

# How to Use Excel Features and Create Pivot Tables

## Introduction

BARS relies heavily on interoperability with Microsoft Excel to provide users with an alternative view of data *and* an alternative form of data entry. Users can export different grids within each of the BARS tabs to Excel and can use those exports to do massive data entry for eventual upload/import. Pivot tables bring the capabilities of Excel and BARS a step further, allowing users to dig deeper into what information is being provided by BARS to make better decisions in adjustments.

<u>This training is not meant to cover all aspects of using Microsoft Excel or pivot tables, but will</u> <u>provide new users with several basic key instructions and features to get started.</u> This training will work through an instructional scenario using the BARS system.

#### Step 1:

Log into BARS Production

#### Step 2:

From the **BARS** Homepage/Worktray, hover over **Operating Budget** at the top of the page and select **Adjustments** > **Agency** / **OBA Adjustments**.

#### Step 3:

Complete Overview Tab with all of the required information.

OBA Ad	justme	ents				IKAINING		lelp Sa	ve Va	idate Subi	mit
Overview	Narrative	Expenditures	Revenue	OBA Review	Slice and Dice Tags	Validation					
Agency	X99: Ag	ent 99		<b>Q</b> Unit		C	Program				
Adjustment Type	Agency	Adjustment		<b>Q</b> Stage	Agency Request	C	<b>Q</b> Budget Year	FY 2020	<b>Q</b> Statu	Draft	Ŧ
Name	BARS T	raining Adjustmer	nt - Using Exc	cel and Creating	Pivot Tables			Adjust	tment Numbe	r Unassigned	
Adjustment Grou	ıp			Q Across	the Board Target				<b>Q</b> Visi	ble to OBA	Image: A start of the start
B I U Styles -	][	t <sup>2</sup> 2≣ •≣   4]≣ → Font	1 ■ ● ◆ -∃E   <b>99 ■</b> - Size →			Ω					
body div											-

Once the Overview Tab is complete, move to the Expenditures Tab.



## Step 4: In the Expenditures Tab-

Confirm the information brought over from the <u>Overview Tab</u> is correct in the top section, and select the magnifying glass next to the **Expenditure Sub-Program Filter** to bring up a window to select a specific unit, program, or subprogram of the selected agency.

Overview N	Varrative	Expenditures	Revenue	OBA Review	Slice and	Dice Tags	Validation					
Agency	X99: Age	ent 99		Unit	X99A01: Tr	aining Unit		Program				
Adjustment Type	Agency /	Adjustment		Stage	Agency Re	quest		Budget Year	FY 2020	Status	Draft	•
Name	BARS Tr	aining Adjustmer	it - Using Exce	and Creatin	ig Pivot Table	:5			Adjustr	ment Number	Unassigned	1
Expenditure Sub-	Program Filt	ter				.oad Sub-Prog	ram Expenditu	res				
Expenditure Calcu	lation Type					Load Adjustr	nent Difference	e	Clear Z	ero Rows	Populate Revenu	e
Expenditure Fir	ancials		-	34					-	12	c	2
	Source	Unit	Program	n Si	ub-Program	Objec	t Comp	otroller Subobject	Agency Subo	bject Fund	FY 2020 Curren	ıt
	•		1	-		11	•	•		•	•	+

OBA Adju	ustments	Please select a value	6	Save Valid	ate Submit
	larrative Expenditu	Accept Selection	Filter Reset Expand All Collapse All Clear Selection		
Overview IV	ianative expendite	O X99A01: Iraining Onit		•	
Agency	X99: Agent 99	©X99A0101: Training Program			
Adjustment Type	Agency Adjustment	☆ X99A0101-1111: General Adm	inistration	Status	Draft
		★ X99A0101-ZZZZ: Unallocated			
Name	BARS Training Adju			djustment Number	
Expenditure Sub-F	Program Filter				
Expenditure Calcu	lation Type			ear Zero Rows	Populate Revenue
	ancials				
	Source Unit			Subobject Fun	d FY 2020 Current
	×			v	¥

Click on that program or subprogram to highlight that portion of the budget. Once you have highlighted all of the desired units, programs, and subprograms, select **Accept** Selection to ready those sections of the budget to be loaded.

