

*Solutions Manual for Principles of
Taxation for Business and Investment
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Jones*

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McGraw-Hill Connect Applying Alteryx Exercises

Instructor Guidance

Data analytics is rapidly becoming a critical skillset for business professionals. McGraw-Hill Connect now provides a series of short, applied Alteryx exercises to assist accounting and taxation students in building their data analytics skills. Alteryx Designer (aka Alteryx) is a software program designed to extract, clean, and transform large data sets using a customized, visual interface. Use of Alteryx in business and the accounting profession has expanded rapidly in recent years, creating demand for accounting students to obtain at least basic knowledge of this program. The McGraw-Hill Connect Applying Alteryx Exercises were created to help meet this demand.

These exercises are designed to be hands-on, with students using Alteryx to manipulate provided data by creating their own workflows. For each exercise, demonstration videos walk the students through use of many of the Alteryx tools, providing ready guidance as they work. The exercises are accompanied by auto-gradable assessment questions, minimizing the time and effort required by instructors.

This document provides support for instructors wishing to assign their students any or all of these exercises. Below please find 1) a description of each exercise with estimated completion time, 2) a discussion of how to obtain a free Alteryx educational license, 3) a brief description of the Alteryx Foundation Micro Credential your students may wish to pursue, and 4) optional information for instructors wishing to have students submit their Alteryx workflows for instructor review.

Description of Exercises

At this time, we have created six Alteryx exercises. We expect to add more in the future. The first two exercises are not tax or accounting specific, but are designed to expose students to basic Alteryx functions. The remaining four exercises address tax technical issues by using Alteryx to determine the resulting tax outcomes. Each exercise is described in detail below, with estimates of the expected time for a student to complete each one:

- *Alteryx Overview Exercise*. In this exercise, students view a video walkthrough of the components of Alteryx Designer. Four assessment questions test their comprehension of the material in the video. Estimated completion time: 10 minutes.
- *Input Output Data Cleansing Exercise*. Students begin working with Alteryx in this exercise, to understand basic tools used to import data into the program, perform common data cleansing tasks, and export their cleaned and transformed data to an Excel output file. Four assessment questions focus on the Alteryx workflow and output file they create during the exercise. Estimated completion time: 20 minutes.
- *Net Present Value Exercise*. Students are provided ten years of cash inflow and outflow data for three investment options. Some of the cash inflows are taxable, others are tax exempt. Some of the cash outflows are deductible, others are not. Students apply provided tax rates and discount factors to create a workflow that computes annual after-tax cashflow and overall net present value for each investment option. Four assessment questions focus on the Alteryx workflow and output file they create during the exercise. Estimated completion time: 25 minutes.
- *Depreciation Exercise*. Students compute MACRS depreciation for a set of business assets. They are provided an asset list with cost, recovery life, and placed in service information. A second

data file contains MACRS recovery percentages for various recovery lives. Their workflow must join these two information sources to identify each asset's recovery year and compute current year depreciation. Five assessment questions focus on the Alteryx workflow and output file they create during the exercise. Estimated completion time: 30 minutes.

- **Property Disposition Exercise.** Students are given information to compute gain or loss and determine the character of such gain or loss (including depreciation recapture) for a set of business and investment assets sold during the year. Four assessment questions focus on the Alteryx workflow and output file they create during the exercise. Estimated completion time: 25 minutes. Five assessment questions focus on the Alteryx workflow they create during the exercise. Estimated completion time: 30 minutes.
- **Corporate Consolidation Exercise.** Students are given a listing of related corporations, including country of incorporation, within-group ownership percentages, and taxable income. They create a workflow to identify those corporations that can be included in a US consolidated tax return and compute that group's taxable income. Four assessment questions focus on the Alteryx workflow they create during the exercise. Estimated completion time: 25 minutes.

Instructors can choose which of the above exercises they wish to assign, and need not assign all of them if time is limited. We recommend use of the first two exercises for students with no prior Alteryx exposure. After that, instructors may choose as many of the four tax-related exercises as they wish.

