The Income Tax Implications for U.S.A. Teachers Working Overseas

Inam Hussain
University of Texas Arlington, Arlington, TX

Many teachers are working aboard in the new universities in Eastern Europe, Singapore, China and the Middle East. USA tax laws and IRS code require that all US citizens and Alien Residents pay Income Tax on any worldwide income. Non US residents are required to pay income tax on their income they earned in the USA. About 44 percent of the taxes collected by IRS can be attributed to the individual income tax. Taxation regulations when teaching abroad are reviewed in this study.
INTRODUCTION

USA tax laws and the IRS code require that all US citizens and Alien residents pay Income Tax on their worldwide income. This income tax is important revenue for the US government. Of taxes collected by the IRS about 44 percent can be attributed to the individual income tax. Taxation when teaching abroad is reviewed in this study, specifically the exclusion of earned income. Also studied are the Earned Income Exclusion and strategies to avoid the State Income Tax.

Teaching Abroad

Teaching aboard offer unique opportunities for in-depth cross-cultural experience. You are exposed to new cultures and languages. Personal development is achieved with this exposure. One can expand knowledge of a foreign language by being exposed to native speakers. A foreign language as spoken can be quite different than what is learned in a classroom.

This exposure prepares you for a future in a global society, which is daily becoming more global. Even accounting and auditing standards are becoming global today. US teachers often work teaching English as a Second Language, teaching Business Administration and Physical Sciences, all taught in English. There is a big demand in Eastern Europe, the Middle East, China and other countries for such teachers.

If you are teaching abroad, what are the income tax consequences of doing so? That is what is covered in this paper. You must file a return for 2009 and every year that your work either in the US or abroad. Failure to file can result in penalties and interest which can be large.

When to file:

Form 1040 has to be filed by April 15 of each year. There is an automatic extension of filing a return by June 15th if you live and work outside the United States and Puerto Rico. You must attach a statement stating that you meet the requirement of this automatic 2 months extension. If you are still unable to file in this 2 month extension, you must apply for an additional extension of 4 months by filing Form 4868. The extensions do not increase the time to pay taxes, taxes if any must be paid by April 15th, or interest will be accessed.

The usual situation of when to file a tax return is given in table 1 on the next page. This usual situation does not apply if you live and work overseas. Even if you have no taxable income (due to exclusion) and have to pay no taxes, a return still has to be filed to claim the exclusion. Returns also have to be filed to claim any refund of taxes paid and to claim refundable credits. Refundable credits among others are Earned Income credit, Additional Child Tax credit, Refundable Education credit and First-time Homebuyer credit. Additional Credits are being passed into law and should be availed off.

Table 1.

<table>
<thead>
<tr>
<th>If your filing status is …</th>
<th>And at the end of 2009 are …</th>
<th>Then file a return if your gross income was at least …</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>Under 65</td>
<td>$9,350</td>
</tr>
<tr>
<td></td>
<td>65 or older</td>
<td>10,750</td>
</tr>
<tr>
<td>Married filing jointly</td>
<td>Under 65</td>
<td>$18,700</td>
</tr>
<tr>
<td></td>
<td>65 and older (one spouse)</td>
<td>19,800</td>
</tr>
<tr>
<td></td>
<td>65 and older (both spouse)</td>
<td>20,900</td>
</tr>
<tr>
<td>Married filing separately</td>
<td>Any age</td>
<td>$3,650</td>
</tr>
<tr>
<td>Head of household</td>
<td>Under 65</td>
<td>$12,000</td>
</tr>
<tr>
<td></td>
<td>65 and older</td>
<td>13,400</td>
</tr>
<tr>
<td>Qualifying Widow(er) with depended Child</td>
<td>Under 65</td>
<td>65 and older</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>$15,050</td>
<td>16,150</td>
<td></td>
</tr>
</tbody>
</table>

There are CPA firms who specialize in filing of tax returns for people working outside US and Puerto Rico. The ULR address of some of these firms is listed below.

- www.expatcpa.com
- www.harveycpa.com
- www.globaltaxhelp.com
- www.taxmeless.com

**On What Is Income Tax Paid?**

Tax must be paid on Worldwide Income attained from any source
Tax is paid on earned income as well as passive income
Tax on self-employment income is also paid.

Taxable earned income includes:
- Wages, salaries, and tips;
- Alimony
- Child support.
- Interest and dividends
- Social Security
- Unemployment benefits
- Union strike benefits;
- Long-term disability benefits received prior to the minimum retirement age;
- Net earnings from self-employment.

You can elect to have your nontaxable combat pay included in earned income to qualify for the earned income credit.

Net earnings from self-employment include the income earned both in a foreign country and in the United States. You must pay self-employment tax on your self-employment income even if it is earned in a foreign country and is excludable as foreign earned income in figuring your income tax.

Some examples of Income that is not taxed include:
- Combat pay.
- Life insurance payments
- Stimulus earnings, that is income tax refund given by US government to stimulate the economy.

Passive Income is income received on a regular basis, with no work effort required to maintain it. IRS defines passive income as income from trade or business activities in which you do not materially participate.

Passive income is usually taxable.
Examples of passive income include:
- Earnings from a business that does not require direct involvement from the owner or merchant.
- Rental income from property.
- Royalties from publishing a book or licensing a patent or other form of intellectual property.
- Earnings from internet advertisement on websites.
Interest on bank deposit.

Dividend and interest income from securities, such as stocks and bonds, is usually referred to as portfolio income. It may or may not be considered a form of passive income. In the USA portfolio income is considered as a different type of income than passive income and is reported on schedule D.

**Tax Implications**

If you are working abroad Tax must be paid on all income, which also includes salary plus housing and other allowances, Tax must also be paid on passive income. Earned Income up to $90,400 per qualifying person can be excluded. If married and both individuals are working abroad and both meet either the bona fide residence test or the physical presence test, each party can choose the foreign earned income exclusion. Earned income is excludable up to $90,400 per person, if certain conditions are met.

There is also a Nonrefundable tax credit for any taxes paid to the foreign country. Earned income is pay for personal services performed, such as wages, salaries, or professional fees. Foreign earned income is income you receive for services you perform in a foreign country during a period when your tax home is in a foreign country and during that time you meet either the bona fide residence test or the physical presence test.

It does not matter whether the earned income is paid by a U.S. employer or a foreign employer.