To then load the *Expenditure Financials* grid below, click **Load Sub-Program Expenditures**.

	larrative	Expenditures	Revenue	OBA Review		Dice Tags	Validation	-				
Agency	X99: Age	nt 99		Unit	X99A01: Tr	aining Unit		Program				
Adjustment Type	Agency A	Adjustment		Stage	Agency Re	quest		Budget Year	FY 2020	Status	Draft	٣
Name	BARS Tr	aining Adjustmen	t - Using Exce	and Creatin	ng Pivot Table	s			Adjus	tment Number	Unassigned	
	Drogram Filt	or (			Q (1	oad Sub-Prog	am Expenditu	ires				
Expenditure Sub-l	Program Filt	ei			~ ~	eed out rreg	ann experione					
	-					Load Adjustn		_	Clear	Zero Rows	Populate Re	/enue
Expenditure Calcu	lation Type							_	Clear	Zero Rows	Populate Re	/enue
Expenditure Sub-f Expenditure Calcu Expenditure Fin	lation Type	Unit	Program	n S	ub-Program		nent Differenc	_				0



## Step 5: Once the *Expenditure Financials* grid has been populated, scroll down to view the grid.

Expe	nditure Sul	b-Program F	ilter X99A0101-	1111: General Admir	istratio Q	oad Sub-Program Expe	enditures				
Expe	nditure Ca	lculation Typ	e			Load Adjustment Diff	erence	Clear Zero Row	vs P	opulate Revenue	2
Exp	enditure l	inancials								€	•
		Source	Unit	Program	Sub-Program	Object	Comptroller Subobject	Agency Subobject	Fund	FY 2016 Actuals	FY
		•	•	•	•	•	•	•	•		
1	ß	Approved	X99A01: Training UI <b>Q</b>	X99A0101: Training <b>Q</b>	X99A01011111: Ger <b>Q</b>	01: Salaries, Wages <b>Q</b>	0101: Regular Earni <b>Q</b>	0101: Regular Earni <b>Q</b>	01: GF 🔍	SO	0
2	C) İ	Approved	X99A01: Training UI <b>Q</b>	X99A0101: Training <b>Q</b>	X99A01011111: Ger <b>Q</b>	01: Salaries, Wages <b>Q</b>	0102: Additional Ast <b>Q</b>	0102: Additional As: Q	01: GF <b>Q</b>	\$0	0
3	ßİ	Approved	X99A01: Training UI <b>Q</b>	X99A0101: Training <b>Q</b>	X99A01011111: Ger <b>Q</b>	01: Salaries, Wages <b>Q</b>	0111: Accrued Leav Q	0111: Accrued Leav Q	01: GF 🍳	\$0	0
4	r\$1 🖬	Annroved	X99A01: Training Ur Q	X99A0101 Training Q	X99A01011111' Ger Q	01: Salaries Wages Q	0151: Social Securit Q	0151: Social Securit Q	01' GF Q	SO	0

As shown below, the Expenditure grid has been populated with the data that is already in BARS through uploads and prior year adjustments. As mentioned in the "<u>Creating an Adjustment</u>" guide, adjustments may be made in the system in the "FY 20XX Adjustment" column *or* the "Export" and "Import" functions.

Scroll to the bottom left of the grid and select the **Export** button.

42	රා 🔳	Approved	X99A01: Training Ur 🗸	X99A0101: Training 🔍	X99A01011111
43	ථ 🗴	Approved	X99A01: Training UI <b>Q</b>	X99A0101: Training <b>Q</b>	X99A01011111
•					
₽ Ac	id 🛡 Impo	rt Export	Clear CRefresh		

This will bring up a separate window that that saves the document (depending on the user's download settings) and requires the user to open the file.

ŀ			
	ExpenditureFinancxlsx	Show all	×
1			
		ining LL Q	Y00A0101

Open that file.

Ľ

#### Step 6: In the Excel Spreadsheet-

Confirm that the information exported by the system is the data for the selected agency, unit, program, and subprograms as selected in Step #4. If the warning message appears, the user must click **Enable Editing** before proceeding with the instructions below.



	<b>1</b> 5-				Expendit	ureFinancials.xlsx [Protected ]		
F	ile H	lome Insert	Page Layout Form	ulas Data Review	View Acrobat	💡 Tell me what you want	to do	
Ô	PROTEC	TED VIEW Be care	ful—files from the Intern	et can contain viruses. Unless y	ou need to edit, it's saf	er to stay in Protected View.	Enable Editing	
1		• : ×	√ f∗ Source				$\sim$	
1			v Jx Source					
	A	В	c	D	E	F	G	
4	A Source	B	C Program	D Sub-Program	E Object		G bobjec Agency Subobject	
	Source	Unit	Program	Sub-Program	Object	Comptroller Su	bobjec Agency Subobject	

# Step 7:

Once the spreadsheet is unlocked for editing, begin by using the "Filter" tool to create a columnby-column filter of the information out of BARS.

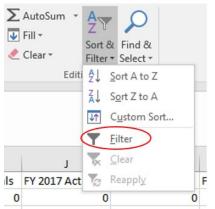
1. Highlight all of Row 1 of the spreadsheet.

	А	В	С	D	E	
1	Source	Unit	Program	Sub-Program	Object	Comp
2	Арр	A01	01	1111	01	0101
3	Арр	A01	01	1111	01	0102
4	App	A01	01	1111	01	0111

2. Find the "Sort & Filter" tool at the top-right of the Home tab in Excel.



## 3. Select "Filter"



This will insert a filter for each column of the current spreadsheet, with the filter running off of Row 1 of each column. After clicking the downward arrow in the "Object" column, a list of



checkboxes of the column's text contents will pop up. This list of checkboxes can be used to include or hide lines with these categories in the spreadsheet.