Alteryx Educational Licensing

Alteryx provides complementary one-year educational licenses for instructors and students. Click **here** for the instructions we provide to students on how to obtain a license and install the software. You can also visit <https://www.alteryx.com/sparked> for more information.

Please note that Alteryx runs in a Windows environment. It will not work on a MAC computer, unless you use VMWare (such as Bootcamp) and purchase a Windows license.

Alteryx Foundation Micro-Credential Program

The Alteryx Foundation Micro-Credential is a great option for students wishing to demonstrate a foundational understanding of data analytics and basic Alteryx functionality. To obtain this credential, students must achieve a passing score on a 40 question open book exam, administered online by Alteryx. The exam tests knowledge of data analytics concepts and key Alteryx functionality. Alteryx provides an exam prep guide that includes more details on the exam as well as links to interactive lessons. We believe that completion of all six McGraw-Hill Connect Applying Alteryx Exercises is useful preparation for the application portions of the micro-credential exam. More information and access to both the prep guide and exam can be found here: <https://community.alteryx.com/t5/Certification/bd-p/product-certification>

Optional Student Submission of Alteryx Workflows for Instructor Review

Five of the six Applying Alteryx Exercises (all except the Alteryx Overview Exercise) require students to create an Alteryx workflow. Instructors wishing to provide more detailed feedback on students' work could require students to submit their workflows for instructor review. Of course, the nature and extent of that review is to be determined by the individual instructor. For instructors wishing to pursue this option, we provide solution workflows to be downloaded at the links below. Please note that in order for

these workflows to run properly, you will also need to download and save the related data files for each workflow, as provided in the student instructions. It is important that the data files and workflow be saved in the same folder on your computer, in order for the workflows to run properly.

The solution workflows are posted to the same folder as this document under the following file names:

- Input output cleansing solution.yxmd
- NPV solution.yxmd
- Depreciation exercise solution.yxmd
- Property dispositions solution.yxmd
- Corp consolidation solution.yxmd

We ask that you not share the solution workflows with your students or post them to any unsecured website, in order to maintain integrity of the exercises for other users.

Thank you for considering these exercises as a means to enhance your students' data analytics skills. We welcome your feedback on these exercises and any suggestions for additional exercises you would like to see. Please feel free to contact the exercise developers by emailing shelley.rhoades@villanova.edu.

Chapter 1: Taxes and Taxing Jurisdictions

Questions and Problems for Discussion

1. Tax payments differ from government fines and penalties because they aren't intended to deter or punish unacceptable behavior. Tax payments differ from fees or user charges because they don't entitle the payer to a specific government good or service, such as a postage stamp or a driver's license. Tax payments also differ from fees or user charges because they are compulsory.
2. This payment has characteristics of a tax, a penalty, and a user fee. The compulsory payment is not specifically punitive but does apply selectively to those companies most likely responsible for the polluted condition of Green River. However, these same companies may be the entities that benefit most from the environmental clean-up.
3. This payment more closely resembles a fee for a government service than a transaction-based tax because the transaction occurs between a private party and the jurisdiction itself, rather than between private parties engaging in a market transaction. The payment also entitles the payer to a specific benefit (the right to marry under law).
4. To the extent that the decline in exterior maintenance reduces the value of Mr. Powell's apartment complex, he bears the incidence of the increased property tax. To the extent that the decline reduces the value of adjoining properties or makes the neighborhood less attractive, the owners of the adjoining properties and the neighborhood residents share the incidence of the tax increase.
5. People who don't directly use public schools (such as Mr. and Mrs. Ahern or people who don't have children) indirectly benefit from a public education system for the general population. Arguably, public education contributes to a skilled workforce and improves the cultural and social environment in which Mr. and Mrs. Ahern live. Based on this argument, Mr. and Mrs. Ahern should not be exempt from the local property tax.
6. The consumers who pay the same price for a smaller bar of soap of lesser quality bear the incidence of the new gross receipts tax.
7. Real property can't be hidden or moved, and its ownership (legal title) is a matter of public record. In contrast, personal property is mobile and may be easily concealed. Moreover, jurisdictions may not have an effective means to discover or trace ownership of personal property.
8. Arguably, private golf courses beautify the locality and are environmentally more desirable than other commercial activities. They also may require more acreage than other businesses and, therefore, would be at a competitive disadvantage without a preferential real property tax rate.
9. Many jurisdictions that levy property taxes provide an exemption for public institutions, such as state universities or private colleges. If University K is entitled to such an exemption, every commercial building or residence acquired by the University reduces the local jurisdiction's property tax base.
10. Excise taxes are imposed on a much narrower range of consumer goods and services than sales taxes. Consequently, people can more readily avoid purchasing the specific good or service subject to excise tax.
11. The tax increase may have reduced the aggregate demand for consumer goods and, consequently, municipal residents are buying fewer goods. A second possibility is that municipal