**Conditions Under Which Income May Be Excluded**

- **Foreign Residency**
- **Earned Income**

**Residency**

To claim the foreign earned income exclusion, the foreign housing exclusion, or the foreign housing deduction, you must have foreign earned income, your tax home (that you indicate to IRS as your home) must be in a foreign country, and you must be one of the following:

A U.S. citizen or a U.S. resident alien, who is a bona fide resident of a foreign country or countries for an uninterrupted period that includes one entire tax year,

A U.S. citizen or a U.S. resident alien who is physically present in a foreign country or countries for at least 330 full days during any period of 12 consecutive months.

**Exclusion of Meals and Lodging**

You do not include in your income the value of meals and lodging provided to you and your family by your employer at no charge if the following conditions are met.

1. The meals are furnished:
   a. On the business premises of your employer and
   b. for the convenience of the employer.
2. The lodging is furnished:
   a. On the business premises of your employer,
   b. For the convenience of your employer, and
   c. As a condition of your employment.

**Tax home.** Your tax home is the general area of your main place of business, employment, or post of duty where you are permanently or indefinitely engaged to work. You are not considered to have a tax home in a foreign country for any period during which your abode is in the United States. However, being temporarily present in the United States, or maintaining a dwelling there, does not necessarily mean that your abode is in the United States.
**Tax Returns in US Dollars**

Make all income tax determinations in your functional currency. If your functional currency is the U.S. dollar, you must immediately translate into dollars all items of income, expense, etc. (including taxes), that you receive, pay, or accrue in a foreign currency and that will affect computation of your income tax.

Use the exchange rate prevailing when you receive, pay, or accrue the item. If there is more than one exchange rate, use the one that most properly reflects your income. This process must be completed every time you receive any income, not just at the end of the year.

You can generally get current exchange rates from banks and U.S. Embassies.

**Form 2555**

Form 2555 is used to report Foreign Earned Income. Maximum Earned Income Exclusion is $90,400. Amount is reduced and prorated for days not spend in Foreign country

The foreign income and the exclusion is shown on Line 21 of Form 1040

**TDF 90-22.1**

Any United States person who has a financial interest in or signature authority, or other authority over any financial account in a foreign country, (if the aggregate value of these accounts exceeds $10,000 at any time during the calendar year) must also file form TDF 90-22.1 by 6/30/10 or you will incur a $10,000 penalty. Other civil and criminal penalties and jail time might also apply. No Extensions are granted for filing this special reporting form. This form is not to be filed with the tax return, but separately to the US Department of Treasury as stated on the form.

A “financial account” includes any bank, securities, securities derivatives or other financial instruments accounts. The term includes any savings, demand, checking, deposit, or any other account maintained with a financial institution. A person has signature authority over an account if such person can control the disposition of money or other property in it by delivery of a document containing his or her signature to the bank or other person with whom the account is maintained. Other authority exists in a person who can exercise comparable power over an account by direct communication to the bank or other person with whom the account is maintained, either orally or by some other means.

**Countries with No Earned Income**

Some countries have no earned income tax e.g. Persian Gulf countries. They do have a tax on businesses. Countries with No Earned Income Tax are usually the oil rich countries:

- Bahrain
- Kuwait
- Saudi Arabia
- Sultanate of Oman
- United Arab Emirates and others.

These countries know the US tax laws and thus salaries are adjusted for tax breaks, and contracts are written so as to make lodging excludable.

**Tax Treaties**

The US has bilateral tax treaties with over 65 countries; some countries tax the income, but under current tax treaties, a person may decide to have the income taxed in the USA. Tax treaties vary from country to country. A person can elect to be taxed under US laws and have income excluded on his income tax return. Usually Income from teaching can be excluded (at least for two years). In some cases the exclusion by the other state is only on earned income but in some cases applies to interest on bank accounts also.
Treaties also generally provide U.S. students, teachers, and trainees with special exemptions from the foreign treaty country's income tax.

Some Countries with Tax Treaties are:
Canada
China
India
Spain and others (full list in appendix a).

Travel restrictions.
If you violate U.S. travel restrictions, you will not be treated as being a bona fide resident of, or physically present in, a foreign country for any day during which you are present in a country in violation of the restrictions. (These restrictions generally prohibit U.S. citizens and residents from engaging in transactions related to travel to, from, or within certain countries.) Also, income that you earn from sources within such a country for services performed during a period of travel restrictions does not qualify as foreign earned income. Housing expenses that you incur within that country (or outside that country for housing your spouse or dependents) while you are in violation of travel restrictions cannot be included in figuring your foreign housing amount.

As of April 15, 2003, these travel restrictions apply to Cuba, Libya, and Iraq.

Estimated tax.
If you are working abroad for a foreign employer, you may have to pay estimated tax, since foreign employers generally do not withhold U.S. tax from your wages. Your estimated tax is the total of your estimated income tax and self-employment tax for the year minus your expected withholding for the year.

When you estimate your gross income, do not include the income that you expect to exclude. You can also subtract from income your estimated housing deduction in figuring your estimated tax liability. However, if the actual exclusion or deduction is less than you expected, you may be subject to a penalty on the underpayment.

State Income Tax
If prior to leaving the U.S., you lived in a No State Income Tax state, such as Nevada, Washington, Texas, or Florida, no state tax return is required.

TABLE 2
7 States With No State Income Tax on Individuals

<table>
<thead>
<tr>
<th>Alaska,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Florida,</td>
</tr>
<tr>
<td>Nevada,</td>
</tr>
<tr>
<td>South Dakota,</td>
</tr>
<tr>
<td>Texas,</td>
</tr>
<tr>
<td>Washington</td>
</tr>
<tr>
<td>Wyoming</td>
</tr>
</tbody>
</table>

Two state tax only dividends and interest.
Table 3

<table>
<thead>
<tr>
<th>State</th>
<th>Tax Rate</th>
<th>Income Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Hampshire</td>
<td>5%</td>
<td>$2,400 per year</td>
</tr>
<tr>
<td>Tennessee</td>
<td>6%</td>
<td>$1,250 per year</td>
</tr>
</tbody>
</table>

Other states, such as Virginia, South Carolina, New Mexico, and California, look at whether you still have a “tax domicile” in the state and if so, require you to file a state tax return and tax you (for all your years of absence) even though you have been gone for years. These states look at your intent to return to that state after your stay abroad, and use various indices that may indicate you never planned on giving up your “tax domicile” such as you still maintain a state driver’s license; state voter registration; library card; bank accounts; real property; license plates for a vehicle; or if your children still attend school in that state.

