



POWER WHAT?

HANDS ON SESSION WITH EXCEL POWER QUERY

NDASFAA Conference 2023



Presenter

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Overview

- Excel Power Query (Brief overview)
 - What is it?
 - Why would you use it?
 - How to combine data from multiple sources

Why use Power Query?

- Store millions of rows of data
- Powerful transformation tools
- Update with click of one button
- User friendly
- No additional software to buy, install, or maintain



What is Excel Power Query?

- Power Query is a feature within Excel
 - Under the Data tab
- Used to combine data for data analysis



Getting Started - Data

- Main Queries and Reports to Use
 - NDU_FA_0308 – FA Comprehensive Data Query
 - NDU_FA_0129 – Fund Roster Query #1
 - NDU_FA_0129_1 – Fund Roster without SSN
 - NDU_FA_0092 – Item Type Totals List
 - Census Enrollment Activity Report
 - FA Enrolled Students Report
 - Federal Work Study Earnings
 - Student Indebtedness Report
 - Many, many, more in SFA Reports and Queries document on the training site



Getting Started - Data

- Reminders and Hints
 - Get the right population
 - Create data carefully
 - Results make sense

Hands On - Get Data

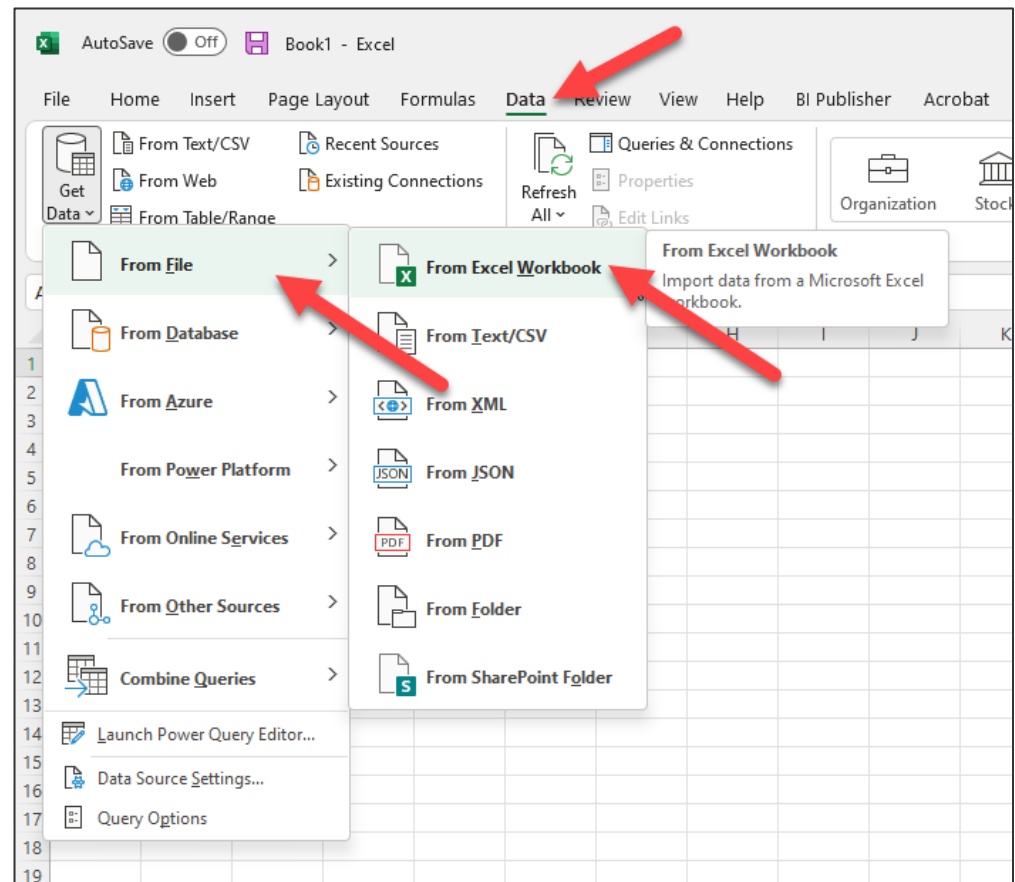
- Run Query and Save as CSV
 - **NDU_FA_0129_1** – Fund Roster Without SSN
 - Click **HTML link**
 - Use your institution and term 2310
 - **View Results**
 - Click **CSV Text File** and save the file
 - File Name – **2310 Fund Roster**

