

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.

This training is not meant to cover all aspects of using Microsoft Excel or pivot tables, but will provide new users with several basic key instructions and features to get started. 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				IKAININ	6	leip Sa	ve	Valid	ate Subr	nit
Overview	Narrative	Expenditures	Revenue	OBA Review	Slice and Dice Tags	Validation						
Agency	X99: Ag	ent 99		Q Unit			Q Program					
Adjustment Type	Agency	Adjustment		Q Stage	Agency Request		Q Budget Year	FY 2020	Q	Status	Draft	
Name	BARS T	raining Adjustme	nt - Using Exc	cel and Creating	Pivot Tables			Adjust	tment N	lumber	Unassigned	
Adjustment Gro	up			Q Across t	the Board Target				Q	Visibl	e to OBA	
Description Description Description B I U Styles BARS Training body div	C C C C C C C C C C C C C C C C C C C		(m) (m) (← - E 22 (E -) Size -			Ω						4
Chaus Current	ution Details											

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



Step 4: In the <u>Expenditures Tab</u>-

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	arrative	Expenditures	Revenue	OBA Review	Slice an	d Dice Tags	Validation					
Agency	X99: Age	nt 99	The Ferrier	Unit	X99A01: 1	Fraining Unit		Program				
djustment Type Agency Adjustment		Stage	Agency R	Request		Budget Year	FY 2020	Status (Draft	•		
Name BARS Training Adjustment - Using Exce			el and Creatir	ng Pivot Tab	les			Adjustmen	Number	Unassigned		
Expenditure Sub-I	Program Filte	er				Load Sub-Prog	ram Expendit	ures				
Expenditure Calcu	lation Type					Load Adjustn	nent Differen	ce	Clear Zero	lows	Populate Reven	ue
Expenditure Fin	ancials			38								0 (
	Source	Unit	Program	m S	ub-Program	Objec	t Com	ptroller Subobject	Agency Subobjec	Fund	FY 2020 Curre	ent
-	1	- 1	-	-1		-11	- 1					-

OBA Adj	ustments	Please select a value	8	Save		Submit	
Overview N	Varrative Expendit	Accept Selection © X99A01: Training Unit	Filter Reset Expand All Collapse All Clear Selection				
Agency		⊖X99A0101: Training Program					
Adjustment Type		★ X99A0101-1111: General Adm ★ X99A0101-7777: Unallocated	inistration		Status D		*
Name				djustment N			
Expenditure Sub-							
Expenditure Calcu	lation Type			ear Zero Rov	/s F	opulate Revenu	Je
Expenditure Fir							0 0
	Source Unit			Subobject	Fund	FY 2020 Currer	nt "A
	×			¥.	Ŧ		

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**.

Overview N	larrative E	Expenditures	Revenue	OBA Review	Slice and	Dice Tags	Validation				
Agency	X99: Agent	99		Unit	X99A01: Tra	ining Unit		Program			
Adjustment Type Agency Adjustment		Stage	Agency Request			Budget Year	FY 2020	Status	Draft		
Name BARS Training Adjustment - Using Exc			el and Creatin	g Pivot Table:	5	_		Adjustn	nent Number	Unassigned	
xpenditure Sub-	Program Filter	8			۹ 🗸	ad Sub-Prog	am Expenditu	ires			
xpenditure Calcu	lation Type					Load Adjustn	ent Differenc	e	Clear Ze	ero Rows	Populate Rever
	ancials								w.		
Expenditure Fir											
Expenditure Fir	Source	Unit	Progra	m Su	b-Program	Objec	t Com	ptroller Subobject	Agency Subo	bject Fund	d FY 2020 Curre



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

Expe	nditure Su	b-Program F	ilter X99A0101-	1111: General Admir	nistratio Q L	oad Sub-Program Expe	enditures				
Expe	nditure Ca	lculation Typ	De 🗌			Load Adjustment Diff	erence	Clear Zero Rov	vs P	opulate Revenue	;
Exp	enditure	Financials								•	0
		Source	Unit	Program	Sub-Program	Object	Comptroller Subobject	Agency Subobject	Fund	FY 2016 Actuals	FY
		•	•	•	•	•	•	•	•		
1	00	Approved	X99A01: Training UI Q	X99A0101: Training Q	X99A01011111: Ger Q	01: Salaries, Wages Q	0101: Regular Earni Q	0101: Regular Earni Q	01: GF Q	\$0	n 🔶
2	61	Approved	X99A01: Training UI Q	X99A0101: Training Q	X99A01011111: Ger Q	01: Salaries, Wages Q	0102: Additional As: Q	0102: Additional As: Q	01: GF Q	\$0	5
3	61	Approved	X99A01: Training UI Q	X99A0101: Training Q	X99A01011111: Ger Q	01: Salaries, Wages Q	0111: Accrued Leav Q	0111: Accrued Leav Q	01: GF Q	\$0	5
4	ាត់ 🖻	Approved	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	50	T

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 UI 🔍	X99A0101: Training 🗸	X99A01011111				
43	D 🗴	Approved	X99A01: Training UI Q	X99A0101: Training ${f Q}$	X99A01011111				
Add Import Export Clear Refresh									

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.