If you want to avoid tax problems with your previous home state and “tax domicile laws” who many years down the line may demand you file state income tax returns for the entire period you lived abroad and demand you pay all of taxes, interest and penalties due for that lengthy period, you should not move back to that state when you return permanently to the U.S. You must also, upon moving abroad, give up all state driver’s licenses, bank accounts, real property, voter registration, etc. Not all states are this tough, but some like Virginia, New Mexico, South Carolina, and California do impose very tough rules.

Investigate the tax law in your state of residency prior to your departure to avoid having to file state tax returns. And determine with some certainty that those state taxes will not later be assessed while you are still abroad or upon your return.

File tax returns every year to start the Statute of Limitation (usually three years). An example of the use of FORM1040 AND FORM 2555 is given in IRS Publication 54.

CONCLUSIONS

Taxes must be paid every year. If you are entitled to the foreign earned income exclusion, Form 1040 and Form 2555 must be filed to take advantage of this exclusion. It is a good idea to file Form TDF 90-22.1 every year also, even if the limit does not apply.

When taking vacations and visiting the US, care must also be taken in order to maintain the 330 full days abroad. Many persons who work abroad take part of the vacation in other countries to maintain this physical test of residency.
REFERENCES

All were accessed in January 2009 to confirm the data.

IRS Publication and Forms
IRS Publication 54
IRS Form 2555 & instructions
1040 Instructions 2009
IRS Form 1040

Other sources
1040 Quickfinder handbook-2007 tax year
RIA Federal Tax Handbook-2008 (AICPA)

URL of CPA firms specializing in taxation for people aboard.
www.expatcpa.com
www.harveycpa.com
www.globaltaxhelp.com
www.taxmeless.com

Appendix A
Countries with a tax treaty

<table>
<thead>
<tr>
<th></th>
<th>Country</th>
<th></th>
<th>Country</th>
<th></th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Armenia</td>
<td>24</td>
<td>India</td>
<td>47</td>
<td>Romania</td>
</tr>
<tr>
<td>2</td>
<td>Australia</td>
<td>25</td>
<td>Indonesia</td>
<td>48</td>
<td>Russia</td>
</tr>
<tr>
<td>3</td>
<td>Austria</td>
<td>26</td>
<td>Ireland</td>
<td>49</td>
<td>Slovak Republic</td>
</tr>
<tr>
<td>4</td>
<td>Azerbaijan</td>
<td>27</td>
<td>Israel</td>
<td>50</td>
<td>Slovenia</td>
</tr>
<tr>
<td>5</td>
<td>Bangladesh</td>
<td>28</td>
<td>Italy</td>
<td>51</td>
<td>South Africa</td>
</tr>
<tr>
<td>6</td>
<td>Barbados</td>
<td>29</td>
<td>Jamaica</td>
<td>52</td>
<td>Spain</td>
</tr>
<tr>
<td>7</td>
<td>Belarus</td>
<td>30</td>
<td>Japan</td>
<td>53</td>
<td>Sri Lanka</td>
</tr>
<tr>
<td>8</td>
<td>Belgium</td>
<td>31</td>
<td>Kazakhstan</td>
<td>54</td>
<td>Sweden</td>
</tr>
<tr>
<td>9</td>
<td>Bulgaria</td>
<td>32</td>
<td>Korea</td>
<td>55</td>
<td>Switzerland</td>
</tr>
<tr>
<td>10</td>
<td>Canada</td>
<td>33</td>
<td>Kyrgyzstan</td>
<td>56</td>
<td>Tajikistan</td>
</tr>
<tr>
<td>11</td>
<td>China</td>
<td>34</td>
<td>Latvia</td>
<td>57</td>
<td>Thailand</td>
</tr>
<tr>
<td>12</td>
<td>Cyprus</td>
<td>35</td>
<td>Lithuania</td>
<td>58</td>
<td>Trinidad</td>
</tr>
<tr>
<td>13</td>
<td>Czech Republic</td>
<td>36</td>
<td>Luxembourg</td>
<td>59</td>
<td>Tunisia</td>
</tr>
<tr>
<td>14</td>
<td>Denmark</td>
<td>37</td>
<td>Mexico</td>
<td>60</td>
<td>Turkey</td>
</tr>
<tr>
<td>15</td>
<td>Egypt</td>
<td>38</td>
<td>Moldova</td>
<td>61</td>
<td>Turkmenistan</td>
</tr>
<tr>
<td>16</td>
<td>Estonia</td>
<td>39</td>
<td>Morocco</td>
<td>62</td>
<td>Ukraine</td>
</tr>
<tr>
<td>17</td>
<td>Finland</td>
<td>40</td>
<td>Netherlands</td>
<td>63</td>
<td>Union of Soviet Socialist Republics (USSR)</td>
</tr>
<tr>
<td>18</td>
<td>France</td>
<td>41</td>
<td>New Zealand</td>
<td>64</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>19</td>
<td>Georgia</td>
<td>42</td>
<td>Norway</td>
<td>65</td>
<td>United States Model</td>
</tr>
<tr>
<td>20</td>
<td>Germany</td>
<td>43</td>
<td>Pakistan</td>
<td>66</td>
<td>Uzbekistan</td>
</tr>
<tr>
<td>21</td>
<td>Greece</td>
<td>44</td>
<td>Philippines</td>
<td>67</td>
<td>Venezuela</td>
</tr>
<tr>
<td>22</td>
<td>Hungary</td>
<td>45</td>
<td>Poland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Iceland</td>
<td>46</td>
<td>Portugal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Of these number 63 USSR is abrogated. And number 65 is an example.
Taxation Theories in Symmetric Kinked Demand Model

Chin-Wei Yang
National Chung Cheng University and Clarion University PA

Ken Hung
Texas A&M International University

Ying-Yi Lan
National Chung Cheng University

In this note, we prove that an ad valorem tax (u) on gross price in the kinked demand model produces the same prices and quantities as that of the corresponding cost ad valorem tax (v) with

\[ v = u/(1-u). \]

