

Transfer Pricing at Parson Foods Company: When the Lure of Cheaper Foreign Production Does Not Deliver

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ABSTRACT: Based on an actual scenario, this case explores a unique setting of international transfer pricing: a *maquiladora* operation. A *maquiladora* is a low-cost factory in Mexico, which is typically owned by a U.S. parent company. The transfer pricing approach for *maquiladoras* is unusual because *maquiladoras* enjoy favorable duty-free and tariff-free of raw materials, machinery, and equipment as long as the finished products are exported back to the U.S. market. This case presents a challenge that a U.S. parent company, who is supposed to take advantage of lower labor costs and tax benefits by setting up a *maquiladora* subsidiary, learns that its *maquiladora* operation has brought down its overall profitability. Students perform both quantitative and qualitative analysis from different perspectives (cost/managerial, financial, and tax accounting). Pricing decisions, incentive issues, and the dynamics of centralized policy-making and foreign subsidiary autonomy are considered. The case can be adapted for use in cost accounting and managerial accounting courses at both the undergraduate and graduate levels.

Keywords: cost accounting; managerial accounting; product costing; outsourcing; international transfer pricing; *maquiladora*; duty-free, tariff-free; low-cost manufacturing; foreign subsidiary

INTRODUCTION

William F. Parson established Parson Foods Company (“PFC”) in the late 1800’s in Green Lake, Wisconsin, as one of the first processors of canned vegetables in the United States. PFC primarily sourced and canned peas, green beans, carrots and corn grown in the Midwest. In 1926, the company introduced “Mixall”, a mixture of vegetables in a can. In the mid 1950’s PFC began freezing vegetables. Through a series of acquisitions of frozen vegetable processors in the late 1990’s, PFC became the largest processor of frozen vegetables in the United States with domestic operations coast-to-coast.

One vegetable processing company acquired by PFC was Eagle Foods (“EF”), with an acquisition value of \$140 million. The acquisition included purchasing EF’s wholly owned Mexican subsidiary, Eagle Foods Sociedad Anonima (“EFSA”), marking PFC’s first international exposure in processing and importing frozen vegetables. EFSA annually exports all 50 million pounds of broccoli it processes and freezes to EF in the United States. Prior to the acquisition, EF managed its subsidiary with a decentralized management philosophy, allowing EFSA management to operate autonomously with very little oversight from the corporate office.

MEXICAN *MAQUILADORA* PROGRAM

EFSA is a *maquiladora*, a Mexican company that provides manufacturing or assembling services to a U.S. partner. While a *maquiladora* is a legal entity in Mexico, the formation of a *maquiladora* requires the sponsorship of a U.S. company. In 1965, the government of Mexico established the *Maquiladora* program (now legally known as IMMEX: Maquiladora, Manufacturing and Export Services Industry) to stimulate the economy, attract foreign investment, and create jobs along the U.S.-Mexico border. The Mexican government provided *maquiladora* companies with special provisions and preferential customs treatment that were not

available to local Mexican companies. Particularly, the Mexican government allowed *maquiladoras* to import raw materials, parts, and components on a duty-free basis into Mexico for manufacturing, processing, or assembly, with the understanding that the finished products will be exported out of Mexico.¹

At the same time, the *maquiladora* industry was greatly assisted by a U.S. customs program that provides favorable duty treatment to “American goods returned” after undergoing processing abroad. That is, as long as the original components come from the U.S., the finished goods assembled outside the U.S. can enter the country without paying U.S. import duties on the value of the U.S. components. The import duties are imposed only on the value of the operations performed abroad. The complementary benefits provided by the Mexican and the U.S. governments enabled *maquiladora* companies to import U.S. raw materials or commodities for processing in Mexico and re-export the finished products to the United States virtually duty-free. The importing U.S. company pays an import duty to the United States Customs and Border Protection on the conversion costs incurred in Mexico. Specifically, the import duty is imposed on the sum of manufacturing conversion costs: direct labor, manufacturing overhead, administrative costs, and any markup.

The *maquiladora* program appeals to U.S. manufacturers that seek to enhance their international competitiveness by tapping into lower wages in Mexico. The removal of restrictions on non-Mexican ownership of *maquiladoras* in 1972 resulted in an exponential increase of U.S. investment in the *maquiladora* program, leading *maquiladoras* to play an important role in U.S. production. Top 100 *maquiladora* employers include such major U.S.

¹ “*Maquiladora*”, derived from the Spanish word “*maquilar*”, is a term used to describe assembly services without necessarily taking ownership of products being assembled. Hence, *maquiladoras* are often referred to as “in bond” or “twin” plants.

companies as Ford Motor Company, General Electric, and Johnson & Johnson. Furthermore, thousands of U.S. suppliers are connected to *maquiladoras* by providing raw materials and components. Mexico, in turn, greatly benefits from the large flow of trade created by *maquiladoras*. *Maquiladoras* represent the second largest industrial segment in Mexico, after oil production. Roughly 80 percent of goods produced in Mexico are shipped to the United States, with *maquiladoras* responsible for an estimated 65 percent of Mexico's exports.²

Originally, *maquiladoras* typically operated as cost centers for the U.S. parent or client companies. *Maquiladoras* would bill the U.S. partners for the value added (labor and overhead costs) incurred in Mexico plus a small percentage of markup, traditionally between 1% and 5%. Therefore, profit was guaranteed to the *maquiladora*, albeit minimal. Such low profit margins allowed the U.S. parent companies to minimize the tax liabilities of their *maquiladora* subsidiaries. Because Mexico imposes a corporate tax rate as high as 35%, unlike other developing countries that offer lower tax rates to attract foreign investors, being able to operate *maquiladoras* as (effectively) cost centers enabled *maquiladoras* to stay competitive for foreign parent companies pursuing a low-cost strategy. *Maquiladoras* typically incur operating expenses in pesos, the local currency in Mexico, and bill their U.S. clients or parents in U.S. dollars.