ExpenditureFinancxlsx ^		Show all X
	31 (5) 👼 Approved X99A01: Tra	

Open that file.

Step 6: In the <u>Excel Spreadsheet</u>-

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.



	85.				Expenditure	Financials.xlsx [Protected View] - E		
1	File	Home Insert Pa	ige Layout Formulas	Data Review	View Acrobat	Q Tell me what you want to do		
0	PROTE	CTED VIEW Be careful-	-files from the Internet car	n contain viruses. Unless yo	u need to edit, it's safer	to stay in Protected View.	able Editing	
A	1	* : × ~	fx Source					
- 24	A	B	С	D	E	F	G	
1	Source	Unit	Program	Sub-Program	Object	Comptroller Subobject	Agency Subobject	Fu
2	App	A01	01	1111	01	0101	0101	01
-	App	A01	01	1111	01	0102	0102	01
3	1 P. P.							0.

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	Арр	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.

	Α	В	С		D		E	
1	Source 💌	Unit 💌	Program 💌	Sub-Pi	rogram 💌	Object		Comptro
2	Арр	A01	01	1: 2 ↓	Sort A to Z			0101
3	Арр	A01	01	1: Z	Sort Z to A			0102
4	Арр	A01	01	1:	Sort by Color			0111
5	Арр	A01	01	1:	Sol <u>e</u> by color			0151
6	Арр	A01	01	1: 📉	<u>C</u> lear Filter From	"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:	Caarab		0	0174
10	Арр	A01	01	1:	Search		~	0175
11	Арр	A01	01	1:	(Select All)		^	0189
12	Арр	A01	01	1:				0192
13	Арр	A01	01	1:				0213
14	Арр	A01	01	1:	04			0214
15	Арр	A01	01	1:				0217
16	Арр	A01	01	1:				0220
17	Арр	A01	01	1:	···· 🗹 09			0289
18	Арр	A01	01	1:	10		~	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, but this function is not advised for spreadsheets that are intended to be re-uploaded or imported back into BARS.

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	D	E	F	G	н	1
1	Source	✓ Unit	Program	Sub-Program	Object .	Comptroller S 💌	Agency Subob -	Fund	FY 2016 Actual FY 2
41	App	A01	01	1111	09	0902	0902	01	0
42	App	A01	01	1111	09	0903	0903	01	0
43	Арр	A01	01	1111	09	0912	0912	01	0
44	400	4.01	01	1111	00	0014	0014	01	0



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.

eview	View	Acrobat	♀ Tell me	what you wa	nt to do	
100%	Zoom to Selection	New Arr Window	ange Freeze All Panes •	Split Hide Unhide	CO View Side by Side	Switch Windows +
Zoon	n			<u>Freeze Par</u> Keep rows a the worksh	nes and columns visible while the eet scrolls (based on current se	rest of election).
				Freeze Top Keep the to the rest of t	p row visible while scrolling the worksheet.	rough
F	F	1	G	Freeze Firs	t <u>C</u> olumn	
oller s	Subobject	 Agency 	Subc	Keep the fir	st column visible while scrollin	ng 👻
		0902			v	0
		0903		01	0	0
		0912		01	0	0

Step 8:

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

	Α	В	С	D	Е	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 💌	(
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	4.01	01	4444	10	1000	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 form of added (positive) or subtracted (negative) dollars, the funds in this column will become the official Agency Request within terms of 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 for these expenditure lines.

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.

	A	В	С	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 💌	Con
4	1 App	A01	01	1111	09	0902	0902		35000		
4	2 App	A01	01	1111	09	0903	0903		16600		
4	В Арр	A01	01	1111	09	0912	0912		20000		
4	4 App	A01	01	1111	09	0914	0914		65000		
4	5 App	A01	01	1111	09	0915	0915		45997		
			•	•	•	•	•	1			

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

	G	M	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	
•	Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌	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 💌	Com
0902		35000	1050	
0903		16600	Le la	,
0010		20000		

7



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.