In addition, we show that for a given output, but not necessarily for the same price, the tax revenue under a demand ad valorem tax for the firm exceeds that under the corresponding unit tax, a revised Suits-Musgrave theorem. However, the same cannot be claimed for the rival firms.
I. Introduction

Perhaps one of the well-known oligopolistic competition models is the kinked demand model developed before World War II by Hall and Hitch (1939) and Sweezy (1939). Stigler (1947) who showed the empirical evidence reveals neither price experiences that would lead oligopolists to believe in the existence of a kink nor the pattern of changes of price quotations that the theory leads us to expect. Streeten (1950-1951) studied that similar causes underlie the prevalence of constant costs and rigid prices, and that an explanation can be given if certain static assumptions about the behavior of the firm are abandoned. Fabio (1977) demonstrated the concept of elasticity of demand is a crucial instrument for the analysis of oligopolistic behavior during economic expansion and contraction at the level of comparative statics. Bhaskar et al. (1991) analyzed survey data on the responses firms expect from their competitors when they change prices. There is evidence of an asymmetry in expected responses, which provides some support for modified versions of the kinked demand curve. In the absence of substantial detection lags and asymmetries in cost and product differentiation between firms, the kinked demand model explains well why equilibrium or focal price and quantity are infrequently changed despite its limitation (Tirole, 2002). The taxation effects of the model, has eluded the literature to the best of own knowledge. Two sets of taxation effects are to be discussed in this paper. First, does an ad valorem tax (u) on gross price that consumers pay produce the same price and quantity as that in the corresponding cost payment ad valorem tax (v)? Second, will the tax revenue under a demand ad valorem tax be greater than that under the corresponding unit (specific) tax at a given output and price as is the case in monopoly (Suits and Musgrave, 1953)?

For the first part, the mathematical relation between u and v \( v = u/(1-u) \) or Musgravian transformation (Musgrave, 1959) holds true in both perfect competition (identical price, quantity demand and tax revenue) and monopoly (identical price and quantity demanded). Whether property is preserved in the kinked demand model is the first issue this paper addresses. Does the Suits-Musgravian theorem hold in the kinked demand model is the second issue this paper attempts to tackle. The superiority in terms of tax revenue of an ad valorem tax in a monopoly market can date back to Cournot (1960 translated from the work published in 1838) and Wicksell (1959 translated from the paper of 1896). Suits and Musgrave proved it in the case of a monopoly market (1955). Outside the perfect competition and monopoly, the Musgravian transformation and the Suits and Musgravian theorem received scant attention with the exception of the works by (i) Delipalla and Keen (1942), who expanded the Suits- Musgrave results to generalized Cournot model for a given conjectural variation \( \lambda \), and (ii) Yang (1933) and Yang and Stitt (1995) who proved the existence of the Musgravian transformation in third-degree price discrimination and the Ramsey rule respectively, and (iii) Yang and Fox (1994)
who showed that the Suits-Musgrave theorem does not hold in the rate of return-regulated monopoly. The taxation effect under the kinked demand model, where the optimum solution occurs at the intersection of $\lambda = 1$ and $\lambda = n$, does not belong to the class of the models by Delipalla and Keen (1992).

The purpose of this note is to fill a void: expanding the taxation theorems developed by Musgrave (1959), and Suits and Musgrave (1953) from the standard monopoly model to the kinked demand model. The rest of the note is as follows. The next section introduces the transformation between demand ad valorem and cost payment ad valorem taxes. Section III analyzes the Suits-Musgrave theorem. Section IV illustrates the taxation effects by using a numerical example from Henderson and Quandt (1980). Section V contains a conclusion.

II. Ad Valorem Taxes in the Kinked Demand Model

II.A. Kinked Demand Model

Consider $n$ (typically a small number) firms who initially engage in the Cournot competition with following inverse demand and cost functions:

\[ P_i = f(q_i, \cdots, q_n) \quad \forall i \in N \]  
\[ C_i = g(q_i) \quad \forall i \in N \]  

where $P_i$ and $q_i$ denote price, quantity demanded for firm $i$; $N$ is a set of $n$ positive integers. The profit function of firm $i$ can thus be expressed as

\[ \pi_i = f_i(q_i, \cdots, q_n) - C_i(q_i) \quad \forall i \in N \]  

The first-order condition of maximizing (3) for the $i$th and $j$th firms are

\[ \frac{\partial \pi_i}{\partial q_i} = f_i'(\cdot) + q_i f_i'(\cdot) - C_i'(q_i) = 0 \]  
\[ \frac{\partial \pi_j}{\partial q_j} = f_j'(\cdot) + q_j f_j'(\cdot) - C_j'(q_j) = 0 \]  

Generally speaking, we can obtain $n$ $q_i^*$ (hence $P_i^*$) from solving $n$ equations like (4) and (5). With no loss of generality, we limit the analysis to 2 firms that produce positive outputs. Well known from a standard microeconomics text, the top flatter part of a kinked demand curve pertains to the situation where rivals or rival does not match the price increase of firm #1 ($\Delta P_1 > 0$). In this case, we substitute $P_j^* (j=2)$ into the demand function of firm #2 to solve for its reaction function $q_2^* = h(q_1)$.
Substituting (6) into the demand function of firm #1 or equation (1) gives rise to the top part of the kinked demand and its corresponding marginal revenue functions

\[ P_{1}^{NM} = f_{1}^{NM}(q_{1}, q_{2}^{*} = h(q_{1})) \]  
\[ MR_{1}^{NM} = f_{1}^{NM}(q_{1}, q_{2}^{*} = h(q_{1})) + q_{1}f_{1}^{NM}(q_{1}, q_{2}^{*} = h(q_{1})) \]

where the superscript NM denote rival does not match the price increase. At the other end of the spectrum, firm #2 may well want to maintain the original market share \( q_{1}^{*} = kq_{2}^{*} \) \( (k > 0) \) if firm #1 decreases its price \( \Delta P_{1} < 0 \) from the original Cournot competition. It is to be pointed out that \( k = 1 \) indicates both firms split the market equally. Substituting \( q_{2}^{*} = q_{1}^{*}/k \) into equation (1) yields the lower part of the kinked demand and its corresponding marginal revenue functions

\[ P_{1}^{M} = f_{1}^{M}(q_{1}, q_{2}^{*} = q_{1}^{*}/k) \]