	А	В	С		D		E	
1	Source 💌	Unit 💌	Program	<ul> <li>Sub-P</li> </ul>	rogram	<ul> <li>Object</li> </ul>	· · ·	Comptrc
2	Арр	A01	01	1: ⊉↓	Sort A to Z			0101
3	Арр	A01	01	1: ∡↓ 1: 1:	Sort Z to A			0102
4	Арр	A01	01	1:	Sor <u>t</u> by Color		•	0111
5	Арр	A01	01	1:	-		,	0151
6	Арр	A01	01	1: 📉	Clear Filter Fro	m "Object"		0152
7	Арр	A01	01	1:	Filter by Color			0154
8	Арр	A01	01	1:	Text <u>F</u> ilters		•	0161
9	Арр	A01	01	1:	Search		0	0174
10	Арр	A01	01	1:			م	0175
11	Арр	A01	01	1:		JI)	^	0189
12	Арр	A01	01	1:	01			0192
13	Арр	A01	01	1:				0213
14	Арр	A01	01	1:	🖸 04			0214
15	Арр	A01	01	1:	····□ 06 ····□ 07			0217
16	Арр	A01	01	1:	08			0220
17	Арр	A01	01	1:	···· 🖌 09			0289
18	Арр	A01	01	1:			~	0301
19	Арр	A01	01	1:				0302
20	Арр	A01	01	1:		OK	Cancel	0306
21	Арр	A01	01	1:			.:	0401

Filter the spreadsheet to display only Object 09 and 10.

Users can use this tool to look specifically at individual programs, a list of subprograms, single objects, or even filter out all lines that are "\$0" in in a given fiscal year.

Note: Users may also sort data using this feature.

## Step 7:

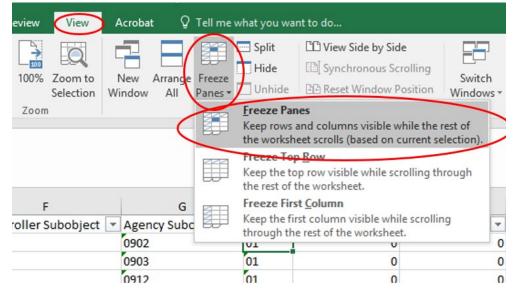
Now that the spreadsheet has been filtered for Object 09 and 10, use the "Freeze Pane" tool in Excel to freeze chart of accounts data to the left of the spreadsheet.

1. Highlight all of the columns that contain data and double-click on the margins between the columns (where it says "A, B, C..."). This will change the width of the columns such that no headers or data is hidden. By clicking in the margins of the columns, individual column widths may also be narrowed or expanded.

1	A	В	C	C		D	E		F	G	н	1
1	Source	✓ Unit	-	Program	-	Sub-Program	<ul> <li>Object</li> </ul>	Τ.	Comptroller S 💌	Agency Subob -	Fund	FY 2016 Actual - FY 2
41	Арр	A01		01		1111	09		0902	0902	01	0
42	Арр	A01		01		1111	09		0903	0903	01	0
43	Арр	A01		01		1111	09		0912	0912	01	0
	1.00			ALC: NO		A. 4 4 4 4	Page 1				-	



Click into the first cell that does not need to be frozen. For this exercise, it would be cell H2. Find the "View" tab, select "Freeze Panes" to open the drop-down menu, and click Freeze Panes. All columns from H and rightward will scroll with the rest of the page.



# Step 8:

Once the panes have been frozen, scroll to the right to the "FY 20XX Current" column (Column N in the example).

	A	B	C	D	E	F	G	M	N	0
1	Source 💌	Unit 💌	Program 💌	Sub-Program 💌	Object 🖵	Comptroller Subobject 💌	Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌
41	Арр	A01	01	1111	09	0902	0902		35000	
42	Арр	A01	01	1111	09	0903	0903		16600	
43	Арр	A01	01	1111	09	0912	0912		20000	
44	Арр	A01	01	1111	09	0914	0914		65000	
45	Арр	A01	01	1111	09	0915	0915		45997	
46	Арр	A01	01	1111	09	0933	0933		7500	
47	A	A 01	01	4444	10	1002	1000		17640	

This column contains the current dollars in the system tied to each of those line items. Without action in the "FY 20XX Adjustment" (Column O in the image) in the form of added (positive) or subtracted (negative) dollars, nothing will be changed by the adjustment. Individual dollar amounts can be entered into this column to add or subtract to the existing values.

For more advanced tools for Excel, Step #9 shows the use of formulas to augment existing budget data.