	A	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 💌	Со
41	L App	A01	01	1111	09	0902	0902		35000	1050	
42	2 App	A01	01	1111	09	0903	0903		16600	498	
43	Арр	A01	01	1111	09	0912	0912		20000	600	
44	App	A01	01	1111	09	0914	0914		65000	1950	
45	б Арр	A01	01	1111	09	0915	0915		45997	1379.91	
46	Б Арр	A01	01	1111	09	0933	0933		7500	225	
47	7 App	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	3										(

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	М	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	M	N	0	
Agency Subobject 💌	FY 2020 Target 💌	FY 2020 Current 💌	FY 2020 Adjustment 💌	C
0902		35000	=round(N41*0.03, 0)	
0903		16600	498	
0912		20000	600	
0914		65000	1950	
0915		45997	1380	
0000		75.00	225	

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 💌	Com
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	
r	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.

Agency Subobject FY 2020 Target FY 2020 Current FY 2020 Adjustment Corr 0902 35000 =ROUND((N41/N59)*059, 0 0903 16600 0912 20000 0914 65000	0			N		М		G	
0902 35000 =ROUND((N41/N59)*059, 0 0903 16600 0912 20000 0914 65000	djustment 💌 Con	FY 2020 Ad	•	FY 2020 Current	-	FY 2020 Target	-	Subobject	Agenc
0903 16600 0912 20000 0914 65000	((N41/N59)*O59, 0	=ROUND((000	350					0902
0912 20000 0914 65000			600	166					0903
0914 65000			000	200					0912
			000	650					0914
0915 45997			97	459					0915
0933 7500			600	75					0933
1002 17640			i40	176					1002
1015 25000			00	250					1015
1019 1500			600	15					1019
1034 16340			40	163					1034
250577 10000	10000		77	2505					

9



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 might make sense when accounting for an intra-agency target in the FY 2021 agency 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)*C	\$59 , 0)
0933		7500	299	
1002		17640	704	
1015		25000	998	
1019		1500	60	
1034		16340	652	
		250577	10000	
			T	

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.

	N	0			Ρ				Q
r	FY 2020 Current 💌	FY 2020 Adjustmen	t 💌	Con	nment	-	Appl	y Ad	justme
	35000		1397						
	16600		662						
	20000		798						
	65000	:	259/	Deed	- 0-4				
	45997	:	1831	Past	e Optio	ons:			. D
	7500		29	D	123	fх	£B	%	3
	17640		704						
	25000		998		Values	(V)			
	1500		60						
	16340		652						
	250577	10	0000						

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.

							ይ	Share
nal Format as ng = Table = S Styles	Cell Insert ityles •	Cells	at ► AutoSu Fill * Clear *	m ▼ Editi	A Sort & Filter 2↓ ∡↓ ↓ ↓	Find & Find & Select * Sort A to Z Sort Z to A Custom So Filter	rt	^
N	0		Р		T _×	<u>C</u> lear		_
)20 Current 💌	FY 2020 Adjus	tment 🔽 C	omment 💌	Class	_			
35000		1397		Clea				
16600		662		curre	r the f ent rar	nde of data.	rt state f	orthe
20000		798						
65000		2594						
45997	1	1836						
	1						-	

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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	File	Home	Insert	Page Layout	Formula	s Data	Review	View	Acrobat
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5	Арр	A01	01	1111	01	013	51		0151
6	Ann 401 01		1111	01	010	:0		0153	