III. The Kinked Demand Model with a Symmetrical Demand Structure

In this section, we define a symmetrical inverse demand function as

\[ P_{i} = f(q_{1}, \cdots q_{i}, \cdots q_{n}) \quad \text{for } i = 1, \ldots, n \]

in which all cross product coefficients are symmetric. In the linear case, we have

\[ P_{1} = a_{i0} + a_{i1}q_{1} + a_{i2}q_{2} + \cdots + a_{in}q_{n} \]
\[ \vdots \]

\[ P_{i} = a_{i0} + a_{i1}q_{1} + a_{i2}q_{2} + \cdots + a_{in}q_{n} \]
\[ \vdots \]

\[ P_{n} = a_{n0} + a_{n1}q_{1} + a_{n2}q_{2} + \cdots + a_{mn}q_{n} \]

where \( a_{ij} = a_{ji} = a_{kk} \) for all \( i \neq j \) and \( h \neq k \)

\[ a_{11} = a_{22} = \cdots = a_{ii} = \cdots = a_{nn} \]
\[ a_{i0} = a_{20} = \cdots = a_{i0} = \cdots = a_{n0} \]

and \( a_{ii} \neq a_{ij} \)

With identical cost function for each firm, i.e., \( TC_{1}(q_{1}) = TC_{2}(q_{2}) = \cdots = TC_{n}(q_{n}) \), the profit function and the first-order condition for firm \( i \) is
\[
\pi_i = (a_{i0} + a_{i1}q_i + \cdots + a_{in}q_n)q_i - TC_i(q_i)
\]  
\[
 \frac{\partial \pi_i}{\partial q_i} = a_{i0} + a_{i1}q_i + a_{i2}q_2 + \cdots + 2a_{in}q_i + \cdots + a_{in}q_n - MC_i(q_i) = 0
\]  
(12)  
(13)  
Without loss of generality, we assume two firms of identical cost and symmetric demand structures:
\[
P_1 = a_{01} - a_{11}q_1 - a_{12}q_2, \quad P_2 = a_{02} - a_{21}q_1 - a_{22}q_2, \quad TC_1 = c_1 + d_1(q_i),
\]
\[
TC_2 = c_2 + d_2(q_2).
\]
The first-order conditions are
\[
\frac{\partial \pi_1}{\partial q_1} = a_{01} - 2a_{11}q_1 - a_{12}q_2 - MC_1(q_1) = 0
\]  
(14)  
\[
\frac{\partial \pi_2}{\partial q_2} = a_{02} - a_{21}q_1 - 2a_{22}q_2 - MC_2(q_2) = 0
\]  
(15)  
Subtracting (14) from (15) yields
\[
(2a_{11} - a_{21})q_1 = (-a_{12} + 2a_{22})q_2
\]  
(16)  
An inspection of (16) indicate that \(q_1 = q_2\) because \(a_{11} = a_{22}\) and \(a_{12} = a_{21}\). The result can be easily extended to 3 firms and more. As in the case of the kinked demand model, we first assume the rival (firm 2) does not match the price increase or \(P_2 = P_2^*\) where \(P_2^*\) is the solution from the first-order conditions (14) and (15). Given \(P_2 = P_2^*\), we can solve for \(q_2^*\) or \(q_2^* = (a_{02} - a_{21}q_1 - P_2^*)/a_{22}\) before substituting \(q_2^*\) into the demand function for firm 1: Thus the upper half of the kinked demand function can be derived as
\[
P_1 = a_{01} - \left(\frac{a_{12}a_{02} - a_{12}P_2^*}{a_{22}}\right) - \left(-a_{11} + \frac{a_{12}a_{21}}{a_{22}}\right)q_1
\]  
(17)  
The lower half of the kinked demand curve can be derived from assuming the rival will match the price reduction to maintain the given market share \(q_1 = q_2\) as before.
Substituting \(q_1 = q_2\) into \(P_1 = a_{01} - a_{11}q_1 - a_{12}q_2\) leads readily to
\[
P_1 = a_{01} - (a_{11} + a_{12})q_1
\]  
(18)  
In a standard case where marginal cost is up-rising or horizontal and solution of (14) and (15) occurs in the first quadrant. The solution to the kinked demand model (or equations (17)
and (18)) must be positive. We’ll present a numerical simulation to illustrate the taxation effects.

IV. The Musgravian Transformation of the Kinked Demand Model with the Symmetrical Demand Structures

Again, for simplicity and without loss of generality, a demand ad valorem tax \( u \) on both firms will reduce the profit:

\[
\pi_1 = (1-u)(a_{01} - a_{11}q_1 - a_{12}q_2)q_1 - TC_1(q_1)
\]

\[
\pi_2 = (1-u)(a_{02} - a_{21}q_1 - a_{22}q_2)q_2 - TC_2(q_2)
\]

The first-order conditions are thus

\[
\frac{\partial \pi_1}{\partial q_1} = (1 - u)MR_1(q_1, q_2) - MC_1(q_1) = 0
\]

\[
\frac{\partial \pi_2}{\partial q_2} = (1 - u)MR_2(q_1, q_2) - MC_2(q_2) = 0
\]

Similarly, an ad valorem tax \( v \) on cost payment is expected to reduce the profit for both firms or

\[
\pi_1 = (a_{01} - a_{11}q_1 - a_{12}q_2)q_1 - (1 + v)TC_1(q_1)
\]

\[
\pi_2 = (a_{02} - a_{21}q_1 - a_{22}q_2)q_2 - (1 + v)TC_2(q_2)
\]

The first-order conditions can be shown as

\[
MR_1(q_1, q_2) - (1 + v)MC_1(q_1) = 0
\]

\[
MR_2(q_1, q_2) - (1 + v)MC_2(q_2) = 0
\]

It can now be shown that at a given output level \( q_1^* = q_2^* \), marginal cost must be the same:

\[
MC(q_1^*) = MC(q_2^*)
\]

As such via equations (21) and (25), it can be shown that

\[
(1-u)MR_1(q_1^*, q_2) = MR_1(q_1^*, q_2)/(1+v)
\]

It follows immediately that \( (1-u) = 1/(1+v) \) or \( u = v/(1+v) \) or \( v = u/(1-u) \) or a 20% ad valorem tax \( u = 0.2 \) is equivalent to a 25% on cost payment \( v = 0.25 \) for a given output.

