastructure upgrades Upgrades to community centre infrastructure Upgrades to tourism infrastructure Infrastructure upgrades Infrastructure upgrades
	A B ect Number Client Name 804262 Ross Ferry Stewardship Society 804260 D'Escousse Civic Improvement Society 804239 Mina Boat Club 804208 The Dobson Yacht Club 804200 LENNOX PASSAGE YACHT CLUB 804200 LENNOX PASSAGE YACHT CLUB 804162 Passchendale Golf Club & Driving Range Limited	Ross Ferry, B1X 1N9 D'Escousse, BOE IKO Albert Bridge, B1X 3H9 Sydney, B1R 1A6 D'Escousse, BOE 1K0 Glace Bay, B1A 325 Baddeck, BOE 1B0	Client City Ross Ferry D'Escousse Albert Bridge Sydney D'Escousse Glace Bay	B1X 1N9 BOE IKO B1K 3H9 B1R 1A6 B0E1K0 B1A 325	Infrastructure upgrades Upgrades to community centre infrastructure Upgrades to coursin infrastructure Infrastructure upgrades Infrastructure upgrades Infrastructure upgrades

Download the "Dataset" from the federal government's open <u>data website</u>, as well as the <u>data</u> <u>dictionary</u> that explains the dataset's contents.

Before we download, let's understand what we've looking at.

since 1995. Note: When the / client, it is because it has take	tion about projects that have b Atlantic Canada Opportunities / en the lead on developing, eva is dataset may not be inclusive	Agency or a provinci luating and/or admir	al government department stering the project. Sor	ent is listed as a ne of the	Rate this dataset 0 Comment(s)
Atlantic Canada Cultural and administered programs such	Economic Partnership, the Atla as Infrastructure Canada.	antic Canada Tourisi	n Partnership or other A	COA-	Additional Information
Publisher - Current Organ	nization Name: Atlantic Canad	la Opportunities Age	ncy		Contact Email: open- ouvert@tbs-sct.gc.ca
Licence: Open Governmen	n <u>t Licence - Canada</u>				Keywords:
Resources					ACOA Atlantic Canada Opportunities
Resource Name	Resource Type	Format 🛉 🖊	Language 🛧 🖡	Links	Agency Economy Atlantic Canada
Data Dictionary	Guide	ТХТ	French	Access	Trade Innovation
Data Dictionary	Guide	ТХТ	English	Access	Business Development Grants and Contributions
Dataset	Dataset	CSV	English French	Access	Subject: Economics and Industry
Comments(0)					Maintenance and Update Frequency: Daily
Comment					Date Published: 2012-05-29
					Temporal Coverage: 1995-01- to 1995-01-01
					Openness Rating:

The information under the title "ACOA Project Information" provides the bare-bone details of the table that you're about to download. Before working with any dataset, it's important to know as much about the institution, organization or agency that maintains it, which is usually that body's home page.

Next, check out the menus to the right, which tell us more about the data. Among other things, the "Additional Information" section indicates how frequently the dataset is updated; in this case, daily. This means that your table should contain MORE records when compared to the data featured in THIS tutorial.

Under the "Resources" section, you'll find the "<u>Data Dictionary</u>" (also called a "Readme" file in other open-data sites) that explains what's in the table. Be sure to click the "Access" tab to save this file, which is in text format <TXT>.

To review the checklist of questions you should asking yourself before downloading any dataset from open-data websites, please review pages 28 to 30 of The Data Journalist.

The ACOA dataset, which is updated daily, is rich with possibilities, allowing journalists to quickly discover who is receiving the most lucrative federal grants, how long it has taking them to repay the money, and whether the agency's total spending is decreasing or increasing year over year.

This dataset is also a typical example of one that is ideal for a pivot table; that is, every row contains the same information, which then allows the pivot table to group on each value.

Still, there are a few things we should routinely do when preparing the data to be analyzed in a pivot table.

Let's begin with the dates. We should determine which date field is the most important, and pull or parse it into the component parts: year, month and day.

## Task two: How to prepare for a pivot table

Once you've downloaded the table, which is in csv format, open it, copy the website's URL and paste it into the first available cell in the first row, which in this case is R1.

Save the csv file as an Excel table.

The csv file is now your backup.

Work with the Excel file, which unlike csv files, accommodates multiple worksheets.

The last three columns are the dates.

Sort column O, "Public Access Date", in descending order to determine the most recent entry.

View D	eveloper	Tableau	🖓 Tel	II me what you want i	to do			
	Clear		<b>}</b>		🤨 Gro	oup • •	📑 Data Anal	ysi
F F	Reapply				🗐 Ung	group 👻 📑	?. Solver	
Filter	Advanced	Text to Columns	š - 🔞	What-If Forecast Analysis - Sheet	🔠 Sub	ototal		
Sort & Filter		Data To	ols	Forecast	0	utline 🗔	Analyze	
N		0		P			0	
N		0		р			0	
N Project Cost		O cess Date	Estimat	P ed Commencemen	t Date	Estimated C	Q Completion Da	ite
	Public Ac		Estimat	ed Commencemen	t Date 6/2017	Estimated C		
Project Cost	Public Ac 28	cess Date	Estimat	ed Commencemen 01/0		Estimated C	Completion Da	01
Project Cost 117,000.00	Public Ac 28 28	cess Date	Estimat	ed Commencemen 01/0 01/0	6/2017	Estimated C	Completion Da 31/03/20	01 01
Project Cost 117,000.00 875,000.00	Public Ac 28 28 28	cess Date 8/07/2017 8/07/2017	Estimat	ed Commencemen 01/0 01/0 01/0	6/2017 6/2017	Estimated C	Completion Da 31/03/20 30/11/20	01 01 01
Project Cost 117,000.00 875,000.00 114,000.00	Public Ac 28 28 28 28	cess Date 3/07/2017 3/07/2017 3/07/2017	Estimat	ed Commencemen 01/0 01/0 01/0 27/0	6/2017 6/2017 4/2017	Estimated C	Completion Da 31/03/20 30/11/20 31/03/20	01 01 01
Project Cost 117,000.00 875,000.00 114,000.00 98,716.00	Public Ac 28 28 28 28 27 27	cess Date 8/07/2017 8/07/2017 8/07/2017 7/07/2017	Estimat	ed Commencemen 01/0 01/0 01/0 27/0 31/0	6/2017 6/2017 4/2017 3/2017	Estimated C	Completion Da 31/03/20 30/11/20 31/03/20 30/10/20	01 01 01 01
Project Cost 117,000.00 875,000.00 114,000.00 98,716.00 161,197.00	Public Ac 28 28 28 27 27 27 27 27 27 27 27 27	cess Date 3/07/2017 3/07/2017 3/07/2017 7/07/2017 7/07/2017	Estimat	ed Commencemen 01/0 01/0 01/0 27/0 31/0 01/0	6/2017 6/2017 4/2017 3/2017 5/2017	Estimated C	Completion Da 31/03/20 30/11/20 31/03/20 30/10/20 31/12/20	01 01 01 01 01 01
Project Cost 117,000.00 875,000.00 114,000.00 98,716.00 161,197.00 107,950.00	Public Ac 28 28 28 28 27 27 29 29 29 29 29 20 20 20 20 20 20 20 20 20 20 20 20 20	cess Date 3/07/2017 3/07/2017 3/07/2017 7/07/2017 5/07/2017	Estimat	ed Commencemen 01/0 01/0 01/0 27/0 31/0 01/0 01/0	6/2017 6/2017 4/2017 3/2017 5/2017 5/2017	Estimated C	Completion Da 31/03/20 30/11/20 31/03/20 30/10/20 31/12/20 31/08/20	01 01 01 01 01 01 01