In late 2000, the Mexican government introduced new regulations that were intended to raise tax revenues but, simultaneously, hurt *maquiladoras*' competitiveness. Under the new regulations, *maquiladoras* can no longer operate as cost centers. Instead, *maquiladoras* must operate as profit centers and are required to bill their foreign partners in "arm's length" transactions. However, in lieu of meeting the arm's length requirements, the Mexican government offers two "Safe Harbor" options to *maquiladoras*. Specifically, the Mexican

² <https://www.acrecent.com/maquiladoras-in-mexico-benefits-and-challenges/>

government requires that *maquiladoras* taking advantage of Safe Harbor options report minimum pre-tax income as the largest of two computations: (a) 6.5 percent of total operating expenses, or (b) 6.9 percent of operating assets.³

These Safe Harbor provisions ensure that a portion of taxable income of *maquiladoras* is retained, and taxed, in Mexico. On one hand, the Safe Harbor provisions potentially reduce the administration costs and procedures for *maquiladoras* because documenting compliance with Safe Harbor provisions may be easier than demonstrating that an arm's length transaction has occurred. On the other hand, choosing to use the Safe Harbor provisions is likely to substantially increase *maquiladoras*' income tax liability; in fact, with these tax changes *maquiladoras* might be expected to pay anywhere from 100 to 800 percent higher taxes. Unfortunately, one outcome of these new transfer pricing and tax requirements is that *maquiladoras* have seen their competitiveness erode. Mexico is now experiencing a decline in the *maquiladora* industry, a crucial part of the Mexican economy, by losing out to less expensive manufacturing opportunities in other countries.

PROFITABILITY ISSUES BROUGHT BY MAQUILADORA SUBSIDIARY

The role of Eagle Foods Sociedad Anonima ("EFSA") as a *maquiladora* is unusual because most *maquiladoras* deal with non-perishable products; hence, those *maquiladoras* typically import from the U.S. parts and components related to manufacturing and assembly processes. In contrast, the only raw materials imported by EFSA from the United States are broccoli seeds and packaging materials. In Mexico the seeds are grown into broccoli that is harvested, processed, frozen, packaged and then exported back to the United States.

³ <https://www.cuevasandcuevas.com/maquiladora-program-in-mexico/>

PFC management considers the *maquiladora* program to be an opportunity to reduce total overall frozen broccoli costs and improve company profits in an industry with slim profit margins, often measured in pennies per pound. During due diligence efforts when PFC acquired EF, the controller of EF indicated that EFSA was in compliance with the first option of the Safe Harbor provision. Specifically, EFSA's transfer price to EF was at least 6.5 percent of manufacturing conversion costs, an amount that was internally referred to as "total cost to the border".

When PFC acquired EF (and simultaneously acquired EFSA), PFC expected that EFSA broccoli processing costs would be considerably lower than domestic broccoli processing costs. After the acquisition, the management of PFC instructed its financial analyst to generate comparative profit and loss statements by vegetable group (e.g. cauliflower, carrots, broccoli, etc.) and quantify the impact of the acquisition of EFSA on the overall profit of PFC. PFC management was surprised and disappointed to learn that, instead of seeing an increase in the overall gross profit margin of broccoli production, the combined gross profit declined by \$0.0137 per pound, a decrease from \$0.1200 per pound to \$0.1063 per pound. Exhibit 1 compares the net income of PFC for broccoli production based on domestic operation (produced by PFC) and the net income of PFC based on combined operations (broccoli production by both PFC and EFSA).

[Insert Exhibit 1 Here]

This result was puzzling. Exhibit 2 shows that EFSA's broccoli manufacturing conversion costs (i.e., direct labor and manufacturing overhead) per pound (\$0.0600 and \$0.0900 per pound, respectively) are indeed much cheaper than the comparable PFC domestic costs

(\$0.1500 and \$0.2500 per pound, respectively). Factors other than manufacturing costs appear to be adversely influencing broccoli costs from EFSA.

[Insert Exhibit 2 Here]

In addition to the analysis presented in Exhibits 1 and 2, the financial analyst generated an EFSA income statement as presented in Exhibit 3.

[Insert Exhibit 3 Here]

The financial analyst noticed several factors that complicate the analysis of profitability for EFSA and PFC. First, while the federal income tax rates of EFSA (located in Mexico) and PFC (located in the U.S.) are both 35 percent, EFSA's pre-tax income is subject to another financial burden. Specifically, the Mexican government mandates that all Mexican companies, including *maquiladoras*, distribute to their employees 10 percent of their pre-tax income in the form of employee profit-sharing.

Second, PFC pays an import duty rate of 16 percent. That is, PFC pays \$0.1600 for every dollar of transfer price paid by PFC to EFSA for the broccoli. These duties are paid to the U.S. Customs and Border Protection when the broccoli is re-exported to the United States. Third, the financial analyst learned that the exchange rates of the Mexican peso to the U.S. dollar have been volatile; that is, the value of the peso has been depreciating and appreciating sharply for the past five years.

Using the current transfer price between EFSA and PFC, the financial analyst summarized the overall impact of federal income taxes, mandatory profit sharing, and import duties (see Exhibit 4). The analyst also summarized the total combined pre-tax income of PFC based on the current transfer price (see Exhibit 5).