Note that since, \( q_1 = q_2 \) and \( P_1 = P_2 \) due to the symmetrical demand structure. The same conclusion can be drawn for the rival firm. As a consequence, we propose the following Musgravian transformation.
Proposition 1

Given an identical cost function and symmetrical demand structures in which all cross-coefficients are identical with a common intercept, a demand ad valorem tax $u$ is equivalent to the cost ad valorem tax $v$: $u = v/(1 + v)$ for a given set of price and quantity for all firms.

V. The Suits-Musgrave Theorem of the Kinked Demand Model with the Symmetrical Demand Structures

The central piece of the Suits-Musgrave theorem is that at a given output (hence price), an ad valorem tax generates more tax revenue than the corresponding unit tax in the market of monopoly. The objective of this section is to investigate if the same result holds in the kinked demand model with firms of identical cost and the symmetrical demand relations. For simplicity, we assume two firms with the demand structures and cost functions. A unit tax ($\$t$ per unit of output) is expected to reduce profit for both firms or

\[ \pi_1 = \left[ P_1(q_1, q_2) - t \right] q_1 - TC_1(q_1) \]  

\[ \pi_2 = \left[ P_2(q_1, q_2) - t \right] q_2 - TC_2(q_2) \]  

The corresponding first-order conditions are shown below:

\[ \frac{\partial \pi_1}{\partial q_1} = MR_1(q_1, q_2) - t - MC_1(q_1) = 0 \]  

\[ \frac{\partial \pi_2}{\partial q_2} = MR_2(q_1, q_2) - t - MC_2(q_2) = 0 \]

From equations (21) and (30), we have for a given output level of $q_1^*$

\[ (1-u)MR_1(q_1^*, q_2) = MR_1(q_1^*, q_2) - t \]

and hence $t = uMR_1(q_1^*, q_2)$. Now the difference between two tax revenues can be shown as

\[ TR''_1 - TR'_1 = uP_1(q_1^*, q_2)q_1^* - t q_1^* \]

\[ = uq_1^*(P_1 - MR_1) > 0 \]

which must be positive as long as $P_1 > MR_1$. As are shown in equations (17) and (18), demand must exceed its marginal revenues. Consequently, the Suits-Musgrave theorem must hold. The same is true for the rival firm (firm 2) since $q_1 = q_2$ and $P_1 = P_2$.

Proposition 2
Given an identical cost function and symmetrical demand structures in which all cross-coefficients are identical with a common intercept, a demand ad valorem tax generates more tax revenue at a given output and price than does the corresponding unit tax.

<table>
<thead>
<tr>
<th>variable model</th>
<th>$q_1$</th>
<th>$q_2$</th>
<th>$P_1$</th>
<th>$P_2$</th>
<th>TR$_1$</th>
<th>TR$_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero tax</td>
<td>10</td>
<td>10</td>
<td>70</td>
<td>70</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Demand ad valorem tax $u = 20%$</td>
<td>8.8889</td>
<td>8.8889</td>
<td>73.3333</td>
<td>73.3333</td>
<td>130.3705</td>
<td>130.3705</td>
</tr>
<tr>
<td>Cost ad valorem tax $v = 25%$</td>
<td>8.8889</td>
<td>8.8889</td>
<td>73.3333</td>
<td>73.3333</td>
<td>49.3828</td>
<td>49.3828</td>
</tr>
<tr>
<td>Unit tax $t = $5$</td>
<td>9.5</td>
<td>9.5</td>
<td>71.5</td>
<td>71.5</td>
<td>47.5</td>
<td>47.5</td>
</tr>
<tr>
<td>Demand ad valorem tax $u = 9.523811%$</td>
<td>9.5</td>
<td>9.5</td>
<td>71.5</td>
<td>71.5</td>
<td>64.6905</td>
<td>64.6905</td>
</tr>
<tr>
<td>Demand ad valorem tax $u = 9.523811%$</td>
<td>9.5</td>
<td>9.5</td>
<td>71.5</td>
<td>71.5</td>
<td>64.6905</td>
<td>64.6905</td>
</tr>
</tbody>
</table>

TR$_1$ and TR$_2$ denote tax revenue for firms 1 and 2.

$$P_1 = 100 - 2q_1 - q_2, \quad P_2 = 100 - q_1 - 2q_2, \quad C_1 = 2.5q_1^2, \quad C_2 = 2.5q_2^2$$
<table>
<thead>
<tr>
<th>variable model</th>
<th>( \pi_1 )</th>
<th>( \pi_2 )</th>
<th>( CS_1^* )</th>
<th>( CS_2^* )</th>
<th>( \pi_1 + CS_1 )</th>
<th>( \pi_2 + CS_2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero tax</td>
<td>450</td>
<td>450</td>
<td>800</td>
<td>800</td>
<td>1250</td>
<td>1250</td>
</tr>
<tr>
<td>Demand ad valorem tax ( u = 20% )</td>
<td>323.9505</td>
<td>323.9505</td>
<td>730.865</td>
<td>730.865</td>
<td>1054.8155</td>
<td>1054.8155</td>
</tr>
<tr>
<td>Cost ad valorem tax ( v = 25% )</td>
<td>323.9505</td>
<td>323.9505</td>
<td>730.865</td>
<td>730.865</td>
<td>1054.8155</td>
<td>1054.8155</td>
</tr>
<tr>
<td>Unit tax ( t = $5 )</td>
<td>406.125</td>
<td>406.125</td>
<td>769.5</td>
<td>769.5</td>
<td>1175.625</td>
<td>1175.625</td>
</tr>
<tr>
<td>Demand ad valorem tax ( u = 9.523811% )</td>
<td>388.9345</td>
<td>388.9345</td>
<td>769.5</td>
<td>769.5</td>
<td>1158.4345</td>
<td>1158.4345</td>
</tr>
<tr>
<td>Demand ad valorem tax ( u = 9.523811% )</td>
<td>388.9345</td>
<td>388.9345</td>
<td>769.5</td>
<td>769.5</td>
<td>1158.4345</td>
<td>1158.4345</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>variable model</th>
<th>( \pi_1 + CS_1 + TR_1 )</th>
<th>( \pi_2 + CS_2 + TR_2 )</th>
<th>( \pi_1 + CS_1 + TR_1 ) +( \pi_2 + CS_2 + TR_2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero tax</td>
<td>1250</td>
<td>1250</td>
<td>2500</td>
</tr>
<tr>
<td>Demand ad valorem tax ( u = 20% )</td>
<td>1185.186</td>
<td>1185.186</td>
<td>2370.372</td>
</tr>
<tr>
<td>Cost ad valorem tax ( v = 25% )</td>
<td>1104.1983</td>
<td>1104.1983</td>
<td>2208.3966</td>
</tr>
<tr>
<td>Unit tax ( t = $5 )</td>
<td>1223.125</td>
<td>1223.125</td>
<td>2446.25</td>
</tr>
<tr>
<td>Demand ad valorem tax ( u = 8.746% )</td>
<td>1223.125</td>
<td>1223.125</td>
<td>2446.25</td>
</tr>
<tr>
<td>Demand ad valorem tax ( u = 18.1717% )</td>
<td>1223.125</td>
<td>1223.125</td>
<td>2446.25</td>
</tr>
</tbody>
</table>
Reference