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	Source 💌	Unit 💌	Program 💌	Sub-Program	Object 💌	Comptroll	er Subobject	-	Agend
2	Арр	A	DivetTable		,	2	~		0101
3	Арр	A	ePivotiable				^		0102
4	Арр	A Choo	e the data that	you want to analy	ze				0111
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6	Арр	A	Table/Range	Expenditures!S	A: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	A ()	Jse this workbo	ok's Data Model					0175
11	Арр	A Choos	se where you w	ant the PivotTable	report to be	placed			0189
12	Арр	A	New Worksheet						0192
13	Арр	A OE	xisting Worksh	eet					0213
14	Арр	A	Location:						0214
15	Арр	A					1128		0217
16	Арр	A Choos	se whether you	want to analyze m	ultiple tables				0220
17	Арр	A	dd this data to	the Data Model	-	_			0289
18	Арр	A		(OK	Cano	el		0301
19	Арр	AUI	UI	1111	US	0302			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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2	Object	(Multiple item	is) 🕫							i wotrable ii	
3	Unit 🔻	Program	Sub-Program	Comptroller Subobject	Sum of FY 2018 Actuals	Sum of FY 2019 Working	Sum of FY 2020 Current	Sum of FY 2020 Adjustment		Choose fields to add t	o report: 🚯 🔻
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5	A01	01	1111	0903	0	0	16600	662		Jearch	~
6	A01	01	1111	0912	0	0	20000	798		Source	
7	A01	01	1111	0914	0	0	65000	2594		✓ Unit	
8	A01	01	1111	0915	0	0	45997	1836		✓ Program	
9	A01	01	1111	0933	0	0	7500	299		✓ Sub-Program	_
10	A01	01	1111	1002	0	0	17640	704		✓ Object	T
11	■ A02	801	81111	1015	0	0	25000	998		Agency Subobject	bject
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17										Object 🔻	Σ Values 🔻
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21											Σ VALUES
22										- 10113	Sum of DV 201
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24										Sub-Program	Sum of EV 202
25										Comptroller T	Sum of EV 202 V
27										eenip toner in	Control to Control
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		Sheet1 Exp	benditures (+)			•			Þ	cayout opu	0101112

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:	
Search	ρ
 Source ✓ Unit ✓ Program ✓ Sub-Program ✓ Object 	▲
Comptroller Subobject Agency Subobject Cured 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	■ A01	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	■ A04	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.

	• • ∂-	Ŧ		Expenditure	Financials.xlsx	- Excel		PivotTable	e Tools			
File	Home	Inse	rt Page Layout	Formulas	Data I	Review View	Acrobat	Analyze	Design 🔉	Tell me wha	t you want t	o do
Subtotal	s Grand Totals +	Report Layout 🕶	Blank Rows + Column	aders	Banded Rows Banded Colun	nns						* * *
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1 Obi	A C		Show in <u>T</u> abular Form		2	D		E		F	G	н
2 3 Rov	v Labels 🔽		<u>R</u> epeat All Item Labe	20	19 Working	Sum of FY 2020 C	urrent Co	ount of FY 202	0 Adjustment			
4 ⊟A 5 ⊟	01 01		Do <u>N</u> ot Repeat Item	Labels	0)	207737 207737		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.



	日	<u> </u>	Ŧ		Expenditure	inancials.xlsx	- Excel			PivotTa	ible Tools			
	File	Home	Insert	Page Layout	Formulas	Data i	Review	View	Acrobat	Analyze	Design	🛛 Tell me v	what you want	o do
	Subtot	tals Grand Totals - I	Report Blank	✓ Row He	aders	Banded Rows Banded Colun	nns							* * *
<		Do Not Sho	w Subtotals		of EV 2019	Options					PivotTable Sty	les		
		Show all Sul	btotals at <u>B</u> ott	tom of Group	01 FT 2016	Actuals								
		Show all Sul	btotals at <u>T</u> op	of Group	С			D			E		F	
		Include Filte	ered Items in 1	Totals	Durante		6		- bis at -	Curra of DV		Cum of DV		6
	4 😑	A01	■01		∃ 1111	Ţ	0902	otroller Su	object 🗠	Sum of FY	2018 Actuals		2019 MOLKINE	

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 B	bri - 11 - A A × \$ - % , ⊞ I ≡ ☆ - A - ⊡ - ‰ ,% *	able F
als	Sum of FY 2019 Working	Sum of FY 2020 Current	Count of FY 202	Choose the	elds to add
0	0	35000	Ē	<u>C</u> opy	
0	0	16600	8 0	Format Cells	
0	0	20000		Number Format	Actuals
0	0	65000		-	3 Actuals
0	0	45997	L9	Kerresn	Working
0	0	7500		Sort +	Target
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0	0	25000		Remove Values) Adjustm
0	0	1500			ent
0	0	16340		Summarize Values By	
0	0	250577		Show Values As	between a
				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.



200 650 459 75	Value Field Settings ? × Source Name: FY 2020 Adjustment	tuals tuals orking
176 250	Summarize Values By Show Values As	irrent ljustment
15 163	<u>Summarize value field by</u> Choose the type of calculation that you want to use to summarize	
	data from the selected field Sum Count Average Max Min Product	ween areas belo IIII COI ▼ ∑ Val
	Number Format OK Cancel	Σ VAL

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)	r					
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	■01	■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	■01	■1111	1015	0	0	25000	998
12	■01	■1111	1019	0	0	1500	60
13	■01	■1111	1034	0	0	16340	652
14				0	0	250577	10000
15							