[Insert Exhibit 4 Here]

[Insert Exhibit 5 Here]

CASE REQUIREMENTS

1. What markup is EFSA currently charging? Is EFSA in compliance with the *maquiladora* Safe Harbor provisions for transfer pricing?
2. Calculate the minimum allowable *maquiladora* transfer price per pound under the Safe Harbor provisions. Using this new transfer price, calculate PFC's revised (a) total broccoli costs per pound from EFSA (including import duties) and (b) combined weighted average broccoli cost per pound.
3. If EFSA charges the minimum allowable *maquiladora* transfer price, calculate the effect on (a) EFSA's pre-tax income and (b) PFC's combined pre-tax income.
4. What conditions might exist that encourage EFSA management not to charge the minimum allowable transfer price under the Safe Harbor provisions?
5. What challenges do you envision when communicating a revised transfer price to EFSA management?
6. Suppose that PFC instructs EFSA to charge the minimum allowable transfer price. (a) What will be the overall after-tax income (and after import duties) effect for EFSA and PFC? (b) Will overall PFC profitability be higher or lower? (c) After performing this analysis, do you think that PFC should instruct EFSA to charge the minimum allowable transfer price? Please explain.

EXHIBIT 1
Parson Foods Company (PFC)
Profit and Loss Statement - Vegetable Group: Broccoli

	<u>U.S.</u>		<u>U.S. and Mexico</u>	
	<u>Production</u>	<u>Per Pound</u>	<u>Production</u>	<u>Per Pound</u>
Sales volume (in pounds)	65,000,000		115,000,000	
Sales revenue (from external customers)	\$ 40,300,000	\$ 0.6200	\$ 71,300,000	\$ 0.6200
Cost of goods sold	32,500,000	\$ 0.5000	59,073,200	\$ 0.5137
Gross profit (pre-tax income)	\$ 7,800,000	\$ 0.1200	\$ 12,226,800	\$ 0.1063
Gross profit margin	19.35%		17.15%	
Income taxes (35%)	\$ 2,730,000	\$ 0.0420	\$ 4,279,380	\$ 0.0372
Net income after taxes	\$ 5,070,000	0.0780	\$ 7,947,420	\$ 0.0691

EXHIBIT 2

Parson Foods Company (PFC)

Total Broccoli Cost per Pound: U.S. Production, Mexico Production, and Weighted Average

U.S. Production		Mexico Production	
Production volume (in pounds)	65,000,000	Production volume (in pounds)	50,000,000
<u>Cost Item</u>	<u>Cost per Pound</u>	<u>Cost Item</u>	<u>Cost per Pound</u>
Raw materials and packaging**	\$ 0.2500	Raw materials and packaging imported from the U.S.**	\$ -
Direct labor	\$ 0.1000	Direct labor	\$ 0.0600
Manufacturing overhead	\$ 0.1500	Manufacturing overhead	\$ 0.0900
		Total manufacturing costs	\$ 0.1500
		Freight and transfer expenses	0.0500
		General administration expenses	\$ 0.0400
		Total operating expenses of maquiladora operation	\$ 0.2400
		Markup on total cost of maquiladora operation	<u>0.1104</u>
		EFSA transfer price to PFC	\$ 0.3504
		Import duties paid by PFC (16%)	\$ 0.0561
		**Raw materials and packaging (not subject to U.S. import duties)	\$ 0.1250
Total Broccoli Cost	<u>\$ 0.5000</u>	Total Broccoli Cost	<u>\$ 0.5315</u>
Total production volume (in pounds)	115,000,000		
Weighted-average cost per pound	\$ 0.5137		

EXHIBIT 3
Eagle Foods Sociedad Anonima (EFSA)
Income Statement

	<u>Total</u>	<u>Per Pound</u>
Sales Volume (in Pounds)	50,000,000	
Sales (Internal, sold to PFC)	\$ 17,520,000	\$ 0.3504
Freight and Transfer Expenses	<u>2,500,000</u>	<u>\$ 0.0500</u>
Net Sales	\$ 15,020,000	\$ 0.3004
Cost of Goods Sold (Manufacturing Conversion Costs)	<u>7,500,000</u>	<u>\$ 0.1500</u>
Gross Profit	7,520,000	\$ 0.1504
Gross Profit %	42.92%	
General Administration Expenses	<u>2,000,000</u>	<u>\$ 0.0400</u>
Pre-tax Income	\$ 5,520,000	\$ 0.1104
Income Taxes and Employee Profit-Sharing (45%)	<u>\$ 2,484,000</u>	<u>\$ 0.0497</u>
Net Income After Taxes	<u>\$ 3,036,000</u>	<u>\$ 0.0607</u>

EXHIBIT 4

Total Impact of Income Taxes, Import Duties, and Employee Profit-Sharing

	<u>Total</u>	<u>Per Pound</u>
Total income taxes paid by PFC	\$ 4,279,380	\$ 0.0372
Import duties paid by PFC	2,803,200	0.0244
Income taxes and employee profit-sharing paid by EFSA	<u>2,484,000</u>	<u>0.0216</u>
<i>Total</i>	<u><u>\$ 9,566,580</u></u>	<u><u>\$ 0.0832</u></u>

EXHIBIT 5

Total Combined Pre-tax Income - PFC and EFSA

Pre-tax income - PFC (United States)	\$ 12,226,800	(see Exhibit 1)
Pre-tax income - EFSA (Mexico)	<u>5,520,000</u>	(see Exhibit 3)
<i>Total Pre-tax Income (PFC Combined)</i>	<u><u>\$ 17,746,800</u></u>	

CASE LEARNING OBJECTIVES AND IMPLEMENTATION GUIDANCE

Case Motivation

This case is specifically developed to introduce cost and managerial accounting students to a unique setting where an international transfer pricing situation presents counterintuitive issues. One readily expects that *maquiladora* programs, an offshore manufacturing strategy that benefits from a cheap labor force and favorable tax treatments, are supposed to help U.S. companies to reduce their production costs. The case challenges this common assumption and helps students better understand (1) the impact of transfer pricing on overall profitability in a real-world scenario; (2) both financial and non-financial factors that influence transfer pricing decisions; and (3) the detailed components of product costs that do not necessarily follow a “standard format” taught in textbooks. The case also illustrates tough managerial issues associated with a decentralized model in parent-foreign subsidiary relationships. Finally, the case reveals the financial and managerial consequences of changing the role of a foreign subsidiary from a cost-center to a profit-center.