Hands On - Get Data

- Run Report and Save as CSV
 - **Enrolled Students Report for Financial Aid**
 - NDU Applications > NDU Financial Aid > Report > NDU FA Enrolled Students
 - **Run Control**
 - Your institution
 - Term – 2310
 - Aid Year – 2023
 - Email Usage – E-MAILCAMP
 - Tuition Budget Category – TUIT
 - Save **FA_Enrolled.CSV**

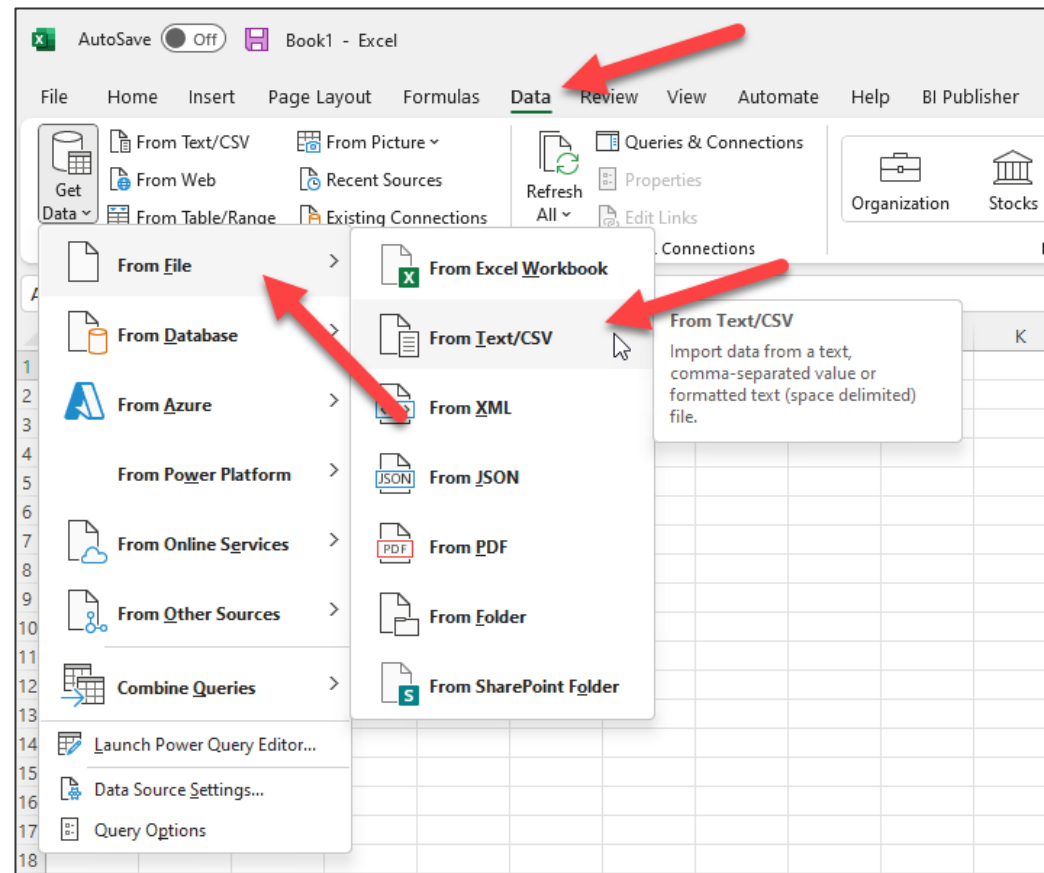
Import Data

- Load Data
 - Excel Workbook
 - Text/CSV
 - Table/Range
 - SharePoint



Hands On - Import Data

- New Excel File
- Data Tab
 - Get Data
 - From File
 - From Database
 - From Azure
 - From Power Platform
 - From Online Services
 - From Other Sources
 - Combine Queries
 - Launch Power Query Editor...
 - Data Source Settings...
 - Query Options
 - From Text/CSV
- Select File & Import
 - 2310 Fund Roster





- Remove Columns
- Remove Rows (blanks, duplicates)
- Sort
- Split Column
- Change Case
- Append Data
- Merge Data
- Group
- Aggregate