## Step 9:

With Objects 09 and 10 selected, go to the "FY 20XX Adjustment" column and click into the very top empty cell. As a tool, Microsoft Excel can grab data from one cell and manipulate it in another cell, called a "formula." This walkthrough will create two sample formulas.

## Placeholder for Inflation

1. Click into that top-most empty cell in the "FY 20XX Adjustment" column in Column O. For the example above, that is cell O41.



	Α	В	С	D	E	F	G	М	N	0
1	Source 💌	Unit 💌	Program 💌	Sub-Program 💌	Object 🖵	Comptroller Subobject 💌	Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌 Co
41	Арр	A01	01	1111	09	0902	0902		35000	
42	Арр	A01	01	1111	09	0903	0903		16600	
43	Арр	A01	01	1111	09	0912	0912		20000	
44	Арр	A01	01	1111	09	0914	0914		65000	
45	Арр	A01	01	1111	09	0915	0915		45997	
			•	,		-				

2. Type directly into the cell "=" and the directly adjacent cell in the "FY 20XX Current" column in Column N.

	G	м	N	0	
٢	Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌	Con
	0902		35000	=N41	
	0903		16600		
	0912		20000		
	0914		65000		
	0915		45997	,	
	0000		75.00		

3. Once the cell has been selected, use the keyboard to type in the following formula " \*.03". For the above example, that would be "=N41\*.03".

	G	м	N	0	
r	Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌 C	Com
	0902		35000	=N41*.03	
	0903		16600		
	0912		20000		
	0914		65000		
	0915		45997		
	0000		7500		

4. Press enter.

G	М	N	0
Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌 Con
0902		35000	1050
0903		16600	<b>U</b>
0010		20000	

5. Click and hold the small green square in the bottom right corner of the frame surrounding the newly formulated value, and double-click or drag that icon all the way down to the end of the line item data shown. This will take the formula created in the original cell (O41 as shown above) and translate it to the remaining line items. This action allows formulas to be calculated across multiple lines, as might make sense when accounting for inflation in the FY 2021 agency budget request.



	А	В	С	D	E	F	G	м	N	0
1	Source 💌	Unit 💌	Program 💌	Sub-Program 💌	Object 🗷	Comptroller Subobject 💌	Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌 Cor
41	Арр	A01	01	1111	09	0902	0902		35000	1050
42	Арр	A01	01	1111	09	0903	0903		16600	498
43	Арр	A01	01	1111	09	0912	0912		20000	600
44	Арр	A01	01	1111	09	0914	0914		65000	1950
45	Арр	A01	01	1111	09	0915	0915		45997	1379.91
46	Арр	A01	01	1111	09	0933	0933		7500	225
47	Арр	A01	01	1111	10	1002	1002		17640	529.2
48	Арр	A02	01	1111	10	1015	1015		25000	750
49	Арр	A03	01	1111	10	1019	1019		1500	45
50	Арр	A04	01	1111	10	1034	1034		16340	490.2
59										

6. Clean up decimals so that only whole numbers remain. This can be done by overwriting the formula in the cell with the new number *or* going a step further and adding a rounding formula into the equation, and then dragging that formula down again.

G	M	N	0	
Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌	Con
0902		35000	1050	
0903		16600	498	
0912		20000	600	
0914		65000	1950	
0915		45997	1380	
0933		7500	225	
1002		17640	529.2	

- Or -

G	М	N	0
🛛 Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌 Co
0902		35000	=round(N41*0.03, 0)
0903		16600	498
0912		20000	600
0914		65000	1950
0915		45997	1380
		7500	205

7. Confirm that the information makes sense for the agency request.

## Intra-agency Target

1. If a given unit or program is provided with a target by a central budget office within an agency, Excel can be used to evenly or proportionally disperse specific amounts among existing line items. Begin by entering the amount to be dispersed at the bottom of the row of line items in the "FY 20XX Adjustment" column (Column O).



	А	В	С	D	E	F	G	м	N	0
1	Source 💌	Unit 💌	Program 💌	Sub-Program 💌	Object 🖵	Comptroller Subobject 💌	Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌 Cor
41	Арр	A01	01	1111	09	0902	0902		35000	
42	Арр	A01	01	1111	09	0903	0903		16600	
43	Арр	A01	01	1111	09	0912	0912		20000	
44	Арр	A01	01	1111	09	0914	0914		65000	
45	Арр	A01	01	1111	09	0915	0915		45997	
46	Арр	A01	01	1111	09	0933	0933		7500	
47	Арр	A01	01	1111	10	1002	1002		17640	
48	Арр	A02	01	1111	10	1015	1015		25000	
49	Арр	A03	01	1111	10	1019	1019		1500	
50	Арр	A04	01	1111	10	1034	1034		16340	
59										10000
60										

2. Next, sum the shown rows in the "FY 20XX Current" column at the bottom of the row of line items (Column N). This may be performed through the "=SUM" formula in Excel, shown below.