According to the data dictionary that we downloaded at the beginning of this task, the Public Access Date is "usually 60 days following client acceptance of written offer." The Estimated Commencement Date, is the "date the project is expected to begin." And the Estimated Completion Date is "the date the project is expected to be completed."

Chose the "Public Access Date". Create three columns to the right: year, month, day.

	ctInformatio	n_201707291	134518.cs	v - Excel				David McKie	T
v View	Developer	Tableau	♀ Te	ll me what you	i want t	to do			
t Filter	Clear Reapply Advanced		₽  -  -  -  -  -  -  -	What-If For Analysis - S		<ul> <li>Group -</li> <li>네 Ungroup</li> <li>Subtotal</li> </ul>		Data Ana	lysis
Sort & Filter		Data T	ools	Forecast	t	Outline	E.	Analyze	
N		0		Р		Q		R	
			Year		Month		Day	R	Estimat
	st Public Ad				Month		Day	R	Estimat
al Project Co	st Public Ac	cess Date			Month		Day	R	Estimat
al Project Co 117,000.	st Public Ad 00 2 00 2	- ccess Date 8/07/2017			Month		Day	R	Estimat
al Project Co 117,000. 875,000.	st Public Ac 00 22 00 22 00 22	ccess Date 8/07/2017 8/07/2017			Month		Day	R	Estimat
al Project Co 117,000. 875,000. 114,000.	st Public Ac 00 22 00 22 00 22 00 22	ccess Date 8/07/2017 8/07/2017 8/07/2017			Month		Day	R	Estimat
al Project Co 117,000. 875,000. 114,000. 98,716.	st Public Ad 00 22 00 22 00 22 00 22 00 22 00 22	ccess Date 8/07/2017 8/07/2017 8/07/2017 7/07/2017			Month		Day	R	Estimat

We'll use the Year function <=YEAR(cell reference)> to extract the year -- a task explained on page 14 of The Data Journalist's on-line tutorial called "<u>Working with Specialized Functions</u> and Formulas in Excel" -- to pull the year out of the date.

	COA_Pro	ojectInformation	n_2017072913	4518.cs	sv - Excel				David McKie
v	View	Developer	Tableau	🖓 Te	ll me what yo	ou want t	to do		
t	Filter	Clear Reapply Advanced	Text to Columns		What-If F Analysis -		현금 Group 🔹 현금 Ungroup 응麗 Subtotal		Data Ana
	Sort & Fil	lter	Data To	ols	Foreca	st	Outline	E <sub>M</sub>	Analyze
	N		0		Р	1	0		R
I F	N Project (		<u> </u>	/ear	Ρ	Month	Q	Day	R
il F		Cost Public Ac	<u> </u>			Month	-	Day	R
ıl F	Project (	Cost Public Ac	cess Date			Month	-	Day	R

~	COA_Pro	ojectIn	formation	201707291	134518.cs	w - Excel				David McKie
w	View	De	veloper	Tableau	♀ Tel	ll me what yo	ou want i	to do		
A Z ort	Filter		lear eapply dvanced		₽  +] ~  *	What-If F Analysis -		• Group - 현 Ungroup 태 Subtotal		
	Sort & Fi	lter		Data T	ools	Foreca	ist	Outline	E.	Analyze
	N			0		Р		Q		R
tal F	3.15.1	Cost		O cess Date	Year	Р	Month	~	Day	R
tal F	3.15.1	State States are	Public Ac	0		P 09/07/1905		~	Day	R
tal F	roject	0.00	Public Ac 28	cess Date	(			~	Day	R
tal F	Project ( 117,00	00.00	Public Ac 28 28	cess Date 8/07/2017	(			~	Day	R
tal F	Project ( 117,00 875,00	0.00	Public Ac 28 28 28	cess Date 8/07/2017 8/07/2017	(			~	Day	R

Move your cursor back up to P2, reformat the value as general, or a number with no decimal points, and then copy the result to the bottom of the column.

)170729134518.cs ableau ♀ ♀ Tel	v - Excel I me what you want	to do		David McKie	T	– □ ,β_s
ext to olumns Data Tools	What-If Forecast Analysis - Sheet Forecast	ee Group 👻			lysis	
	P Montl 09/07/1905	Q	Day	R	Estimat	S ted Commencemer 01/C
7/2017 7/2017 7/2017	Format Cells	Alignment	Font	Border	Fi	II Protection
7/2017 7/2017 7/2017 7/2017 7/2017	Category: General Number Currency Accountir Date			Sample 2017	ō	
7/2017 7/2017 7/2017 7/2017 7/2017	Time Percentag Fraction Scientific Text Special Custom	ge	-	Use 1000 Sepa egative numbers 1234 234 1234		
7/2017 7/2017 7/2017 7/2017				1234		

Select the OK tab.