NORTH DAKOTA
UNIVERSITY SYSTEM

Transform Data

- Tracks Changes
- Easy Split and Group options
- Change Name

The screenshot displays the Power Query Editor window for a file named 'FA920A - Sample File for Presentation'. The 'Transform' tab is active, showing various data transformation options. A red arrow points to the 'Refresh' button in the 'Query' group. The main data view shows a table with columns: ID, Name, NID, Institution, Aid Yr, Term, Descr, Finalid Type, and Source. The 'Query Settings' pane on the right is open, showing the 'APPLIED STEPS' section, which includes 'Source', 'Promoted Headers', and 'Changed Type' (highlighted with a red box).

ID	Name	NID	Institution	Aid Yr	Term	Descr	Finalid Type	Source
1					2023	2310 2022 Fall	Grant	State
2					2023	2310 2022 Fall	Grant	State
3					2023	2310 2022 Fall	Grant	State
4					2023	2310 2022 Fall	Grant	State
5					2023	2310 2022 Fall	Grant	State
6					2023	2310 2022 Fall	Grant	State
7					2023	2310 2022 Fall	Grant	State
8					2023	2310 2022 Fall	Grant	State
9					2023	2310 2022 Fall	Grant	State
10					2023	2310 2022 Fall	Grant	State
11					2023	2310 2022 Fall	Grant	State
12					2023	2310 2022 Fall	Grant	State
13					2023	2310 2022 Fall	Grant	State
14					2023	2310 2022 Fall	Grant	State
15					2023	2310 2022 Fall	Grant	State
16					2023	2310 2022 Fall	Grant	State
17					2023	2310 2022 Fall	Grant	State

Load Data

- To Table
- Connection Only
 - Doesn't add data to the file in a sheet
- To the Data Model
 - Data gets added to a sheet in the file

Hands On - Transform Data

- Transform Data
- Change ID & Item Type to Text
 - Replace Current
- Close & Load

2310 Fund Roster.csv

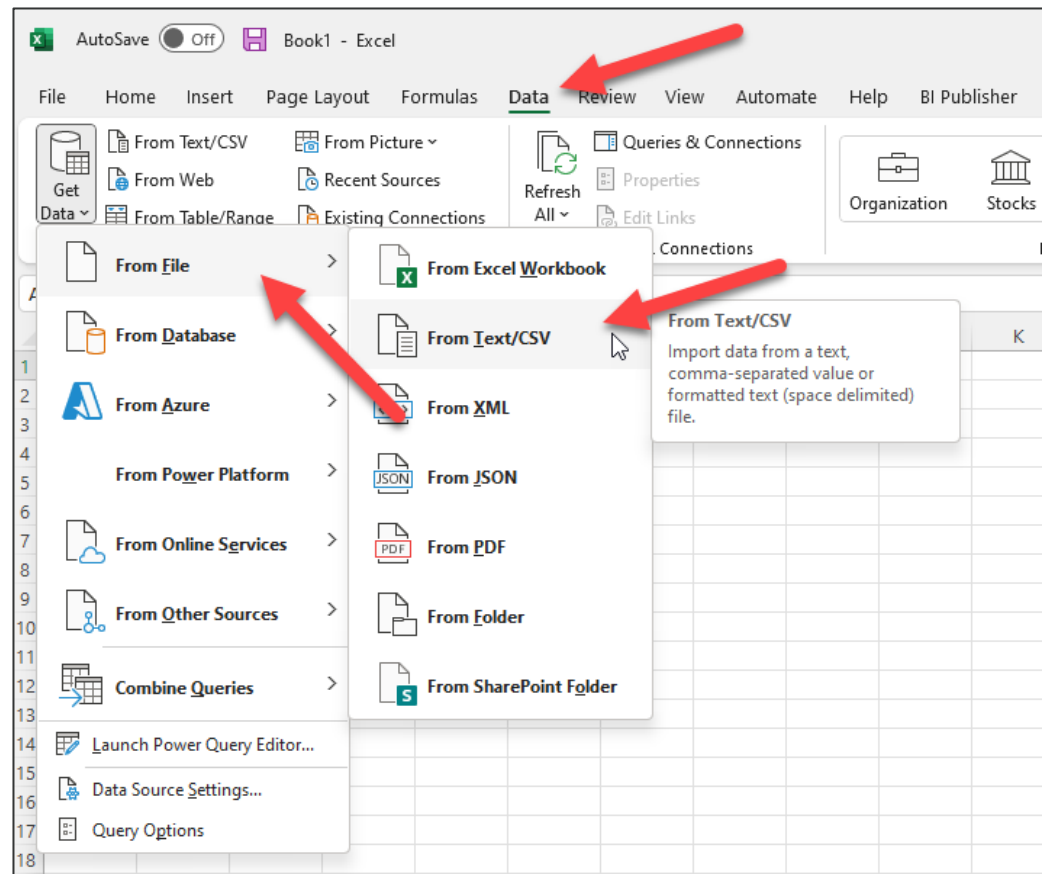
File Origin: 1252: Western European (Windows) | Delimiter: Comma | Data Type Detection: Based on first 200 rows