residents are traveling to other jurisdictions with lower tax rates or making more purchases through mail order catalogs or online.

12. From a political perspective, liquor and cigarettes sales make an excellent tax base because consumption of the two products is purely discretionary, and any decline in consumption because of the tax is socially desirable. From an economic perspective, these sales are a good tax base because the demand for liquor and cigarettes is relatively price inelastic. In other words, people who drink and smoke on a regular basis buy these products regardless of a heavy excise tax.
13. The federal income tax has the broader base. The federal payroll tax is imposed on wages, salaries, and other forms of compensation earned by employees. The federal income tax is imposed on all types of compensation as well as net business profit, investment income, and any other income item from whatever source derived.
14. A property tax is a periodic (usually annual) tax levied on the *ownership* of property and based on the value of the property on a particular assessment date. A transfer tax is a transaction-based tax levied on the *transfer* of property from one party to another. A transfer tax is based on the value of the property at date of transfer.
15. If the federal government could “piggyback” a national sales tax on existing state sales tax collection systems, the federal government could avoid creating a new federal agency for collecting the tax. In contrast, the federal government would have to create a new collection system for a national VAT. However, a national VAT would be less likely to cause jurisdictional conflict between the federal government and the states because states don’t depend on VATs as a source of revenue.
16. The Internal Revenue Code is federal statutory law, enacted by Congress and signed by the President. Technically, Treasury regulations only interpret and explain the statute and aren’t laws in their own right. Thus, regulations are less authoritative than the Code itself. However, because Congress authorized the Treasury to write regulations, they are the government’s official interpretation of statutory law. Practically, the regulations carry considerable authoritative weight.

Application Problems

1.
 - a. The statement of facts identifies three taxpayers: Mr. Josh Kenney, JK Services, and JK Realty.
 - b. The government of the locality in which Mr. Kenney resides, the state government of Vermont, and the U.S. government have jurisdiction to tax Mr. Kenney. The local governments of the four counties in which JK Services conducts business, the state government of Vermont, and the U.S. government have jurisdiction to tax JK Services. The city of Boston, the state government of Massachusetts, and the U.S. government have jurisdiction to tax JK Realty.
2.
 - a. The United States has jurisdiction to tax Mrs. Mendez because she is a permanent resident.
 - b. The United States has jurisdiction to tax Mrs. Mendez only on the U.S. source rental income generated by the Manhattan real estate.
 - c. The United States does not have jurisdiction to tax Mrs. Mendez.

- d. The United States has jurisdiction to tax Mrs. Mendez because she is a U.S. citizen.
- 3.
- a. The United States has jurisdiction to tax Mr. Tompkin because he is a U.S. citizen.
- b. The United States has jurisdiction to tax Mr. Tompkin only on the U.S. source rental income generated by the Buffalo real estate.
- c. The United States has jurisdiction to tax Mr. Tompkin because he is a permanent resident.
- d. The United States has jurisdiction to tax Mr. Tompkin on his share of the U.S. source business income generated by Sophic Partnership.