A	COA_Proj	ectIr	nformatior	_201707291	L34518.cs	w - Excel				David McKie
w	View	De	eveloper	Tableau	🖓 Те	ll me what yo	ou want t	to do		
A Z	)] , Filter		lear eapply dvanced	T	₽  •] ~ ≦ ~ @	What-If For Analysis -		E Group · C Ungroup Subtotal		
	Sort & Filte	er		Data T	ools	Foreca	st	Outline	E.	Analyze
	Ν			0		Р		Q		R
tal I	Project C	ost	Public Ac	cess Date	Year		Month		Day	
	117,000	.00	28	8/07/2017		2017				
	875,000	.00	28	3/07/2017						
	*** ***	~~	~	- 10- 10-1-						

ectIr	nformation_201707291	134518.csv - Exc	el			David McKie	3
De	eveloper Tableau	♀ Tell me wh	at you wan	t to do			
	eapply	🕉 🕈 🔞 Analys	-If Forecas is - Sheet orecast	🙋 Ungrou	p≣ I	Data Ana ?, Solver Analyze	lysis
	0	Р		Q		R	
ost	Public Access Date	Year	Mont	th	Day		Est
.00	28/07/2017	2	2017				
.00	28/07/2017	2	2017				
.00	28/07/2017	2	2017				
.00	27/07/2017	2	2017				
.00	27/07/2017	2	2017				
.00	25/07/2017	2	2017				
.00	24/07/2017	2	2017				
.00	24/07/2017	2	2017				
.00	24/07/2017	2	2017				
.00	23/07/2017	2	2017				
.00	23/07/2017		2017				
.00	23/07/2017		2017				
.00	22/07/2017		2017				
.00	22/07/2017	2	2017				
.00	22/07/2017		2017				
.00	22/07/2017		2017				
.00	21/07/2017	2	2017				

Copy the new value in P2 to the bottom of the column.

When copying the formula, always scroll to the bottom to make sure all the cells have been populated. Remember, spreadsheets stop copying if they encounter a blank cell.

Following the same process, use the MONTH function <=MONTH(cell reference)> to fill column Q with days of the month, and the DAY function <=DAY> to populate column R with the days of the week.

ĥ	<del>ت</del> آ	• ¢ •	ę	÷						A
F	ile	Home	Inse	ert Page La	yout	Formulas	Data	Review	View	D
	External Pata <del>•</del>	New Query	Fi	how Queries rom Table ecent Sources ransform	Refree All •		ties z		Filter Sort & Fi	R R R A
Q1		¥	:	×	fx I	Month				
		0		Р		Q			R	
1	Public /	Access [	Date	Year		Month		Day		E
2		26/08/	2016		2016		8			26
3		26/08/	2016		2016		8			26
4		26/08/	2016		2016		8			26
5		26/08/	2016		2016		8			26
6		25/08/			2016		8			25
7		24/08/			2016		8			24
8		23/08/			2016		8			23
9		23/08/			2016		8			23
10		23/08/			2016		8			23
11		23/08/			2016		8			23
12		23/08/			2016		8			23
13		23/08/			2016		8			23
14		23/08/			2016		8			23
15		22/08/			2016		8			22
16		22/08/	2016		2016		8			22

As we learned in this table's <u>data dictionary</u>, the Estimated Commencement Date and Estimated Completion Date are also interesting.

Create a new column to the right of T: "Start\_Date\_Finish\_Date\_Lapse".

As we learned in chapter four of The Data Journalist, because a date in Excel is really a number, we can subtract the oldest date from the most recent one, and then format the result as a number with no decimal places in order to determine the days in between.

This comes in handy when describing length of time, which might indicate delays, negligence or corruption.

	ACOA_ProjectInformation_20170729134518.csv - Excel Da							David M		
	Review	View	Developer	Tableau	♀ Te	ll me what ye	ou want	to do		
	$\begin{array}{c} \begin{array}{c} \begin{array}{c} Z \\ A \end{array} \end{array} \end{array} \\ \begin{array}{c} Z \\ Z \end{array} \end{array} \\ \begin{array}{c} \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} \end{array} \\ \end{array} $	Filter Sort & Fi	Clear Reapply Advanced			What-If F Analysis - Foreca		E Group - E Ungroup Subtotal		
		Sort of H	1001	Data	0013	, norec		outine		~
-										
		S			т			U		
-	Estimated		encement Date	Estimate		letion Date	Start		Date	lanse
8	Lotinated	comm	01/06/201		cu comp	31/03/201		Dute_rmini	_Dute_	303
8			01/06/201			30/11/201				182
8			01/04/201			31/03/201				364
7			27/03/201	7		30/10/201	7			217
7			31/05/201	7		31/12/201	7			214
5			01/05/201	7		31/08/201	7			122
4			01/07/201	7		31/12/201	7			183
4			01/06/201	7		31/05/201	8			364
4			01/06/201	7		30/09/201	7			121

#### Task three: How to create a pivot table

First, let's create the pivot table. Place your cursor anywhere within the table. Go the "Insert" menu of the ribbon, select the "Pivot-Table" option, which produces a dialogue box that identifies the range of cells to be included. Pay attention to the range to ensure that all the cells are covered. Remember, Excel stops at blank cells. If your table has a blank cell, or row that you failed to detect, you'll have missing values. (NOTE: Mac users, be sure to select the "manual option". The automatic option will populate your pivot table with random values.)