ID	Name	Institution	Career	Aid Yr	Term	Descr	Finaid Typ	Source	Item Type	Descr_1
		MASU1	UGRD	2023	2310	2022 Fall	Loan	Federal	9.12E+11	Federal DL Subsidized L
		MASU1	UGRD	2023	2310	2022 Fall	Loan	Federal	9.12E+11	Federal DL Unsubsidize
		MASU1	UGRD	2023	2310	2022 Fall	Loan	Federal	9.12E+11	Federal DL Subsidized L
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		MASU1	UGRD	2023	2310	2022 Fall	Grant	Federal	9.0E+11	Federal Pell Grant
		MASU1	UGRD	2023	2310	2022 Fall	Grant	State	9.0E+11	North Dakota State Gra
		MASU1	UGRD	2023	2310	2022 Fall	Waiver	Institutional	9.3E+11	Int'l Impact Program Sci
		MASU1	UGRD	2023	2310	2022 Fall	Waiver	Institutional	9.3E+11	Int'l Impact Prog Room
		MASU1	UGRD	2023	2310	2022 Fall	Grant	Federal	9.0E+11	Federal Pell Grant
		MASU1	UGRD	2023	2310	2022 Fall	Grant	Federal	9.0E+11	Federal SEOG Grant
		MASU1	UGRD	2023	2310	2022 Fall	Grant	State	9.0E+11	North Dakota State Gra
		MASU1	UGRD	2023	2310	2022 Fall	Scholarship	State	9.0E+11	ND Academic Scholarsh
		MASU1	UGRD	2023	2310	2022 Fall	Scholarship	Institutional	9.4E+11	Hinton, May Teien Scho
		MASU1	UGRD	2023	2310	2022 Fall	Scholarship	Private	9.4E+11	Dollars for Scholars
		MASU1	UGRD	2023	2310	2022 Fall	Scholarship	Institutional	9.4E+11	MSU Honor Scholarship
		MASU1	UGRD	2023	2310	2022 Fall	Grant	Federal	9.0E+11	Federal Pell Grant
		MASU1	UGRD	2023	2310	2022 Fall	Loan	Federal	9.12E+11	Federal DL Subsidized L
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		MASU1	UGRD	2023	2310	2022 Fall	Waiver	Institutional	9.3E+11	Cultural Diversity Tuitio
		MASU1	UGRD	2023	2310	2022 Fall	Scholarship	Institutional	9.4E+11	Storhaug, Nick & LaVon

Load | Transform Data | Cancel

Hands On - Import Data

- Data Tab
 - Get Data
 - From File
 - From Text/CSV
- Select File & Import
 - FA_Enrolled