Prior Literature

Few international transfer pricing cases are available in the literature. In this section we review the essential differences between our case and the prior studies, highlighting the contributions of our case to the body of knowledge addressed in prior transfer pricing cases.

First, most international transfer pricing cases largely focus on minimizing tax liability, determining appropriate transfer pricing methods, and issues surrounding the arm’s length principle. The scenarios also typically involve parent companies and foreign subsidiaries with different effective tax rates, and transfer pricing is seen as a strategy to shift profits to low-tax jurisdictions (e.g., Cripe et al. 2016, Gujarathi 2007, Noga et al. 2007, Myring and Bloom 2007).

In contrast, our case describes the relationship of a *maquiladora* subsidiary and a U.S. parent company and demonstrates a transfer pricing strategy that exploits cheap labor across the U.S. border. Our case presents an unusual situation: both the parent company and the foreign subsidiary face the *same* tax rates. On top of that, the foreign subsidiary is required by its government to share 10% of their taxable income with their employees. As a result, this profit-sharing obligation can be seen as *an implied additional tax* on the subsidiary's bottom line. The issues concerning the arm-length principle are also more nuanced in our case because *maquiladoras* can opt to meet the Safe Harbor provisions in lieu of establishing arm's length prices using market comparables.

Second, our case shares some similarities with the case by Feltham, Phillips, and Sheehan (2003) and highlights "the fluidity" of transfer prices: corporate decentralization, divisional autonomy, and incentive structures can influence the transfer pricing policy. In addition, our case is similar with the case by Kalesnikoff and Kalagnanam (2012) that covers the conflict of interests associated with international transfer pricing. The problems presented in our case can also be seen as a "make-or-buy" decision, which requires students to think critically when comparing the cost-benefit of producing domestically versus offshore manufacturing. This case presents unique product costing calculations, in which the raw materials are American-made fabricated components and are returned to the U.S. as parts of products assembled abroad.

Third, to our knowledge, our case is the first that discusses the *maquiladora* industry as the backdrop for international transfer pricing issues. The *maquiladora* industry has been widely discussed in the literature of international economics (Bergin et al. 2009, Bergin et al. 2011), labor economics (Toledo 2007), strategic management (Teagarden et al. 1992), and business ethics (Raisner 1997, Carrillo and Zárate 2009); however, it has not been discussed in the

accounting literature, despite the significance of its financial, managerial, and tax ramifications. The case demonstrates that counterintuitive outcomes can occur in the presence of low-cost offshore labor. It shows students that a low-cost labor strategy does not necessarily guarantee a low product cost, indicating that many factors beyond cost components need to be considered when managing global offshoring strategies. Finally, the case provides a rare insight into the complexities of a role changing from a cost center to a profit center in multinational operations.

Case Learning Objectives

The learning objectives of this case are to enhance students' competencies in the following areas:

1. Apply cost and managerial accounting knowledge to determine the appropriate the transfer pricing strategy that meets statutory laws, i.e., the *maquiladora*'s Safe Harbor provisions (case questions 1, 2, and 3).
2. Analyze both internal and external nonfinancial factors that product costs despite low labor cost and tax benefits offered by a *maquiladora* operation (case questions 4 and 5).
3. Evaluate the financial impacts of both current and alternative transfer pricing strategies on product costs, the profitability of the *maquiladora* subsidiary, tax liabilities, and the overall profitability for a U.S. parent company (case question 6).

Implementation Guidance

Two authors at different universities have assigned the case in one undergraduate cost accounting course and two graduate courses of managerial accounting. Based on our experience, one particular strength of the case is it that can be flexibly utilized by instructors.

For example, the case is short enough that it can be entirely completed by graduate Master of Accountancy (MAcc) students during one 75-minute class session. That is, MAcc students are able to arrive in class without any prior preparation and then read and complete the case requirements in small groups in roughly one hour. This gives the instructor roughly 15 minutes at the end of the class period to discuss key aspects of the case with students.

Alternatively, the case is deep enough to be taught more traditionally. That is, the case can be assigned to groups of (or individual) students to be completed outside of class, and the case can be discussed with students during the designated class period. Using this format an instructor might choose to have one or more groups present their analysis to the class.

Finally, an instructor can also choose to better prepare students for specific aspects of the case. For example, an instructor might budget time during an earlier class period to introduce case topics such as transfer pricing or *maquiladoras*. Alternatively, an instructor might ask students to write a one-page essay on *maquiladoras* prior to assigning the case.

Evidence of Efficacy

Student feedback on the case has been positive. Students provided anonymous feedback to a voluntary survey after the case coverage was completed. Table 1 shows the means for six questions that assess the case usefulness for each individual class using a five-point Likert scale (from 1 that represents “Strongly Disagree” to 5 that represents “Strongly Agree”). Overall survey and individual class results are presented in Table 1.

[Insert Table 1 Here]

Beyond the quantitative survey questions, the survey instrument prompted students from an open-ended comment regarding the case. The comments suggest that students found this case very useful in making the transfer pricing concept more concrete and easier to understand.

Students also found that the maquiladora scenario to be an excellent and relatable real-world example.