	ACOA_ProjectInformation_201707291	34518.csv - Excel
File Home Ins	ert Page Layout Formulas Data Review View Developer Tableau	${\mathbb Q}$ Tell me what you want t
otTable Recommender	Create PivotTable	tChart 3D Line Colu
PivotTables	Choose the data that you want to analyze	<ul> <li>Map -</li> </ul>
Tables	Select a table or range	Tours Spark
5.0.0	Table/Range: ACOA_ProjectInformation_2017072!\$A\$1:\$U\$33298	
1 • i	© Use an external data source Choose Connection Connection name:	
Project Number Cl	🔘 Use this workbook's Data Model	Client Addr
210114 C	Choose where you want the PivotTable report to be placed	St. Stepher
207990 C	New Worksheet	Waterville,
210193 Ju		Charlottet
210309 At		New Domi
208686 Pe		Clarenville,
210240 Pe	Choose whether you want to analyze multiple tables	St. John's,
208727 ÉF	Add this data to the Data Model	Saint-Quer
209921 Pr	OK Cancel	Frederictor
210380 To		Woodstock
207157 Bi	osphere Northeast Trails Association	Baddeck, B
209854 La	a Belle-Alliance Itée	Summersid
210141 N	ewfoundland and Labrador Association of Technology Industries Incorporated	St. John's,
210370 At	lantic Adventures Inc.	Trinity Bay
210279 C	ommercial Tent Rentals & Sales Limited	Sussex, E4
210455 La	brador North Chamber of Commerce Inc.	Happy Vall
210528 Th	ne Music Industry Association of Nova Scotia	Halifax, B3
110374 0	arlatan County Historical Society Inc.	Mandetaal

You'll notice that the table's entire range: <\$A1\$:\$U\$33298>. The dollar signs "anchor" the two extreme cells – A1, and U33298 – in the range. Towards the bottom of the dialogue box, you have the option to display the pivot table in a "New Worksheet", or "Existing Worksheet". Chose the first option, then OK.

(NOTE: You can edit the cell range, by click on the icon to the right of the "Table/Range:" rectangular box, and then manually typing the cell references in the range, being sure to use the

		4	COA_Proj	ectinfor	mation_201	7072913	4518.csv	- Excel			PivotT	able Tools		David McK	ie 🖪 —	٥
ile	Home	Insert	Page Layo	ut F	ormulas	Data	Review	View	Developer	r Tableau	Analyze	Design	♀ Tell me	what you want to do		Я, s
tTable	Active Fiel		rill Drill wwn Up -	-	→ Group S 徳 Ungrou ⑦ Group F Grou	p ield		rt Slicer rt Timeline r Connecti Filter	Refre	sh Change Dat Source + Data	Actions	Relation		PivotChart Recommen PivotTable Tools		5
5	- e - e															
3	*	I 📉	$\sqrt{-f_x}$													
P	A	В	C	D	E	ł	:	G	Н	I	J	K 🔺	<b>Pivot</b> Ta	able Fields		*
														ds to add to report:		4
	_		_													
	Pivot	Table1											Search			
		rt, choose											Project I			
fror	n the Pivo	tTable Fiel	d List										Client N			
													Client Ci			
l													Client Po			
													Project I	Description		
													Drag fields	between areas below:		
													T Filters		Columns	
													T Filters		Columns Columns	
		H														
													≡ Rows		$\Sigma$ Values	
			_										- NOWS		~ values	
-												— U				

dollar sign to anchor the values at each end of the range.

The worksheet is divided into three sections: the "Pivot Table Fields" list; the box containing Filters, Columns, Rows and Values; and the interface to the left.

(Note: In a Mac, the box to the right is called a "Pivot Table Builder".)

If you click outside the pivot table, the "Pivot Table Fields" list, or the "Pivot Table Builder" disappears. To get it back, click inside the pivot table.

We can set up the actual layout for the pivot table by either clicking on and dragging the field names to one of the four boxes, or clicking on each of the columns to produce a short-cut

menu that contains one of the four boxes, as in the screen grab below.

			*
	PivotTable F Choose fields to add		▼ × Ø ▼
	Search		Q
	<ul> <li>Project Number</li> <li>Client Name</li> <li>Client Addre</li> <li>Client City</li> <li>Client Postal</li> <li>Client Desc</li> <li>Project Desc</li> </ul>	Add to Report Filter Add to Row Labels Add to Column Labels Add to Values Add as Slicer Add as Timeline	
_	<b>T</b> Filters	Columns	
_	Rows	$\Sigma$ Values	

Add "Year" to the "Columns" section, using any of the methods described above.

		ACOA		nformation_2	01/0/2913					Pivoti	able Tools		David McKi		
	Home Ins	ert Page	Layout	Formulas	Data	Review	View	Developer	Tableau	Analyze	Design	🖓 Tell me	what you want to do		,R₁ si
votTab •	En Field Setti		↑ * Drill -: Up *	響 Ungro		Inser	rt Slicer rt Timeline r Connectio Filter	Refres	h Change Dat Source + Data	Actions	CLAP To		PivotChart Recommence PivotTable Tools		15
•	o-∂-⊮	÷													
3	• 1	X V	fx	Column La	hala										
13		~ Y	Jx	Column La	beis										
	Α	В		С		D		E		F	^	DivotT	able Fields		-
÷												PIVOLIT	able Fields		
	lumn Labels 🔻											Choose field	is to add to report:		0
	1988		1993		1994		1995		1996	19	97	Search			
												bearen			
													vernment Funding		
												Eligible			
												Total Pro			
)												Public A	ccess Date		
, L												Month			
; ;												Drag fields	between areas below:		
1												T Filters		Columns	
5												T Filters			
5														Year	
8															
)												≡ Rows		∑ Values	
)															
L															
2											· ·		yout Update		

We can see from the dates that this dataset stretches back into the past. Unless we're looking for something specific, we may only be interested in five full years' worth of data, which in this case is 2012 to 2016. Since 2017 is not yet complete, we wouldn't use it in any analysis that compares year-to-year results.

De-select all the years before 2012 from the filter, leaving 2017 for now. To de-select the dates, we'll need to get the short cut menu by selecting the arrow to the right of "Column Labels". From the short cut menu, de-select the unwanted dates.