	G	М	N	0
٣	Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌 Com
	0902		35000	
	0903		16600	
	0912		20000	
	0914		65000	
	0915		45997	
	0933		7500	
	1002		17640	
	1015		25000	
	1019		1500	
	1034		16340	
			=SUM(N41:N50)	10000

3. To disperse the provided target (\$10,000), in the "FY 20XX Adjustment" column multiply that target by the proportion of the line item to the sum. Begin by selecting the top-most line item. You may also add in the rounding formula to shortcut any rounding issues.

G	М	Ν	0
Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌 Comr
0902		35000	=ROUND((N41/N59)*O59, 0)
0903		16600	
0912		20000	
0914		65000	
0915		45997	
0933		7500	
1002		17640	
1015		25000	
1019		1500	
1034		16340	
		250577	10000

4. Once this formula has been calculated for the top-most cell, repeat this formula for each of the cells below holding the "total value" cells constant. This can be achieved by adding a "\$" in front of the row number for the formula in the top-most cell, and copying and



pasting the formula to each of the cells below. Again, this action allows formulas to be calculated across multiple lines, as it might make sense when accounting for an intraagency target in your agency's budget request.

G	М	N	0	Р
Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌	Comme
0902		35000	1397	
0903		16600	662	
0912		20000	798	
0914		65000	2594	
0915		45997	=ROUND((N45/N\$59)*0	\$59 <b>, 0)</b>
0933		7500	299	
1002		17640	704	
1015		25000	998	
1019		1500	60	
1034		16340	652	
		250577	10000	
			Ī	

5. Confirm that the data produced by the formula makes sense, and then copy and paste the "FY 20XX Adjustment" column data "as value" back into its location.

✓       FY 2020 Current ▼       FY 2020 Adjustment ▼       Comment ▼       Apply Adjustment         35000       1397         16600       662         20000       798         65000       2594         Paste Options:         17500       29!         17640       704         25000       998         Values (V)       1500	N	0	Р	Q
16600       662         20000       798         65000       2594         45997       1830         7500       291         17640       704         25000       998	r FY 2020 Current 💌	FY 2020 Adjustment 💌	Comment 💌	Apply Adjustme
20000     798       65000     259 <sup>4</sup> 45997     1830       7500     291       17640     704       25000     998	35000	1397	1	
65000     2594       45997     1834       7500     291       17640     704       25000     998       Values (V)	16600	662		
A5997     1830       7500     29!       17640     704       25000     998       Values (V)	20000	798		
45997     1830       7500     29!       17640     704       25000     998       Values (V)	65000	2594	Proto Ontinen	
17640         704           25000         998	45997	183		A
17640         704           25000         998	7500	29!	123 fx	£9 🏂 👦
25000	17640	704		
1500	25000	998	Values (V)	
1500 60	1500	60		
16340 652	16340	652		
250577 10000	250577	10000		

6. Delete the row with the "total value" cells (row 59 as shown above). Deleting these rows/cells should not affect the newly-created adjustment line-item detail created by the formula if the "copy and paste" action above was performed properly.

Note: Detail may be added into the empty section of the workbook, but may create extraneous detail in the import if not deleted. Tidying up the workbook prior to upload will reduce the chance of data issues with the import.

## Step 10:

Once the adjustment values have been included in the "FY 20XX Adjustment" column and all extraneous data has been removed, the worksheet is ready for upload as an import file. However, Excel can also be used as a tool for advanced analysis for the budget and its complex data. By creating "Pivot Tables" the user can easily organize and analyze the data of their budget. This can be used to great effect to inform a single adjustment.



Clear the filter of the grid by highlighting the top row of the worksheet and using the "Clear" function. This can be found in the "Home" tab under the same "Sort & Filter" tool.

				₽ Share
nal Format as C ng + Table + Sty Styles	Cell Insert Delete For Cells	→ AutoSun → Fill → → Clear →	Z V Sort & Find & Filter Select • Editi 2 Sort A to Z	~
N	0	P	X↓       Sort Z to A         ↓↑       Custom Sort         ▼       Eilter         ▼       Clear	
	Y 2020 Adjustment 💌	·	Clear	
35000	1397		Clear the filter and sort st	tate for the
16600	662		current range of data.	
20000	798	L	-	
65000	2594			
45997	1836			

Click on the "arrow" icon at the top left of the worksheet grid. This arrow allows the user to "Select All" data currently within the grid.

(	A	В	С	D	E	F	
1	Source 💌	Unit 💌	Program 💌	Sub-Program	Object 💌	Comptroller Subobject	Agen
2	Арр	A01	01	1111	01	0101	0101
3	Арр	A01	01	1111	01	0102	0102
4	Арр	A01	01	1111	01	0111	0111
5	Арр	A01	01	1111	01	0151	0151
6	Арр	A01	01	1111	01	0152	0152
7	400	A01	01	1111	01	0154	0154

Once all of the data has been selected, go to the "Insert" tab at the top of the Excel page and click into the "PivotTable" tool.