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Table 1

Student Assessments of the Case Assignment

Questions	Mean Responses		
	Advanced Managerial Accounting (Grad)	Cost Accounting (Undergrad)	Strategic Cost Management (Grad)
	n = 8	n = 18	n = 25
The level of difficulty present in the case was appropriate for the course.	4.50	3.84	4.08
The case helped me learn more about transfer pricing in an international setting.	5.00	4.42	4.40
The case helped me learn about the effect of transfer pricing on parent profitability.	5.00	4.26	4.44
The case helped me better understand how <i>maquiladoras</i> operate, and what effect a <i>maquiladora</i> subsidiary relationship can have on the profitability of the U.S. parent company.	4.63	4.31	4.48
The case helped me better understand how a <i>maquiladora</i> subsidiary differs from a wholly owned subsidiary, and what might motivate a subsidiary to be one or another.	4.25	3.84	4.28
I would recommend the use of this case in future offerings of this class.	4.75	4.11	4.28

TEACHING NOTES

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SUGGESTED INSTRUCTORS' NOTES AND CASE QUESTION ANSWERS

1. What markup is EFSA currently charging? Is EFSA in compliance with the maquiladora Safe Harbor provisions for transfer pricing?

The Safe Harbor provisions state that the minimum pre-tax income as the largest of two computations: (a) 6.5 percent of total operating expenses, or (b) 6.9 percent of operating assets. Since this case does not provide information regarding EFSA's total assets, the compliance test is based on EFSA's operating expenses. TN Exhibit 1 shows that EFSA charges a markup of 46%, substantially exceeding the minimum threshold of 6.5%.

[Insert TN Exhibit 1 Here]

Obviously, EFSA is in clear compliance with the Safe Harbor provisions. However, such a high markup results in a substantial transfer price used between EFSA and PFC, which is at odds with the spirit of the *maquiladora* industry. The origination of the *maquiladora* industry is to operate *maquiladoras* as cost centers that provide low-cost labors for the U.S. parent

companies. Hence, extreme markups likely defeat the purpose of operating a *maquiladora* subsidiary.

Instructors' Note

Students may be inclined, incorrectly, to include raw materials and packaging costs as part of EFSA's total operating expenses, which is subject to the markup rate. Clearly, raw materials and packaging costs must be included in the calculation of the total broccoli cost from the Mexico production. However, raw materials and packaging costs are excluded from the operating expenses of a *maquiladora* subsidiary because of the following reasons:

- (a) Under the Mexican special regulations regarding the *maquiladora* industry, a *maquiladora* can import inputs and raw materials from a foreign company on a temporary basis, with the understanding that the finished goods must be exported out of Mexico. Therefore, all raw materials and parts imported by a *maquiladora* remain the property of the foreign company (in this case, the U.S. parent company).
- (b) The Mexican regulations also mandate that the net income of a *maquiladora* is based on the *maquiladora's* productive activity, which must come exclusively from *maquiladora* operations. Hence, the imported raw materials and parts must be excluded from the calculation of a *maquiladora's* net income.

- 2. Calculate the minimum allowable maquiladora transfer price per pound under the Safe Harbor provisions. Using this new transfer price, calculate PFC's revised (a) total broccoli costs per pound from EFSA (including import duties) and (b) combined weighted average broccoli cost per pound.**

TN Exhibit 2 shows the calculation of the minimum allowable maquiladora transfer price that is still compliant to the Safe Harbor provisions. The calculation results in a minimum allowable markup of \$0.0156 and a minimum allowable transfer price of \$0.2556.

[Insert TN Exhibit 2 Here]

Based on this minimum allowable transfer price, we can calculate the revised total broccoli costs per pound from EFSA as well as the revised weighted average broccoli cost per pound. Detailed calculation is presented in TN Exhibit 3.

[Insert TN Exhibit 3 Here]

Based on the revised (which is obviously lower) transfer price, the weighted average broccoli cost per pound would decrease from \$0.5137 (based on Exhibit 2) to \$0.4659 (based on TN Exhibit 3). While this amount seems trivial, it represents a 9 percent decrease in the weighted average cost of broccoli.

Instructors' Note

Students may struggle with calculating the weighted average cost per pound. To calculate the weighted average cost per pound, we multiple each broccoli cost per pound by the total quantity of broccoli production for each production site, add them together, and then divide by the combined total quantity of broccoli production.

3. If EFSA charges the minimum allowable maquiladora transfer price, calculate the effect on (a) EFSA's pre-tax income and (b) PFC's combined pre-tax income.

TN Exhibit 4 demonstrate that, if EFSA charges the minimum allowable transfer price, PFC's pretax income (gross profit) will increase by \$5,948,400.

[Insert TN Exhibit 4 Here]

TN Exhibit 4 also shows the comparison of PFC's original and revised pretax income. An alternative way to calculate PFC's revised pretax income is to multiply the difference in the weighted average cost of broccoli by the total quantity of broccoli sold. TN Exhibit 5 demonstrates this alternative calculation steps.

[Insert TN Exhibit 5 Here]

TN Exhibit 6 shows that, if EFSA charges only a minimum allowance transfer price, PFC's combined pretax income will increase by \$758,400. The increase can be entirely explained by *the difference in duties paid by PFC* for the goods imported from Mexico. Note that the U.S. Customs and Border Protection charges an import duty rate of 16 percent; hence, this 16 percent times the total reduction in the transfer price paid by PFC (which is \$4,740,000) will equal the total savings that increase the total combined pretax income (i.e., \$758,400).

[Insert TN Exhibit 6 Here]

Instructors' Note

This is an opportunity for instructors to discuss one notable element in the transactions between EFSA to PFC, which is common in international transfer price transactions: the duty paid on imports from Mexico to the U.S. Domestic transfer price transactions might have no effect on the overall pretax income of the parent company, although it would clearly impact the pretax incomes of the transacting divisions. However, in this case, because PFC needs to pay an

import duty based on the transfer price from EFSA to PFC, a reduction in the transfer price will certainly reduce the amount of duty that PFC must pay, and thereby increases the overall profitability of PFC.

4. *What conditions might exist that encourage EFSA management not to charge the minimum allowable transfer price under the Safe Harbor provisions?*

The following circumstances might play a role in EFSA's decision to charge a markup substantially higher than the minimum threshold of the Safe Harbor provisions.