_		AC	OA_ProjectI	nformation_20	017072913	4518.csv -	Excel			PivotTi	able Tools		David McKie		<b>o</b> :
File	Home	Insert Pa	ge Layout	Formulas	Data	Review	View	Developer	Tableau	Analyze	Design	🖓 Tell me	what you want to do		,Ą si
votTable	Active Fiel Year	Dri	n Uprill –	ゴ 帽 Ungro ヨ 回 Group		📑 Filter	t Slicer t Timeline Connectic Filter	ins 👻	Change Data Source + Data		CLAP To		PivotChart Recommendee PivotTables Tools	Field List +/- Buttons Field Headers Show	
<del>،</del>	• @ - @	÷													
13		X	fx fx	Column Lai	bels										
Colu	A Imn Labels	3	В	С		D		E		F		Choose field	able Fields ds to add to report:		*  0
-	20	12	2013		2014		2015	2	016	20:	17 Gran	Search			
i i i i i i i i i i i i i i i i i i i												Total Go Eligible Total Pro Public A Year Month	oject Cost		Ŧ
2												-			
4												-	between areas below:		
5												▼ Filters	1	Columns	
6													Y	ear	
3												E Rows	2	Values	
9 D												= Kows		Values	
1															

## Task four: How to SUM, COUNT and group by year

Now we want to sum the total number of ACOA grants by year in order to determine if the dollar values are increasing or decreasing.

				ACOA	\_Project	Inform	ation_2	017072913	4518.csv -	Excel			PivotTa	able Tools		David McKie		
Fik	e H	lome	Insert	Page	Layout	For	mulas	Data	Review	View	Developer	Tableau	Analyze	Design	🖓 Tell me	what you want to do		,Ą sh
otT	able Su	Field S	COA Ass Settings Active	Drill Down Field	Drill Up *	- -	Ungro		🔤 Inser	t Slicer t Timelin r Connect Filter	Refres	h Change Data Source + Data	Actions *	Infa OLAP To □ Relation		PivotChart Recommend PivotTable Tools		
3	·) · (			~	fx													
			•	Y				~			-		1					
		A			В			С	D		E	F	(	G 🔺	PivotTa	able Fields		Ψ
															Choose field	is to add to report:		ø
				Co	lumn La								_					
-	Sum of /		esistan		2166	201 18486		2013 493359.1		2014	2015 48124742 3	2010		2017	Search			
	Juni or J	ACOAP	to short and		2100			455555.1	204200	555.0 2	40124/4215	21//2/250	20130	2044.5	Assistance			
															ACOA A			
																vernment Funding		
ŀ															Eligible /			
															Public Ac			
ŀ																icess Date		_
t															Drag fields	between areas below:		
t															-			
l															T Filters		Columns	
																	Year	
-															≡ Rows		Σ Values	
																	Sum of ACOA Assistar	nce
														L		-		
9 ) 1 2																		

Drag the "ACOA Assistance" row into the "Values" section.

Format the numbers as currency by selecting the arrow to the right of the SUM label for PC users -- or the icon for Mac users that resembles the letter  $\langle i \rangle$  -- to produce a value field setting dialogue box that looks like this.

Source Name: ACOA Assistance		Styles	Cells	Editing
Custom Name: Sum of ACOA As	sistance			
	/alues As	H A	PivotTable	Fields -
Summarize value field by Choose the type of calculation t	hat you want to use to summarize		Choose fields to ac	ld to report:
data from the selected field	×	16 Grand	Search	
Count Average	=	.4 13232	Program Type	
Max Min			Assistance Type	
Product	Ψ.		ACOA Assistar	
Number Format	OK Canc	el	Drag fields betwee	en areas below:
			<b>T</b> Filters	Columns
				Year
			Rows	$\Sigma$ Values
				Sum of ACOA Assi

The pivot table guessed correctly that you want to sum the amount. Reformat the number by selecting the "Number Format" tab, which for Mac users will be on the right-hand side.

<b>山 ち・</b> ~ 略 :	ACOAxis	ox - Excel	PivotTable Tools	Sign in 🕮	– a x
File Home Insert Page Layo	Format Cells	the local lates	? ×	Tell me what you want to do	A Share
aste pboard 5 Font	Number           Çategory:           General           Number           Number           Accounting	Sample		Delete - 💵 -	AT P
A Column	Accounting Date Time Percentage Fraction Scientific Text Special Custom	Symbol:         \$           Negative numbers:         \$           \$1,234.0         \$           \$1,234.0         \$           \$1,234.0         \$	•	PivotTable Fiel Choose fields to add to r Search	
2	Currency formats are used for a column.	general monetary values. Use Accounting form	*ts to align decimal points in	ACOA Assistance     Total Government Fur     Drag fields between area	
3				Y Filters	II Columns
5		0	K Cancel	E Rows	Year ▼ ∑ Values Sum of ACOA Assi_ ▼
3 Sheet1 ACOA Project	tinformation 2016091	A : 4		Defer Layout Update	

_				ACOA_Proje	cuntorma	tion_20170	/29134	518.csv -	Excel				Pivoti	able Tools			David McKie	w – L	J
File	e Ho	ome	Insert	Page Layou	t Form	ulas Da	ata	Review	View	Develop	er 1	ableau	Analyze	Desig	<u>a</u> n	🖓 Tell me	what you want to do		Ŗ
ivotTa	able Sur	ive Field m of ACC Field Se	OA Ass	Drill Drill Down Up ~		Group Sele Ungroup Group Field Group		Inser Inser Filter	t Timelin	Date		ange Data Source =	Actions	iif <sub>t</sub> OLAP ¤ <sup>©</sup> Relat	Too		PivotChart Recommende PivotTables Tools	Field List	
	<b>5</b> - e	» - 69	Ŧ																
A3		*	×	$\checkmark f_x$															
		Α			В	C		D		E		F		G		Direct	lata Catala		_
L																PIVOLIA	ble Fields		Ť.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
2				Column	abala 🛛	1								_		Choose field	is to add to report:		
) 1				Column	2012		2013		2014	20	15	20	6	2017		Search			
_	um of A		ssistanc	e \$216						248,124,7						Search			
										,,						Assistan	2.1		
5 7 3 9																			
3																	vernment Funding		
) 0																Eligible			
0 1																Total Pro Public A			
2																	icess Date		
3																Drag fields	between areas below:		
4																Drag neius	between areas below.		
5																T Filters	1	Columns	
.6																		Year	
7																			
8																■ Rows	3	E Values	
9																		Sum of ACOA Assistance	-
																		Sum OF ACOA ASSISTANC	Le .
20																			

Select currency and no decimal places and return to the pivot table.