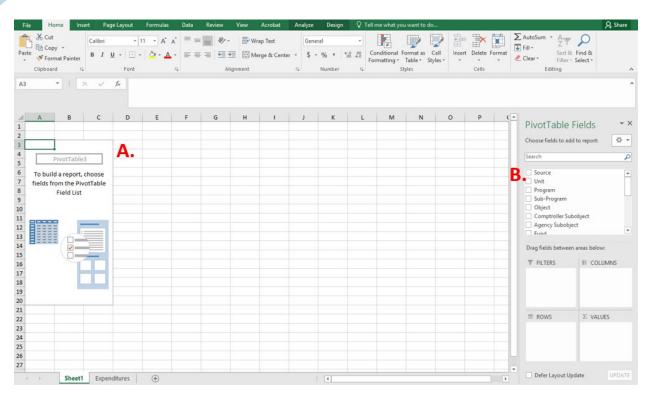
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Piv	otTable Re	ecomment PivotTable		Pic	● Ine tures 💁 *	Stor	e 👂	Recommende Charts	ed € € €
_		Tables		Illustra	tions		Add-ins		Charts
E c F		ge and sur ta in a Piv n double-o	otTable. click a value t	:0	ource	F		F	
	ee which d he summa		lues make up	,		-	Comptrollor		Agonous
(	Tell me			Sub-Pro 1111 1111	0: 0: 0:		0101 0102	Subobject 💌	Agency Si 0101 0102
4	Арр	A01	01	1111	0:		0111		0111
5	Арр	A01	01	1111	0:		0151		0151
6	400	A01	01	1111	0	1	0152		0152

If you have successfully used the "Select All" function, clicking this "PivotTable" button will bring up a dialogue box with the data pre-selected in the "Select a table or range" field. Click "OK."

	А	В	С	D	E		F	1
1	Source 🔻	Unit 💌	Program 💌	Sub-Program 💌	Object 💌	Comptrolle	er Subobject	<ul> <li>Agence</li> </ul>
2	Арр	A Creat	e PivotTable			?	×	0101
3	Арр	A	erivotiable			•	^	0102
4	Арр	A Choo	e the data that	you want to analyz	e			0111
5	Арр	A ( ) S	elect a table or	range				0151
6	Арр	A	Table/Range	Expenditures!SA	:SR		1	0152
7	Арр	A OL	Jse an external	data source				0154
8	Арр	A	Choose Co	nnection				0161
9	Арр	A	Connection	name:				0174
10	Арр	Α Οι	Jse this workbo	ok's Data Model				0175
11	Арр	A Choos	se where you w	ant the PivotTable r	eport to be p	laced		0189
12	Арр	A ()	ew Worksheet					0192
13	Арр	A OF	xisting Worksh	eet				0213
14	Арр	A	Location:				1	0214
15	Арр	A		want to analyze mu	ultiple tables			0217
16	Арр	A			inipie tables			0220
17	Арр	A	du this data to	the Data <u>M</u> odel		_		0289
18	Арр	A		C	OK	Canc	el	0301
19	Арр	AUI	01	1111	05	0502		0302
20	Арр	A01	01	1111	03	0306		0306

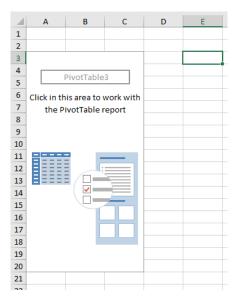
This will create a separate worksheet in the Excel workbook with the beginning framework of a Pivot Table in a new worksheet named "Sheet1."





#### Step 11:

In "Sheet1," find the following window embedded in the grid, marked "A" above.



This space represents the "canvas" for the beginning of the Pivot Table. Begin by adding pieces of the dataset from section "B" (by either dragging them into one of the four layout boxes or clicking on the checkbox and adjusting from there) marked above. Pivot tables allow users to create customizable spreadsheets that incorporate data from the original worksheet as shown in the example below:



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ject	(Multiple Items) 🖵										PivotTable F	ields
											a	o report:
it [	✓ Program ✓	Sub-Program	<ul> <li>Comptroller Subobject</li> </ul>	Sum of FY 2018 Actua	ls Sum of FY 2019 Wo	orking Sum o	f FY 2020 Current	Sum of FY 2020 Adjust	tment		Choose fields to add t	o report:
401	801	≡1111	0902		0	0	3500	)	1397		Search	
A01	01	1111	0903		0	0	1660	)	662			
A01	01	1111	0912		0	0	2000	)	798		Source	
401	01	1111	0914		0	0	6500	)	2594		✓ Unit	
401	01	1111	0915		0	0	4599		1836		✓ Program	
A01	01	1111	0933		0	0	750		299		Sub-Program	
A01	01	1111	1002		0	0	1764	)	704		✓ Object	
A02	801	■1111	1015		0	0	2500		998		Comptroller Sub	
A03	<b>■01</b>	₿1111	1019		0	0	150		60		Agency Subobject	
A04	⊟01	∃1111	1034		0	0	1634		652			
and Tot	al				0	0	25057	1	10000		Drag fields between a	reas below:
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										_		
											Object 🔻	$\Sigma$ Values
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											Unit 💌	Sum of FY 201
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											Defer Layout Upd	ate UPI
	Sheet1 Expendit	tures (+			E 4					1 F	Derer Layout opu	ULL OFI