First, the Mexican laws mandate all Mexican companies, including *maquiladoras* such as EFSA, to pay 10 percent of employee profit sharing. Obviously, the EFSA management is motivated to book pre-tax profit as high as possible in order to achieve a substantial amount of profit sharing. Additionally, EF, the former parent company of EFSA, managed its subsidiary with a decentralized management philosophy, making it possible for EFSA to charge a high markup rate without consulting its U.S. parent company.

Second, EFSA was assuming all exchange-rate risk, considering that *maquiladoras* typically incur operating costs in pesos and EFSA bills their U.S. parent in U.S. dollars. The case states that there had been substantial fluctuations in exchange rates between the U.S. dollar and the Mexican peso. Clearly, the EFSA management is motivated to create a sufficient amount of "cushion" against such a significant exchange-rate risk, while at the same time meeting multiple statutory requirements, i.e., the mandatory employee profit sharing and the minimum threshold of the Safe Harbor provisions.

Third, as a vegetable producing company, EFSA operates in a seasonal industry, and as such can experience seasonal cash flow problems. It is worth noting that EFSA is not a typical

maquiladora. Most *maquiladoras* manufacture and assemble non-perishable goods such as automobiles, textile products, or electronics. Perishable goods, such broccoli, would introduce other complexities into the EFSA's operating costs because they have a limited shelf life.

Broccoli is not just perishable but seasonal. "Broccoli is a sun-loving, cool-season crop that is best grown in the spring or fall."¹ High mid-summer temperatures will stunt the growth of broccoli, so it should be planted in early spring or mid- to late summer for best results. The goal is to get broccoli to mature before or after high temperatures are expected. Most broccoli production in Mexico occurs in the northwest region of the country, where broccoli is grown outside in open fields (rather than in, say, greenhouses). With long growing seasons that allow growers to harvest plants as many as four times in season,² in 2016 Mexico was the fifth largest producer of broccoli in the world, and exported 70 percent of its production, more to the U.S. than any other country.³

Seasonal companies experience unique cash flow challenges. It can take broccoli 70 to 100 days to become harvestable when grown from seed.⁴ During the growing season, EFSA would reasonably experience cash outflows higher than cash inflows, and it would be cash-rich twice per year during harvest season. There is no information that EFSA received cash flow assistance from its U.S. parent company. Hence, it would be easy to understand why EFSA might charge a high markup that could help EFSA build cash reserves against the seasonal cash flow issues, low production seasons, and potential produce waste.

Fourth, it is likely that EFSA, under a minimal oversight from its former parent company, did not have many incentives to run its operations efficiently. Additionally, for many years

¹ <https://www.almanac.com/plant/broccoli>

² <https://sites.psu.edu/guanajuatosp16/2016/02/17/broccoli-production-in-guanajuato-mexico/>

³ <https://www.freshplaza.com/article/2192529/mexico-is-the-world-s-fifth-largest-broccoli-producer/>

⁴ https://harvesttotable.com/how_to_grow_broccoli/

maquiladoras were plagued with higher employee turnover than other Mexican companies, often resulting in high hiring and training costs. In response to turnover, many *maquiladoras* chose to overstaff positions to ensure that an acceptable number of employees were available on any given day to complete the required work, which yielded high administration costs. Again, experiencing high turnover would heighten EFSA's motivation to maintain a substantial amount of cash reserves against operational inefficiencies.

Instructors' Note

This question provides instructors to discuss all the "whys" with students to explore the possible root causes of extremely high production costs of broccoli imported from EFSA despite cheap labor cost in Mexico and tax benefits enjoyed by EFSA as a *maquiladora*. It will give instructors an opportunity to generate discussion with students and develop students' ability to think logically and critically. For example, it is important for students to understand the interactions among transfer pricing, profitability, and compensation (incentive structure). Additionally, there are some elements unique to *maquiladoras*, seasonal broccoli production, and potential exchange-rate risk that create additional incentives for management in Mexico to build cash reserves and, accordingly, charge high markups. Ultimately, EFSA's decisions to protect their interests hurt the overall profitability of PFC.

5. *What challenges do you envision when communicating the revised transfer price to EFSA management?*

Broadly speaking, this case requirement asks students to suggest possible solutions for the four problems that have been identified in case requirement #4. If PFC requires a revised (lower) transfer price from EFSA, then PFC must also address the issues and conditions that

caused the transfer price to be so high in the first place. This question is an opportunity to discuss with students what PFC can do to mitigate the problems.

A. Mandated employee profit sharing program

Changing the transfer price has far-reaching ramifications. Obviously, since a transfer price serves as a revenue for the selling division and an expense for the buying division, the transfer price has a significant impact on the profitability of both divisions. Even under circumstances where changing the transfer price does not change the overall profitability of the parent company, there can be consequences (intended or unintended) from changing a transfer price.

In this case, from the tax perspective, the revised transfer price would not create issues because it is still compliant with the Safe Harbor provisions. However, this revised transfer price will shift profits from EFSA to PFC. Changing the transfer price would result in greater overall profitability for PFC; however, it would substantially reduce the profitability of EFSA.⁵ The EFSA management would not consider such a change to be appealing because their profit-sharing bonuses are linked to EFSA profitability. Undoubtedly, the EFSA management will be resistant to the change.

One easiest solution that PFC could do is eliminating financial rewards at the division levels, and instead rewarding all divisions based on the overall profitability of the organization. However, in this case the profit sharing of EFSA is mandated by the Mexican government, so it cannot be eliminated. Instead, one possible solution that PFC could do is offering a “hybrid” incentive structure: if the transfer price is reduced, consequently EFSA has to pay the mandated profit sharing based on their much-reduced bottom line, but PFC can replace the bonus loss by

⁵ The detailed calculation of overall profitability is covered in case requirement #6.

rewarding the EFSA management extra compensation based on the combined profitability of PFC.