If this was all we were interested in, we could simply copy and use the paste-special option that we learned in the similarly named <u>tutorial</u> that goes with this chapter, and calculate the percent changes. However, from simply eyeballing the numbers, there doesn't seem to be anything worth pursuing.

Let's keep building the pivot table in order to take a deeper dive into the data.

The "Row Labels" section should contain the column on which you want to do your analysis. Put another way, the column you care the most about.

Select "Assistance Type".

	ACOA_Projec	tInformation_2017072913	4518.csv - Excel			PivotTable To	ols	David	I McKie	E -	. D
ile Home In	sert Page Layout	Formulas Data	Review View	Developer	Tableau	Analyze De	sign 🛛 🖓 Tell m	e what you want to d	io		<u></u> д 9
tTable	Drill Drill	+ Group Selection	Insert Slicer	line Refrest	Change Data Source + Data	Actions	elds, Items, & Sets • AP Tools • lationships Calculations	PivotChart Recon	nmended tTables	Field Lis +/- Butt Field He Show	ons aders
5.0.18	*										
	× √ fr	Sum of ACOA Assista	nce								
	A	В	С	D	E	F	G	н			
									Piv	otTable	e 🔻
									Cho	ose fields to	add to
Sum of ACOA Assi	istance	Column Labels							repo	ort:	
Row Labels Conditionally Repa	wable Contribution	2011						Grand Total \$153,318,290	Sea	rch	
Grant	syable contribution	\$495,800		\$436,928					1.18	rogram rype	e
Non-Repayable Co	ontribution						9 \$130,290,020			Assistance T	
Unconditionally Re			\$64,202,336						V.	ACOA Assist	ance
Grand Total								\$1,340,191,867		Total Govern	ment Funding
									- E	Eligible Amo	unt
										Fotal Project	
									Dra	a fields betu	veen areas be
									Una	y neius betw	reen aleas pe
									T	Filters	III Column
											Year
									=	Rows	$\Sigma$ Values
									As	sistanc 🔻	Sum of A

Now we can see the categories of financial assistance. Because as journalists we like seeing who got the most, sort the "Grand Total" section in descending order.

ne	nome	insert Page La	your	ronnulas	Data	Keview vie		Tableau	Analyze Desi	gn y reirina	e wilat you wali	
External Data •	New	Show Queries	Refres All -	sh Propert	ies 2	Sort Filt	Ter Clear	Text to Columns	What-If Analysis -	Forecast	oup • • • • • • • • • • • • • • • • • • •	C Da
	Ge	t & Transform		Connections		Sort	8: Filter	Data Tools	Fore	cast C	utline 🖓	1
5.	0.8	8 ∓										
						Sort Largest to	Cmallast					
		$  \times \vee  $	fx 1	153318290		Highest to low						
		A		В			U	E	F	G	н	
_										5		
Sum o	f ACOA A	ssistance		Column L	abels 🗐							
Row L	abels			•	2012	201	3 2014	2015	2016	2017	Grand Total	
Condit	ionally Re	epayable Contribu	tion	\$34	,756,514	\$26,515,61	\$20,849,146	\$27,237,388	\$19,983,267	\$23,976,364	\$153,318,2	290
Grant				\$	495,800	\$523,30	1 \$436,928	\$440,777	\$164,253	\$110,397	\$2,171,4	456
Non-R	epayable	Contribution		\$119	,181,931	\$110,252,11	1 \$165,566,851	\$152,881,593	\$124,666,729	\$130,290,020	\$802,839,2	235
Uncon	Unconditionally Repayable Contribution					\$64,202,33	6 \$67,402,411	\$67,564,984	\$72,913,049	\$47,605,864	\$381,862,8	886
Grand	Total			\$216,	608,487	\$201,493,35	9 \$254,255,336	\$248,124,742	\$217,727,298	\$201,982,645	\$1,340,191,8	867
1												

		ACOA_P	rojectinfo	ormation_2017072	9134518.0	csv - Excel					Dav	id McK	ie 🖽 —	٥
Fi	ile Home	Insert Page La	yout	Formulas Data	Revi	ew View	Developer	Tableau /	Analyze Desig	n 🖓 Tell me	e what you want to			Я
et E	2000	Show Queries From Table Recent Sources et & Transform	Refres All •	Properties	2↓ ZA Z↓ So	ort Filter	V Advanced	Text to Columns Data Tools	What-If Analysis - Forec	Forecast Sheet	oup • *3 R group • 3 <b>2,</b> btotal Dutline 15			
	5.9.6	<b>8</b> -												
15		1 × 🗸	fx 8	802839234.84										
4		A		В		С	D	E	F	G	Н			
													PivotTable	e *
					_								Choose fields to	add to
	Sum of ACOA	Assistance		Column Label									report:	
-	Row Labels				012	2013	2014	2015	2016		Grand Total		Search	
	Non-Repayabl	e Contribution y Repayable Contr	1						\$124,666,729		\$802,839,235		E Program Type	
		lepayable Contribute		\$62,174, \$34,756,		4,202,336 6,515,611	\$67,402,411 \$20,849,146	\$67,564,984 \$27,237,388	\$72,913,049 \$19,983,267	\$47,605,864 \$23,976,364	\$381,862,886 \$153,318,290		Assistance Ty	
	Grant	repayable contribu	ation	\$495,		\$523,301	\$436,928	\$440,777	\$164,253	\$110,397	\$2,171,456	H	ACOA Assist	
	Grand Total										\$1,340,191,867		Total Governm	
ţ,													Eligible Amor	-
													Total Project	Cost
													_	
													Drag fields betw	een areas be
													T Filters	II Column
													I Filters	
												- 1		Year
												1	≡ Rows	$\Sigma$ Values
												1	Assistanc *	Sum of A
)														

The "Non-Repayable Contribution" category takes top spot. We can also see how the other types behave year after year. Be sure to consult the <u>data dictionary</u> for a definition of each category.