Hands On - Transform Data

- Transform Data
- Change ID to Text
 - Replace Current
- Close & Load

2310 Fund Roster.csv

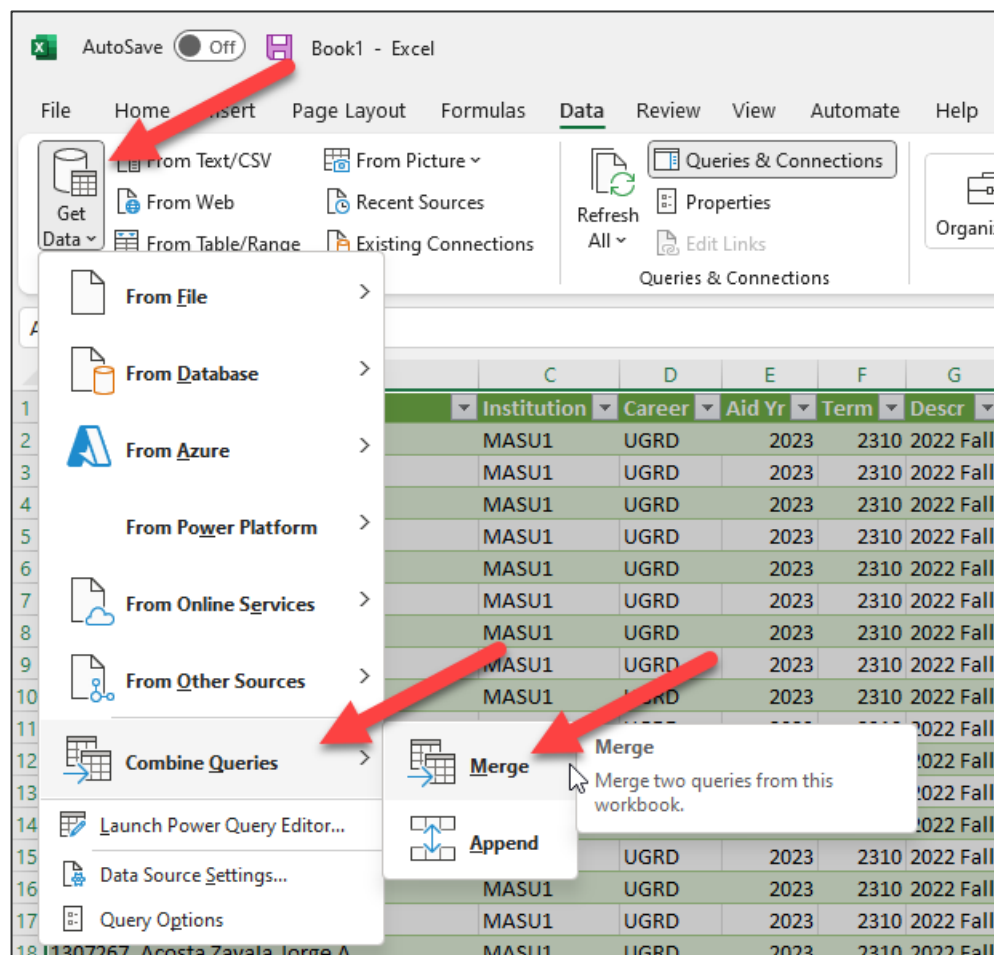
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Load | Transform Data | Cancel