4. State A:

Volume of sales before rate increase	\$800,000,000
Original tax rate	<u>.05</u>
Revenue before rate increase	\$40,000,000
Volume of sales after rate increase	\$710,000,000
New tax rate	<u>.06</u>
Revenue after rate increase	\$42,600,000
Additional revenue (\$42,600,000 – \$40,000,000)	<u>\$2,600,000</u>

State Z:

Volume of sales added to tax base	\$50,000,000
Tax rate	<u>.05</u>
Additional revenue	<u>\$2,500,000</u>

- 5.
- a. The property tax is \$8,300 ($\$415,000 \times 2\%$).
- b. The property tax is \$19,000 ($[\$500,000 \times 2\%] + [\$225,000 \times 4\%]$).
- 6.
- a. The property tax is \$39,000 ($\$1.3 \text{ million} \times 3\%$).
- b. The property tax is \$85,000 ($[\$2 \text{ million} \times 3\%] + [\$2.5 \text{ million} \times 1\%]$).
- 7.
- | | |
|--|---------------------|
| Increase in County G's aggregate assessed property tax value | \$23,000,000 |
| Assessed value of Lexon's new facility | <u>(20,000,000)</u> |
| Net increase in County G's tax base | \$3,000,000 |
| Tax rate | <u>.04</u> |
| Net effect on County G's current year revenue | <u>\$120,000</u> |
- 8.
- a.
- | | |
|--|-----------------|
| Value of property purchased in State K | \$600,000 |
| Use tax rate in State H | <u>.06</u> |
| Pre-credit use tax | \$36,000 |
| Sales tax paid to State K | <u>(18,000)</u> |
| Use tax owed to State H | <u>\$18,000</u> |

b.	Value of property purchased in State L	\$750,000
	Use tax rate in State H	<u>.06</u>
	Pre-credit use tax	\$45,000
	Sales tax paid to State L	<u>(48,750)</u>
	Use tax owed to State H	-0-

9.

a.	Value of property purchased in State B	\$90,000
	Use tax rate in State V	<u>.05</u>
	Pre-credit use tax	\$4,500
	Sales tax paid to State B	<u>(5,400)</u>
	Use tax owed to State V	-0-
b.	Value of property purchased in State D	\$200,000
	Use tax rate in State V	<u>.05</u>
	Pre-credit use tax	\$10,000
	Sales tax paid to State D	<u>(7,000)</u>
	Use tax owed to State V	<u>\$3,000</u>

10.

- a. Mrs. Palencia owes \$658 in Rhode Island use tax ($\$9,400 \times 7\%$).
- b. Mrs. Palencia owes no Rhode Island use tax because her \$823 New York sales tax ($\$9,400 \times 8.75\%$) exceeds \$658.
- c. Mrs. Palencia owes \$188 in Rhode Island use tax ($\$658 - \470 credit for Wisconsin sales tax [$\$9,400 \times 5\%$]).

11.

- a. Ms. Pike owes \$1,450 in California use tax ($\$20,000 \times 7.25\%$).
- b. Ms. Pike owes \$425 in California use tax ($\$1,450 - \$1,025$ credit for New Mexico sales tax [$\$20,000 \times 5.125\%$]).

12.

- a. State R residents who purchase property out-of-state (i.e., through the mail) but use and consume the property in State R owe the 6 percent use tax.
- b. The fact that Correll must *collect* the State R use tax does not affect the legal liability of State R residents to *pay* the tax. However, very few people actually pay a *self-assessed* use tax. Thus, State R might collect as much as \$1,080,000 additional revenue (6 percent of \$18 million sales to State R customers) if Correll was required to collect use tax at point of sale and remit the tax to State R.

13.

- a. Mr. and Mrs. Aziz aren't required to pay sales tax on the purchase of inventory goods because they aren't the final consumers of the goods. The hardware store's retail customers must pay the sales tax when they purchase goods. Mr. and Mrs. Aziz are required to collect this tax at point of sale.

- b. Mr. and Mrs. Aziz should time their purchases to minimize their inventory on hand as of December 31 of each year, thereby minimizing the book value on which the personal property tax is based.