	ACOA_Projec	tunformation_2017072	3134518.CSV - EX	.ei		PrvotTable Tools		David	а мскіе 🖽 👘	- uu s
	ile Home Insert Page Layout	Formulas Data	Review V	iew Developer	Tableau /	Analyze Desig	an 🗘 Tell me	e what you want to	do	,A si
tl		Connections Fresh All - Connections Edit Links Connections	A+	Iter	Text to Columns Data Tools	What-If Analysis + Forec	Forecast Sheet	oup • • · · · · · · · · · · · · · · · · ·	Data Analysis Solver Analyze	
1	5-0-18 :									
15	- : × ✓ £	802839234.84								
4	A	В	С	D	E	F	G	Н		
	Client Name	(All)	-						PivotTab	le 🔻
									Choose fields t	o add to
	Sum of ACOA Assistance	Column Labels							report:	. Pe
	Row Labels	Local	012 20			2016		Grand Total	Search	
	Non-Repayable Contribution			11 \$165,566,851		-		\$802,839,235	-	
	Unconditionally Repayable Contribut	Provide and the second s						\$381,862,886	Project Nun	
	Conditionally Repayable Contribution Grant							\$153,318,290	Client Nam	
	Grand Total	\$495,				\$164,253	\$110,397	\$2,171,456 \$1,340,191,867	Client Addr	ess
	Grand Total	\$216,608,4	+87 \$201,495,5	59 \$254,255,550	\$248,124,742	\$211,727,298	\$201,982,645	\$1,540,191,867	Client City	
									Client Posta	
									Project Des	cription
									Drag fields he	tween areas bel
									Drag neius be	tween areas bei
									T Filters	III Columns
									Client Na 🔻	Year
									= Rows	Σ Values
									= Kows	Z values
1									Assistanc 🔻	Sum of A

Now it's time for a deeper dive. What if we wanted to define the kinds of institutions receiving these non-repayable contributions? Drag the "Client Name" column into the "Filters" section, which you can see in cells A1 and B1.

Click on the arrow to obtain the drop-down menu. From perusing the categories, it's obvious that many businesses receive assistance. A number of the business names end with "Ltd."

	· · · · · · · · · · · · · · · · · · ·	$\times \checkmark f_x$	802839234	+.04								
i.	A	<b>V</b>		В	C			D	E	F	G	Н
(	lient Name		(All)		*							
		Search					P					
- 1	ium of ACOA Assis	(All)										
1	low Labels	(ISIS) Immigrant S	ettlement and I	ntegration	Services Soci	iety	Ξ	2014		2016		Grand Total
ľ	Non-Repayable Cor	-* Quidi Vidi Renn						566,851	\$152,881,593	\$124,666,729	\$130,290,020	\$802,839,23
l	Inconditionally Rep	-* Burin Peninsula (	Community Bus	iness Deve	elopment Corp	poration In	с	402,411	\$67,564,984	\$72,913,049	\$47,605,864	\$381,862,88
(	Conditionally Repay							849,146	\$27,237,388	\$19,983,267	\$23,976,364	\$153,318,29
(	Grant	-04/100 N.B. Inc.						436,928	\$440,777	\$164,253	\$110,397	\$2,171,45
(	Grand Total							255,336	\$248,124,742	\$217,727,298	\$201,982,645	\$1,340,191,86
		-053247 N.B. Ltée										
1		-054000 NB Inc.										
1		056393 N.B. Ltd.										
		056521 NB ltée 056913 N.B. Ltd.										
		-056975 N.B. Ltd.										
T		-057000 N.B. Inc.										
		058126 NB Inc					_					
		4	111			•						
T		A										
		Not all items sho										
1	1	Select Multiple	ltems									
					OK	Cance						
						Cance						
18	Sheet1	ACOA_ProjectI						1				

There are too many values to display in this filter box. If there is a particular company or organization of interest, then you can search the original table, and then return to the pivot table to plug the names into the search box that you see in the screen grab above.

A		В		С	D		E	F	G	H	
Client Name		(All)	Ŧ				_				PivotTabl
	td					х					Choose fields to
Sum of ACOA Assis	✓ (Select All Search F	(oculte)									report:
Row Labels	- Add current select					=	2015	2016	2017	Grand Total	Search
Non-Repayable Cor	✓ 051996 N.B. Ltd.						\$152,881,593	\$124,666,729	\$130,290,020	\$802,839,235	Search
Unconditionally Rep	- 056393 N.B. Ltd.						\$67,564,984	\$72,913,049	\$47,605,864	\$381,862,886	Project Num
Conditionally Repay	- 🗹 056913 N.B. Ltd.						\$27,237,388	\$19,983,267	\$23,976,364	\$153,318,290	Client Nam
Grant	- 2 056975 N.B. Ltd.						\$440,777	\$164,253	\$110,397	\$2,171,456	Client Addre
Grand Total	- 100580 PEI Ltd. - 101586 P.E.I. Inc. a	nd bislander i td. a	nd Care	li Marine Corpor	ation Limited		248,124,742	\$217,727,298	\$201,982,645	\$1,340,191,867	
	- 101380 P.E.L IIIC. a - 10585 Newfoundla		ilu care	in Marine Corpor	ation timited						Client City
	✓ 10676 Newfoundla										Client Postal
	- 11153 Newfoundla	nd Ltd.									Project Desc
	2M Farms Ltd.										Data Ealds hat
	- 3032102 Nova Sco										Drag fields bet
	- d 340-Feeds & Freez	ers Ltd.									T Filters
	- 501511 N.B. LTD.										
	- S050 Central Ltd.										Client Na 🔻
	- 507469 NB Ltd.										
	- 508692 N.B. Ltd.										= Rows
	•	111									
											Assistanc 🔻

Select "Ltd.", the acronym for the designation limited. Once you've made the selection, in this case the companies with the "Ltd." suffix, select the OK tab.