B. Exchange rate risk

It is evident that EFSA assumes a significant exposure of exchange rate risk. To alleviate this situation, PFC could assume the exchange rate risk itself by making EFSA invoices PFC in Mexican pesos rather than U.S. dollars. This solution would eliminate the need for EFSA to manage exchange rate risk in Mexico and better enable EFSA to serve its intended function as a low-cost producer.

C. Seasonal industry

As noted above in this teaching note, vegetable production is a seasonal industry. To ensure EFSA has sufficient cash on hand for operations during times of low cash inflows, PFC could provide EFSA sufficient cash in the form of a short-term operating loan.

D. Operational inefficiency and turnover

It is very possible that EFSA suffers bloated administrative and plant cost structures. Hence, PFC officials could initiate an aggressive cost reduction program. The solutions discussed previously, such as providing EFSA with sufficient cash via a short-term operating loan and eliminating the need for EFSA to assume exchange rate risk, could become PFC's bargaining chips in exchange for requiring EFSA to trim its operating costs aggressively.

Instructors' Note

When discussing case requirement #4, the teaching notes previously identified at least four conditions that contribute to the high transfer price and low profitability of broccoli produced by EFSA in Mexico. The current case requirement provides instructors with a great opportunity to continue that conversation, extending the earlier conversation to include solutions

to the problems faced by PFC and EFSA. Identifying solutions to problems requires students to perform a higher order analysis and critical thinking.⁶

6. Suppose that PFC instructs EFSA to charge the minimum allowable transfer price. (a) What will be the overall after-tax income (and after import duties) effect for EFSA and PFC? (b) Will overall PFC profitability be higher or lower? (c) After performing this analysis, do you think that PFC should instruct EFSA to charge the minimum allowable transfer price? Please explain.

TN Exhibit 7 summarizes the changes in PFC income taxes, PFC import duties and EFSA income taxes and profit sharing based on the revised transfer price. As shown in this exhibit, the total net savings in taxes (including income taxes, customs duties, and mandated profit sharing) for the entire organization is \$966,960.

[Insert TN Exhibit 7 Here]

TN Exhibit 8 shows EFSA' revised income statement based on the minimum allowable transfer price. The income statement based the current transfer price is taken from Exhibit 3.

[Insert TN Exhibit 8 Here]

TN Exhibit 9 shows the increase in PFC's combined pre-tax income. This increase is driven by the reduction in its cost of goods sold by \$5,498,400. This reduction comes from the following components:

⁶ The real version of Parson Foods Company ("PFC") purchased the assets of Eagle Foods ("EF") in 1994, including Eagle Foods Sociedad Anonimo ("EFSA"). The real time setting of the case was pre-North America Free Trade Agreement (NAFTA) and the duties for frozen broccoli were 16 percent. Therefore, the greater the profit that was retained in Mexico, the higher the combined companies' tax liability. The concerns and solutions presented above were based on actual experience of PFC. The first author was the financial analyst who discovered the issues identified in this case and proposed many of the solutions.

(a) The difference between the revised transfer price (\$0.2556) per pound and the current transfer price per pound (\$0.3504) is \$0.0948/pound. Given that the total quantity of broccoli sold is 50 million pounds, the reduction in the cost of goods due to the revised transfer price is \$4,740,000 (= 50 million × \$0.0948).

(b) The cost of goods sold is also affected by the import duties. Since the import duty rate is 16 percent, the decrease in cost of goods sold because of the reduction in duties paid is \$758,400 (= \$4,740,000 × 16%).

[Insert TN Exhibit 9 Here]

TN Exhibit 10 shows the calculation that reconciles the “old” cost of goods sold (based on the current transfer price) and the revised cost of goods sold (based on the revised transfer price).

[Insert TN Exhibit 10 Here]

Instructor’s Note

It is worth noting that, for EFSA, the income tax rate is 35% and the mandatory employee profit sharing is 10%. Consequently, Mexican companies often assume that their effective tax rate is 45 percent. This would result in a 10 percent difference in effective tax rates between EFSA (45 percent) and PFC (35 percent). This situation creates a classic scenario in transfer pricing: the most enticing strategy is shifting profits from a high-tax jurisdiction to a low-tax jurisdiction. Obviously, PFC would benefit the most when as much profit as possible is retained in the U.S. and the profitability of the subsidiary located in Mexico is minimized. This strategy would align with the initial purpose of establishing *maquiladoras*, which were originally operated by their U.S. parent companies as cost centers.

However, before deciding to shift (most or all) EFSA profits to the U.S., PFC needs to keep in mind that the Mexican government now wants to collect greater tax revenues from the *maquiladora* industry; consequently, the Mexican government requires *maquiladoras* to retain income (and pay taxes) in Mexico. Therefore, while PFC would prefer the EFSA income to be as low as possible, PFC cannot simply take away all EFSA's profits (or run EFSA operation with a loss).

TN Exhibit 1
EFSA - Current Transfer Price Markup (per pound)

General administration expenses (based on Exhibit 2)	\$	0.0400
Manufacturing costs (based on Exhibit 2)		0.1500
Freight and transfer expenses (based on Exhibit 2)		<u>0.0500</u>
Total operating expense of <i>maquiladora</i> operation	\$	0.2400
Markup on total cost of <i>maquiladora</i> operation (based on Exhibit 2)	\$	0.1104
Transfer price markup		46.00%
(= markup ÷ total operating expense of <i>maquiladora</i>)		

TN Exhibit 2
EFSA Minimum Allowable Transfer Price (*per pound*)

General Administration	\$	0.0400
Manufacturing Costs		0.1500
Freight & Transfer		<u>0.0500</u>
Total Costs and Expenses of Maquila Operation	\$	0.2400
Minimum return rate on maquila operation based on Safe Harbor provisions		6.500%
Minimum allowable markup on total maquiladora costs	\$	0.0156
Minimum allowable transfer price	\$	0.2556