The Effect of New International Accounting Standards on Entrepreneurs and Educators in the Americas

Vance Etnyre
University of Houston-Clear Lake

Carlos Mata
University of Houston-Clear Lake

As different countries try to open up their industries to foreign investment, access to capital markets must be free from unnecessary impediments. The current globalization of industries highlights the need for common bases of understanding of financial structure. Accounting systems provide information which is used by managers within the organization and by investors, business partners and regulators outside of the organization. Accounting systems deal with the monetary structure of a country which is governed by the local laws, socio-economic conditions, culture and traditions of the country. Different countries accommodate aspects of their culture, socio-economic framework and legal structures into their Generally Accepted Accounting Principles or GAAPs. Multiple GAAPs create problems of consistent reporting of financial performance by companies to their investors. To reduce the negative effects of these differences, the International Financial Reporting Standards Board has proposed a set common financial reporting standards (IFRS) with the hope that widespread adoption of these common reporting standards will increase investors’ confidence and reduce barriers to the flow of investment capital. “Converging” to a common set of international reporting standards will cause short-term problems which, hopefully, will lead to long-term net benefits. This paper will show the effects of differences between current “principle-based” accounting systems and “rule-based” accounting systems. It will examine ongoing problems and discuss efforts to converge both types of systems to a middle ground offered by the International Financial Reporting Standards. While some degree of convergence to international accounting standards
seems inevitable, the benefits from this convergence will not be realized equally. Those who are prepared to incorporate international accounting standards will gain more than those who are unprepared. This paper will focus on tools which can be used by educators to demonstrate the differences in accounting systems so that students and entrepreneurs will be better prepared to meet the challenges of international accounting standards within the emerging global economy.

U.S. trade with Latin America has been growing at a faster average rate than in the rest of the world as shown in Figure I. There is no question of the enormous opportunities of doing business for both U.S. and Latin American entrepreneurs. And, now that most countries, including the United States and most Latin American countries, are in the process of adopting a revised set common financial reporting standard (IFRS), opportunities to attract new, fresh capital will abound even more. Nonetheless, in order to take full advantage of these opportunities, entrepreneurs and investors must have a basic understanding of existing variations in so far as accounting regulations and enforcements, financial reporting, and accounting measurements that will exist long after all countries have adopted the proposed international regulations.
Before addressing these differences, it is pertinent to quickly look at where various countries in Latin America are in the IFRS conversion process:

<table>
<thead>
<tr>
<th>Country</th>
<th>IFRS required or permitted</th>
<th>IFRS not permitted</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>X</td>
<td>X</td>
<td>Convergence by 2011 for public companies</td>
</tr>
<tr>
<td>Brazil</td>
<td>X</td>
<td></td>
<td>Convergence by 2010 for public and insurance companies, early adoption permitted</td>
</tr>
<tr>
<td>Chile</td>
<td>X</td>
<td></td>
<td>Convergence by 2011 for all companies</td>
</tr>
<tr>
<td>Colombia</td>
<td>X</td>
<td></td>
<td>Convergence being considered</td>
</tr>
<tr>
<td>Mexico</td>
<td>X</td>
<td></td>
<td>Local GAAP is converging with IFRS</td>
</tr>
<tr>
<td>Peru</td>
<td>X</td>
<td></td>
<td>Already required</td>
</tr>
<tr>
<td>Venezuela</td>
<td>X</td>
<td></td>
<td>Mandatory convergence for public companies expected by 2011</td>
</tr>
</tbody>
</table>

Note: Other Latin American countries, including Panama, Costa Rica, and Honduras, have either adopted or are converging toward IFRS. Please visit our website for more detailed information on the IFRS conversion process in each country and exceptions that apply.


As can be seen, many Latin American countries accounting standards will have converged to the IFRS standard by the year 2011, at least for large and public enterprises. It is worth noting that U.S. SEC’s former chairman, Chris Cox, determined the year 2016 to complete transition from US-GAAP to IFRS (SEC.GOV), and in Mexico there is a joint effort between the CINIF (Consejo Mexicano para la Investigación y Desarrollo de Normas de Identificación Financiera) and the International Accounting Standards Board to align Mexico’s US-GAAP Accounting to the IFRS (Choi, 2008). Business opportunities can be developed between the U.S. and Latin America, across continents, and also within Latin American countries. Once an international standard is in place, Latin investors can better understand each other because accounting variations will be compacted into consolidated accounting and financial instruments, thus promoting job creation, research and development, technology transfer and general economic growth.

This all sounds exciting and promising. Nevertheless, Marcelo Kozak in his article “IFRS, from the tower of Babel, to a universal language” is somewhat apprehensive of the success of the IFRS adoption despite its success so far, especially after the EU adopted it as the de-facto accounting standard. It can be inferred that the mistrust of Mr. Kozak and others is inherently related to the fact that all previous efforts of adopting an international accounting standard basically failed. That is why, despite the current efforts to embrace the IFRS worldwide, the importance to spend time understanding those accounting and financial variants innate to a particular region or country is still decisive to the success of making a sound, comprehensive, and smart investing decision.