14. Querrey Inc.:

Sales revenue (\$9 × 12.4 million units)	\$111,600,000
Cost of sales (\$6 × 12.4 million units)	(74,400,000)
Value added by Querrey Inc.	\$37,200,000
Tax rate	.03
VAT	<u>\$1,116,000</u>

Ronno Inc.:

Sales revenue (\$10 × 12.4 million units)	\$124,000,000
Material cost of sales (\$9 × 12.4 million units)	(111,600,000)
Value added by Ronno Inc.	\$12,400,000
Tax rate	.03
VAT	<u>\$372,000</u>

15. Sales revenue (\$7.50 × 8.3 million units)	\$62,250,000
Material cost of sales (\$5 × 8.3 million units)	(41,500,000)
Value added by Wallis Company	\$20,750,000
Tax rate	.15
VAT	<u>\$3,112,500</u>

Issue Recognition Problems

- Are Mr. and Mrs. Julius required to pay the property tax for a full year even though they lived in the home for only three months of the year? Is there any mechanism for allocating the property tax attributable to the period January 1 through October 5 to the former owners?
- Are the lighting and fences permanent improvements to real property (corporate headquarters) so that their value adds to the real property tax base, or can they qualify as personalty that is exempt from real property tax?
- How does each jurisdiction in which the plane is temporarily stored define or identify business tangibles subject to tax? Is jurisdiction based on a minimum number of days of physical presence in the state? Is the annual personal property tax prorated to reflect the number of days that property is used or stored in the state?
- Does State A have jurisdiction to tax the retirement income that Mrs. Gupta earned while she was a resident of State A but that she receives while she is a resident of State K?
- Did the sale of the furniture from Vendor V to Yarrow occur in State V or in State Q? Does State V have jurisdiction to tax the transaction even though the office furniture was shipped out of state?
- Do Acme Corporation's activities in States X, Y, and Z give all three states jurisdiction to tax Acme's business income? How much of Acme's net profit can be taxed by each state with jurisdiction?
- Which of the 14 states has jurisdiction to tax Mr. Wycomb's professional income? How much of this total prize money is subject to each state's personal income tax?

8. Does the abatement agreement require BBB Company to repay any of the foregone property taxes or incur any penalty if it terminates its business activity in County K before the end of the abatement period?
9. Does the fact that Dempsey Corporation sells goods to U.S. customers give the United States jurisdiction to tax the Canadian corporation? Is the income generated by Dempsey's sales to U.S. customers considered U.S. source income subject to federal income tax?
10. When Mr. Imhoff dies, can the United States government claim jurisdiction to impose the federal estate tax on his net worth? Can an individual who has been a U.S. citizen escape federal taxation by renouncing his citizenship and moving to a foreign country?

Research Problems

The first three research problems for Chapter 1 are designed to encourage students to explore websites that contain a wealth of information on local, state, and federal taxes. Problem 4 is an exercise to increase students' awareness of their state's sales tax and the items on which the tax is imposed.

Answers to these questions will vary from student to student and depend in part on the student's state of residence.

Tax Planning Cases

1. Nixon's management must compare the tax costs of operating in each jurisdiction.

Value of tangible business property	\$10,000,000
Jurisdiction F's property tax rate	<u>.04</u>
	\$400,000
Annual gross receipts	\$2,000,000
Jurisdiction F's gross receipts tax rate	<u>.15</u>
	\$300,000
<i>Tax cost of operating in Jurisdiction F</i>	<u>\$700,000</u>
Annual gross receipts	\$2,000,000
Jurisdiction G's gross receipts tax rate	<u>.30</u>
<i>Tax cost of operating in Jurisdiction G</i>	<u>\$600,000</u>

Based solely on the comparative tax costs, Nixon should locate its new branch in Jurisdiction G.

2. Before the tax increase, KTR's taxable income was \$200 million (\$10 profit per unit × 20 million units), its income tax cost was \$40 million, and its after-tax profit was \$160 million. If KTR's taxable income does not change, the rate increase from 20 percent to 22 percent would increase the income tax cost to \$44 million and decrease after-tax profit to \$156 million. If KTR increases its profit per unit to \$10.20, but sells only 19 million units, its taxable income will decrease to \$193.8 million. Its tax on this income will be \$42.636 million, and its after-tax profit will be \$151.164 million. Thus, KTR's owners will maximize after-tax profit if they don't raise the price of their product.