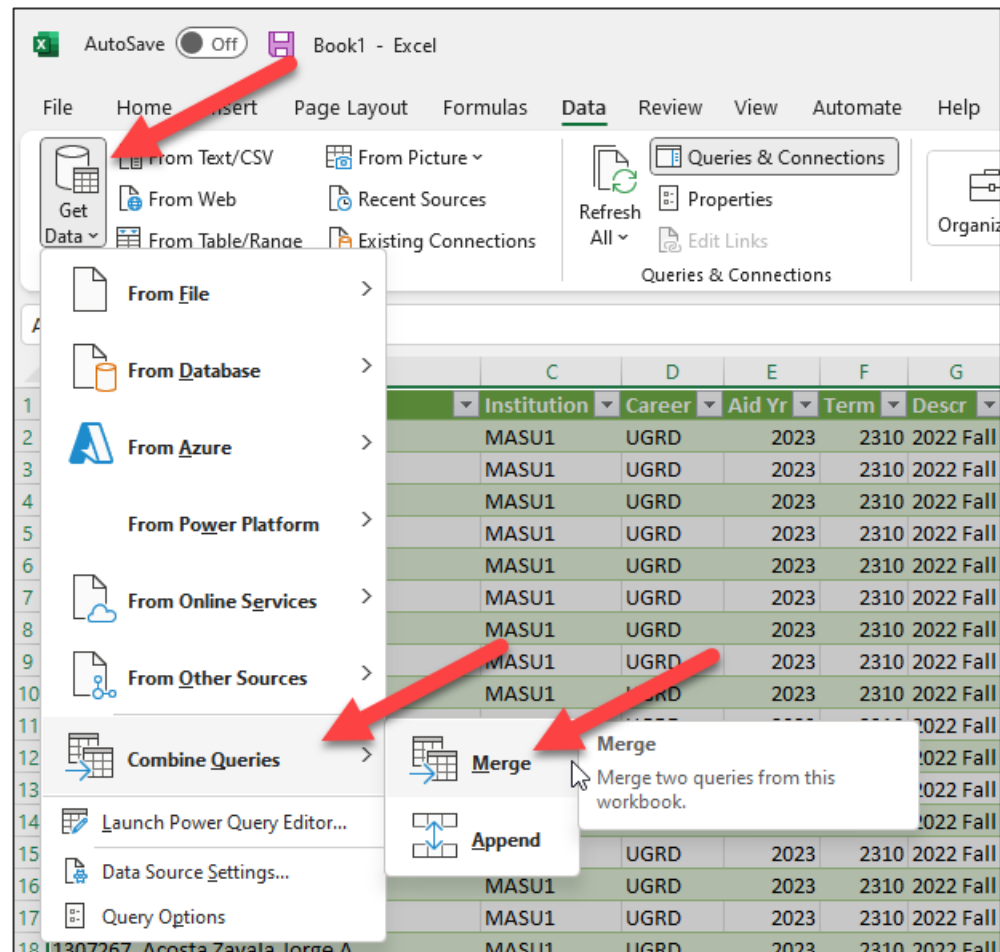
Combine Data

- Merge Data
 - Add data to the existing rows
- Append Data
 - Add more rows to the existing data set



Hands On - Combine Data

- Click Get Data > Combine Queries > Merge



Hands On - Combine Data

- Select data
 - 2310 Fund Roster
 - FA_Enrolled
- Click on column(s) to match
 - ID
- Review selection matches
- Click OK

Merge

Select tables and matching columns to create a merged table.

2310 Fund Roster

ID	Name	Institution	Career	Aid Yr	Term	Descr	Finaid Typ	Source	Item Typ
		MASU1	UGRD	2023	2310	2022 Fall	Loan	Federal	91200000
		MASU1	UGRD	2023	2310	2022 Fall	Loan	Federal	91200000
		MASU1	UGRD	2023	2310	2022 Fall	Loan	Federal	91200000
		MASU1	UGRD	2023	2310	2022 Fall	Loan	Federal	91200000

FA_Enrolled

EMPLID	Last Name	First Name	Career	Level	Admit Type	Program	Program Descr
			UGRD	Senior	RDM	UGGEN	University Stud
			UGRD	Junior	TRN	UGECH	Early Childhood
			UGRD	Freshman	ERE	UGNDG	Non-Degree
			CNED	Post-Bacc Undergraduate	NDG	CENON	Non-Degree

Join Kind

Left Outer (all from first, matching from second)

☐ Use fuzzy matching to perform the merge

► Fuzzy matching options

✓ The selection matches 2264 of 2320 rows from the first table.

OK Cancel

Hands On - Combine Data

- Expand Columns
 - Select the columns to merge – Enrolled Units and SAP Status
 - Uncheck Use original column name as prefix
 - Click OK
- Filter SAP Status
 - Not Meet or Null
- Rename Merge
 - 2310 SAP DQ with Award
- Close & Load

The screenshot shows the 'Expand Columns' dialog box in a data tool. The dialog has a list of columns with checkboxes. The 'Expand' radio button is selected. The 'Use original column name as prefix' checkbox is unchecked. The 'OK' button is at the bottom right. Red arrows point to the 'Expand' radio button, the 'Enrolled Units' checkbox, the 'Use original column name as prefix' checkbox, and the 'OK' button. The background shows a data table with columns 'Disb Date', 'Run Date/Time', and 'FA_Enrolled'.

Disb Date	Run Date/Time	FA_Enrolled
9/6/2022	9/2/2022 3:47:40 PM	Table



Other Use Cases

- Enrolled Student Group by Program with Awards
- State Grant or State Scholarship Reconciliation
- Possible new scholarships or waiver
- Other ideas?

Hands On – Exercise Handout

- Scenario 1
- Scenario 2
- Scenario 3
- Scenario 4



QUESTIONS?