$\bullet$ : $\times$ $\checkmark$ $f_x$ U	nconditionally Repay	yable Contribu	tion				
А	В	С	D	E	F	G	н
Client Name	(Multiple Items) 🖛						
Sum of ACOA Assistance	Column Labels 📑						
Row Labels 🖓	2012	2013	2014	2015	2016	2017	Grand Total
Unconditionally Repayable Contribution	\$12,517,541	\$14,761,674	\$13,074,566	\$12,060,273	\$20,208,320	\$12,424,046	\$85,046,420
Conditionally Repayable Contribution	\$2,568,573	\$4,904,263	\$2,631,513	\$4,355,910	\$2,629,620	\$150,000	\$17,239,879
Non-Repayable Contribution	\$1,956,738	\$2,586,489	\$1,866,762	\$5,602,585	\$1,885,015	\$1,088,235	\$14,985,824
Grand Total	\$17,042,852	\$22,252,426	\$17,572,841	\$22,018,768	\$24,722,955	\$13,662,281	\$117,272,123

ACOA hands out most of its money to businesses with the "Ltd" suffix as in the form of unconditionally repayable contributions. If you're happy with this result, you can give the pivot table a specific name, and return to your original table to build another one. Or if you wanted to perform some math on the values such as percent of total, or year-to-year changes, you could use the paste-special option that we learned in <u>Chapter 4's fourth online tutorial</u> to create a table in a new worksheet.

You could also add one more variable to the pivot table's "Values" section. In this case, we can COUNT the number of recipients.

Drag project number into values, and format it as a number with no decimal places.

burce Name: Project Number	X lext to     Dumns →      Data Tools     Vhat-If Fc     Analysis →      S     Forecas		Ana	lyze	
ustom Name: Count of Project Number					
Summarize Values By Show Values As					
Summarize value field by					
Choose the type of calculation that you want to use to summarize data from the selected field	D	E	<b>^</b>	PivotTable	e 🔻
Sum				Choose fields to	add to
Count Average Axerage	2013 Sum of ACOA Assistance	Sum of Project Number Su	m «	Search	
Product	\$14,492,424 \$4,904,263 \$2,520,786	9489760 595309 6677314		Client Name	
Jumber Format OK Cancel	\$21,917,473	16762383		Client City	
				Client Postal ( Project Descri	iption ion
				Drag fields betw	leen areas b
				<b>T</b> Filters	Column
				Client Na *	Year *
					Σ Val •
			_	Rows	Σ Values
				Assistanc 🔻	Sum o 1
					Sum o

mat Cells		? X	unalyze Design	O Tell me what you want	to do	,Ą si
Number	Field Settings	Ъ	What-If Forec Analysis - She Forecast	cast		
Date <u>C</u> usto Time Percenta Sun Fraction	mmarize Values By Show Values As marize value field by					
Text Special Cho	oose the type of calculation that you want to use to summarize ta from the selected field		D	E	PivotTab	le 🔻
Av	um A Constant of the second se		2013 OA Assistance Sur	n of Project Number Su	Choose fields t report: Search	to add to
Number	roduct r	atting for	\$14,492,424 \$4,904,263 \$2,520,786	9489760 595309 6677314	Client Nan	
monetary <u>N</u> ur	mber Format OK Cancel		\$21,917,473	16762383	Client City Client Posta Project Des	cription
	ОК	Cancel			Drag fields be	tween areas bel
					T Filters	Columns
					Client Na *	Year ▼ ∑ Val ▼
					≡ Rows	$\Sigma$ Values
					Assistanc 🔻	Sum o 🔻
						Sum o 💌

Count of Project Numb	Total Sum of ACOA Assistance		2017		2016
		Count of Project Number	Sum of ACOA Assistance	Count of Project Number	m of ACOA Assistance
2	\$83,615,098	35	\$12,224,046	57	\$19,858,320
	\$17,239,879	1	\$150,000	6	\$2,629,620
2	\$14,312,073	24	\$1,063,235	39	\$1,800,247
5	\$115,167,050	60	\$13,437,281	102	\$24,288,187

To the right of each year, and the grand total, the pivot table has added a column that COUNTS the number of recipients. In 2016, 57 corporations received \$19.8 million in unconditional repayable contributions.

## Task five: How to filter by project length

We can also add a second column to the filter. You'll recall in task number one that we calculated the difference between the start and finish dates. Let's limit our selection to projects that took, say, 365 days.

Drag the "Start\_Date\_Finish\_Date\_Lapse" column into the "Filters" section, and select 365 from the drop-down menu.

	et & Transform	Refresh All - Connections	
A5 •	-	fx	
1 Client Name 2 Start_Date_Finish_	A Date_Lapse	B (Multiple Items)	с
3 4 5 6 Row Labels 7 Unconditionally Re 8 Conditionally Repa 9 Non-Repayable Co 10 Grand Total	Search 		Count of Project Number 4 5 10
11 12 13 14 15 16	368 369 370	Titems	
17 18 19 20 21 22		.:	
23 24 25 26 27 28 <b>She</b>	et1 ACOA Bro	jectInformation_2017	072 +

	PS .		191	1.9	U U
20	16	2017		Total Sum of ACOA Assistance	Total Count of Project Number
				Total Sull Of ACOA ASSIStance	Total count of Project Number
oum of ACOA Assistanc	e Count of Project Numbe	r Sum of ACOA Assistance	Count of Project Number		
	e Count of Project Numbe		Count of Project Number	\$6,507,920	
um of ACOA Assistanc	e Count of Project Numbe	r Sum of ACOA Assistance	Count of Project Number 2		22
um of ACOA Assistanc \$665,5	e Count of Project Numbe 00 00	Sum of ACOA Assistance           2         \$293,550	Count of Project Number 2	\$6,507,920	22 35
um of ACOA Assistanc \$665,5 \$227,5	e Count of Project Numbe 00 00 20	Sum of ACOA Assistance           2         \$293,550	Count of Project Number 2 2	\$6,507,920 \$1,579,063	22 35 4

In 2016, two projects estimated to take 365 days to complete received, \$655,500 in "unconditional repayable contributions".

Since the drop-down menu sorts the amounts in descending order, we can simply select the lengths of time that we want, a potentially tedious process that could take a few minutes, but one that's worthwhile if it leads to a good story.

The possibilities with this dataset are endless, in large part because it's large and contains many categories that stretch over many years.

The pivot table allows us to take a deep dive into the data for ideas that could lead to original stories.