Section B is broken up into five main parts:

**Fields:** Each of these "fields" represents a column header from the source spreadsheet. In the above example, each of the fields are the direct column headers found in the Expenditures grid in BARS and represent a mocked-up line item adjustment summary.

PivotTable Fields	- × ×
Choose fields to add to report:	- (þ
Search	P
<ul> <li>Source</li> <li>✓ Unit</li> <li>✓ Program</li> <li>✓ Sub-Program</li> <li>✓ Object</li> <li>✓ Comptroller Subobject</li> </ul>	▲ 
Gency Subobject	•
Drag fields between areas below:	

**Filters:** Fields dragged into this box create an overarching filter that allows data to be preselected and adjusted based on the needs of the user. Multiple fields can be added into this piece the layout, such as "Object" as shown in the above example which has been filtered to only show Objects 09 and 10.

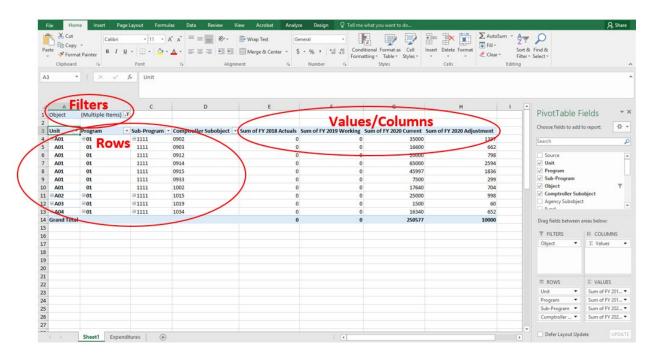
**Rows:** Fields dragged into this box divide up the displayed data as independent factors in the reporting. The fields in the "Rows" layout box represent the data inputs which ultimately produce the data outputs in the "Values" layout box. As shown in the example above, "Unit," "Program,"



"Sub-Program," and "Comptroller Subobject" have been selected to display the familiar line item detail structure found in the original worksheet as well as the Expenditures tab in BARS.

**Values:** Fields dragged into this box represent filters on the dependent factors in the reporting. The Fields in the "Values" layout box represent these data outputs based on the layout created in the "Rows" layout box. As shown above, a three-year summary of the data has been selected in order to display the baseline for the data as it exists in BARS, as well as the "FY 2020 Adjustment" column, which provides a clear summary of all line item adjustments from the source worksheet.

**Columns:** Fields dragged into this box divide up the displayed data based on *type*, such as "Dollars" or Adjustment "Stage" or "Status" in the case of certain data pulled from BARS. Based on certain detail dragged into the "Values" layout box, this box will automatically populate with the column type most appropriate for that selection. In the example above, it has automatically populated to show the sum values of the filtered data.



## Step 12:

By simply dragging the above sections into the displayed layout boxes, the overarching design of the pivot table may still leave clarity to be desired. Replicating the above layout boxes results in the following design:



	A	В	С	D	E
1	Object	(Multiple Items) 🛛 🖵			
2					
3	Row Labels 💌	Sum of FY 2018 Actuals	Sum of FY 2019 Working	Sum of FY 2020 Current	Count of FY 2020 Adjustment
4	<b>■ A01</b>	0	0	207737	7
5	=01	0	0	207737	7
6	■1111	0	0	207737	7
7	0902	0	0	35000	1
8	0903	0	0	16600	1
9	0912	0	0	20000	1
10	0914	0	0	65000	1
11	0915	0	0	45997	1
12	0933	0	0	7500	1
13	1002	0	0	17640	1
14	■ A02	0	0	25000	1
15	=01	0	0	25000	1
16	■1111	0	0	25000	1
17	1015	0	0	25000	1
18	■ A03	0	0	1500	1
19	=01	0	0	1500	1
20	■1111	0	0	1500	1
21	1019	0	0	1500	1
22	<b>■ A04</b>	0	0	16340	1
23	=01	0	0	16340	1
24	■1111	0	0	16340	1
25	1034	0	0	16340	1
26	Grand Total	0	0	250577	10

By using "Design" elements and adjusting "Value Field Settings" users can create a more familiar format in their pivot tables.

Begin by selecting the "Design" tab at the top of the Excel screen under "PivotTable Tools" and select "Show in Tabular Form" and "Repeat All Item Labels" under the Report Layout drop down menu. This will design the layout of the data such that data is repeated for each line and each "Row Label" receives its own discrete column.