TN Exhibit 3
Total Broccoli Production Cost per Pound and Weighted Average Cost per Pound (Revised)

	<u>PFC</u>	<u>EFSA</u>	<u>Combined</u>
Total production quantity	65,000,000	50,000,000	115,000,000
Total operating expense of <i>maquiladora</i> operation		\$ 0.2400	
Markup on total maquiladora costs (6.5%)		<u>0.0156</u>	
PFC Cost and Transfer Price to PFC	<u>\$ 0.5000</u>	<u>\$ 0.2556</u>	
Customs Duties (16%)		\$ 0.0409	
Raw Materials and Packaging <i>(Exported to Mexico)</i>		<u>0.1250</u>	
Total Broccoli Cost	<u><u>\$ 0.5000</u></u>	<u><u>\$ 0.4215</u></u>	
Weighted Average Cost			\$ 0.4659

TN Exhibit 4

Change in PFC Pretax Income

	PFC Revised Pretax Income		PFC Original Pretax Income		Difference	
	<u>Total</u>	<u>Per Pound</u>	<u>Total</u>	<u>Per Pound</u>	<u>Total</u>	<u>Per Pound</u>
Sales Pounds	115,000,000		115,000,000			
Sales	\$ 71,300,000	\$ 0.6200	\$ 71,300,000			
Cost of Goods Sold	<u>53,574,800</u>	<u>0.4659</u>	<u>59,073,200</u>	<u>0.5137</u>	<u>(5,498,400)</u>	<u>\$ (0.0478)</u>
Pre-tax Income (Gross Profit)	\$ 17,725,200	\$ 0.1541	\$ 12,226,800		\$ 5,498,400	\$ (0.0478)
Gross Profit %	24.86%		17.15%		7.71%	

TN Exhibit 5
Change in PFC Pretax Income (Alternative Calculation)

Original weighted average cost per pound	\$ 0.5137
Revised weighted average cost per pound	<u>\$ 0.4659</u>
Difference	\$ (0.0478)
Total quantity of broccoli sold	<u>115,000,000</u>
Total savings (from cost reduction)	<u><u>\$ (5,498,400)</u></u>

TN Exhibit 6

Total Change in PFC's Combined Pretax Income

	<u>Total Pretax Income</u>		Difference
	Based on Revised T/P	Based on Current T/P	
Parson Foods Company (PFC)	\$ 17,725,200	\$ 12,226,800	\$ 5,498,400
Eagle Foods Sociedad Anonima (EFSA)	780,000	5,520,000	(4,740,000)
Total Combined Pretax Income	\$ 18,505,200	\$ 17,746,800	\$ 758,400

T/P: Transfer Pricing

**TN Exhibit 7
Comparison of Income Taxes, Profit Sharing & Customs Duties Comparison for PFC and EFSA**

	<u>Based on Revised Transfer Price</u>	<u>Based on Current Transfer Price</u>	<u>Difference</u>
PFC income taxes	\$ 6,203,820	\$ 4,279,380	\$ (1,924,440)
PFC customs duties	2,044,800	2,803,200	758,400
EFSA income taxes & mandated profit sharing	351,000	2,484,000	2,133,000
Total Taxes (including duties and mandated profit sharing)	\$ 8,599,620	\$ 9,566,580	\$ 966,960

TN Exhibit 8
EFSA

Comparative Income Statement

	Based on Revised T/P		Based on Current T/P		Difference	
	Total	Per Pound	Total	Per Pound	Total	Per Pound
Total quantity of broccoli sold	50,000,000		50,000,000			
Sales	\$ 12,780,000	\$ 0.2556	\$ 17,520,000	\$ 0.3504	\$ (4,740,000)	\$ (0.0948)
Freight	2,500,000	0.0500	2,500,000	0.0500	-	-
Net Sales	\$ 10,280,000	\$ 0.2056	\$ 15,020,000	\$ 0.3004	(4,740,000)	\$ (0.0948)
Cost of Goods Sold (Mfg Costs)	7,500,000	0.1500	7,500,000	0.1500	-	-
Gross Profit	2,780,000	\$ 0.0556	7,520,000	\$ 0.1504	(4,740,000)	\$ (0.0948)
Gross Profit %	21.75%		42.92%			
General Administration	2,000,000	0.0400	2,000,000	0.0400	-	-
Pre-tax income	\$ 780,000	\$ 0.0156	\$ 5,520,000	\$ 0.1104	\$ (4,740,000)	(0.0948)
Income Tax & Profits Sharing (45%)	\$ 351,000	\$ 0.0070	\$ 2,484,000	\$ 0.0497	\$ 2,133,000	0.0427
Income After Taxes	\$ 429,000	\$ 0.0086	\$ 3,036,000	\$ 0.0607	\$ (6,873,000)	\$ (0.1375)

TN Exhibit 9
PFC Comparative Income Statement (Combined)

	Based on Revised T/P	Based on Current T/P	Difference
Sales	\$ 71,300,000	\$ 71,300,000	\$ -
Cost of Goods Sold	53,574,800	59,073,200	(5,498,400)
Gross Profit/Pre-tax income	\$ 17,725,200	\$ 12,226,800	\$ 5,498,400
Income Tax	6,203,820	4,279,380	1,924,440
Income After Taxes	\$ 11,521,380	\$ 7,947,420	\$ 3,573,960

TN Exhibit 10
Reconciliation - PFC Combined Cost of Goods Sold

Cost of Goods Sold based on current transfer price	\$ 59,073,200
Reduction in transfer price	(4,740,000)
Savings in customs duties	<u>(758,400)</u>
 Cost of Goods Sold based on revised transfer price	 <u><u>\$ 53,574,800</u></u>