ᡖᢐ᠇᠅᠂ᡎ	ExpenditureFinancials.xlsx -	- Excel	PivotTable Tools	le Tools		
File Home Insert Page Layout	Formulas Data F	Review View Acroba	t Analyze Design 🖓	Tell me what you w	ant to do	
Subtotals Grand Totals + Layout + Rows + Column	Headers Banded Rows					
Layo E3 Show in Compact F Show in Outline Fo	2020 Adjustme	ent	PivotTable Styles			
A Show in <u>Tabular</u> Fo		D	E	F G	н	
3 Row Labels	2019 Working		Count of FY 2020 Adjustment			
4 <b>■A01</b> 5 <b>■01</b> Do <u>N</u> ot Repeat Iter	m Labels 0		7			

Then, under the Subtotals drop down menu select "Do Not Show Subtotals" to eliminate individual subtotals running off of each chart of accounts selection in the "Rows" layout box.



	₽	<del>5</del> -∂-	÷		ExpenditureF	ExpenditureFinancials.xlsx - Excel			PivotTable Tools					
	File	e Home	Insert P	age Layout	Formulas	Data P	Review	View	Acrobat	Analyze	Design	♀ Tell me wi	hat you want t	o do
	Subto	tals Grand	Report Blank		aders 🗌 I Headers 🗌 I	Banded Rows Banded Colun	nns							* * *
<		Do Not Sho			of FY 2018						PivotTable Sty	les		
		Show all Sul	btotals at <u>T</u> op o	f Group	с			D			E		F	
	5	Include Filte	ered Items in To	otals	Drogram		Com	otroller Sub	abject 💌	Sum of EV	018 Actuals	Sum of FY 20	10 Working	Sum of E
	4 🗄	A01	<b>■01</b>	6	→-Program = 1111	Ľ	0902	Sconer Suc	object 🗠	Sum OF FT 2	(		( ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) ) )	

By using these two quick design changes, users can transform the data to read in a line-item fashion.

## Step 13:

Once the design elements have been adjusted, right-click into the column titled "Count of FY 2020 Adjustment" and select "Value Field Settings..."

	F	G	Cali		able
Is	Sum of FY 2019 Working	Sum of FY 2020 Current	B Count of FY 202		
0	0	35000	Ē	<u>C</u> opy	
0	0	16600	8 0	Format Cells	
0	0	20000		Number Forma <u>t</u>	Actuals
0	0	65000		Refresh	3 Actual
0	0	45997	là	Keiresn	Worki
0	0	7500		<u>S</u> ort ►	Target
0	0	17640	×	Remove "Count of FY 2020 Adjustment"	) Curren
0	0	25000		Remo <u>v</u> e Values	) Adjust
0	0	1500			ent
0	0	16340		Summarize Values By	
0	0	250577		Show Values As	between
				Value Field Settings	
				PivotTable Options	5
				Hide Fiel <u>d</u> List	-

This will bring up a window that allows the individual column to be adjusted to the preferences of the user. Columns can be renamed and fields can be summarized differently. Rename the column to "2020 Adjustments" and select "Sum" under the "Summarize value field by" window and press OK.



200					tuals
650	Value Field Settings		?	- X	tuals
459	Source Name: FY 2020 A	djustment			orking
75 176	Custom Name: 2020 Ac	ljustments			get rrent
250	Summarize Values By	Show Values As			ljustment
15	Summarize value field	by			
163	Choose the type of cal	culation that you war	nt to use to summ	narize	
2505	data from the selected	field			ween areas belo
	Sum Count Average Max Min Product	~			∎ COL ▼ Σ Val
	<u>N</u> umber Format	C	DK Car	ncel	ΣVAL

By making this change to the value field, the data in the "2020 Adjustments" column will now report data the same way as the individual fiscal year columns, as a "Sum."

The finished product should ultimately look like the following:

	В	С	D	E	F	G	Н
1	(Multiple Items) 🛛 🖵						
2							
3	Program 💌	Sub-Program	Comptroller Subobject 💌	Sum of FY 2018 Actuals	Sum of FY 2019 Working	Sum of FY 2020 Current	2020 Adjustments
4	<b>■01</b>	■1111	0902	0	0	35000	1397
5	01	1111	0903	0	0	16600	662
6	01	1111	0912	0	0	20000	798
7	01	1111	0914	0	0	65000	2594
8	01	1111	0915	0	0	45997	1836
9	01	1111	0933	0	0	7500	299
10	01	1111	1002	0	0	17640	704
11	<b>■01</b>	■1111	1015	0	0	25000	998
12	<b>■01</b>	■1111	1019	0	0	1500	60
13	<b>■01</b>	■1111	1034	0	0	16340	652
14				0	0	250577	10000
15							