**Accounting Regulations and Enforcements**

Historically, one of the major differences between U.S. and Latin America accounting methods and practices has been that in most Latin American countries, accounting was influenced by legal systems inherited from mainland Europe since colonial days. National accounting practices are likely to be codified into law and enforced by a national or government entity. Interestingly enough, in Mexico, this is not the case. Mexico has always followed more of a US-GAAP approach in that accounting practices are minimally enforced by the Mexican Commercial Code and tax laws, and that accounting standards are issued by the CINIF (Consejo Mexicano para la Investigación y Desarrollo de Normas de Identificación Financiera) (Choi 2009).

In other parts of Latin America, particularly in Central America, accounting practices are followed very closely by a multitude of government agencies. For instance, in El Salvador, a small country of roughly 6
million inhabitants, an incorporated company (Sociedad Anónima) has to register and submit financial statements on a regular basis, among others, with:

- CNR (Centro Nacional de Registro), a government registrar office
- Ministerio de Hacienda, the treasury secretary
- Dirección General de Estadística y Censos, a government census office
- Bolsa de Valores, a local stock exchange if the company trades securities only
- Alcaldía, local town hall

In addition, every Sociedad Anónima must be audited by an external auditor and even sole proprietors (Personas Naturales) must register with all the agencies above and be audited if they are worth above certain level.

In contrast, Choi states that “corporations in the United States are formed under state law, and that each state has its own corporate statutes; in general, these contain minimal requirements for keeping accounting records and publishing periodic financial statements”. Choi also adds “many of these statutes are not rigorously enforced, and reports rendered to local agencies are often unavailable to the public”. This is not the case in El Salvador. Once a company in El Salvador has registered with CNR, all the company information is made available to the public.

In any case, the movement towards the adoption of the IFRS framework is also moving U.S. accounting practices closer to a code law system, where the requirements on corporate governance, disclosure, reporting, and auditing are significantly lengthened. The Sarbanes-Oxley Act of 2002 was one of the first steps in this path in the wake of several corporate and accounting wrongdoings, such as Enron and WorldCom (Choi 2009).

**Financial Reporting**

Perhaps two of the most important variations between U.S. and Latin America accounting practices have been the treatment of inflation, and the family-owned way of conducting business in Latin America. In Mexico and other countries, statements must be adjusted for inflation and the effects must be shown in the statement of changes in stockholder’s equity. One additional effect Choi explains is “that the resulting amounts do not represent cash flows as understood under historical cost accounting”. For the unwary investor, not understanding this treatment of inflation could undermine an otherwise promising investment venture.

Another potential mishap investors have to be aware of is the fact that many enterprises in Latin America, large and small, are family-owned. These companies traditionally protected their information and were extremely secretive in their financial exposure. In many countries, these patriarchal companies are required to fully disclose their financial statements, but it has been nearly impossible to obtain their information. In other cases, the information available might have not represent the current condition of the business.
Corruption customs in Latin American countries have played an unfortunate role in these business practices. Fortunately, this seems to be changing and many family-owned enterprises are opening up and trying to take advantage of the new opportunities a globalized market has to offer. One of the best examples of this is the fact family-owned Latin American companies, are more actively trading in the U.S. securities market and other international markets. For instance, TelMex is listed on the New York Stock Exchange and must therefore file Form 20F with the SEC (Choi 2009). Grupo Roble (a real state family-owned conglomerate in Central America) recently issued bonds in the EU market.

Accounting Measurements

As more countries are adopting the IFRS framework, there will be less and less room for variations in accounting measurements across continents. Nonetheless, there is a category where there will probably be some differences to keep always in mind: Intangible assets. These are defined by IAS as “identifiable non-monetary assets that cannot be seen, touched or physically measured, which are created through time and/or effort and that are identifiable as a separate asset”. These assets include trade secrets (e.g., customer lists), copyrights, patents, trademarks, and goodwill. In the U.S. goodwill is listed as a separate item in a company’s balance sheet while in Latin America it is not amortized, but subject to an annual impairment (lesser) test (Choi 2009). Another sizable difference is that in the U.S. tangible and intangible assets are valued using historical costs whereas in Mexico and other Latin American countries a general price level (based on National Consumer Price Indexes) are used. As far as amortizing intangible assets is concerned, the United States permits both an accelerated and straight-line depreciation methods determined by the economic usefulness of the intangible asset in question, while in Latin America an intangible asset is amortized over its useful life (usually no more than 20 years). If the life of the asset is indefinite, as in goodwill, that account undergoes an impairment test (Choi 2009). There is a fine line between these two approaches, and a very subjective one.

There are other subtle differences in the way tax is collected that the potential investor should be aware of that could also potentially undermine financial understanding, but these are out of the scope of this article. Nonetheless, investors should investigate how local tax laws affect IFRS. One important issue is how the IVA (sales tax) payments are approached for imports.

Methods for Companies to deal with Global Accounting issues

Companies whose operations or financing become globalized may not be able to ignore differences between reporting requirements at home and different reporting practices in countries where they have significant numbers of customers or investors. Methods for dealing with different reporting requirements include:

- Do nothing extra for foreign countries,
- Convenience Translations,
- Convenience Statements,
- Limited Restatements,
- Reconciliation to foreign country’s GAAP,
- Secondary Statements.
Many companies provide the same reports to foreign users that they provide to domestic users. This “Do Nothing” approach is reasonable for companies that are not particularly interested in attracting foreign investors. Such companies do not see enough additional benefits to justify the cost of taking any additional action to attract foreign investors.

**Convenience translations** represent the minimal effort on the part of companies to respond to foreign users. In a convenience translation, the preparer translates the language of the financial statements to the language of the foreign country, but the accounting principles and currency are still those of the preparer’s country. In international accounting literature, the term **Convenience Statement** means that reports are prepared in a foreign user’s language and currency, but the accounting principles remain those of the home country.

In addition to translating language and currency, **Limited Restatements** provide supplementary disclosures to reconcile financial statements to the user’s GAAP. **Reconciliation to Foreign GAAP** is similar to limited restatement, but includes more complete restatements of financial information to accommodate regulations of the countries where securities are listed. Preparation of **Secondary Statements** means translating the home country annual report into a foreign country’s language, currency, and accounting principles.

Translating home country annual report into a foreign country’s language, currency, and accounting principles can be very expensive. Companies wishing to list stock on several different exchanges worldwide can use **Universal Secondary Statements** rather than **Country-Specific Secondary Statements**. In universal secondary statements, a company could use its own currency or a major international currency such as the euro or the U.S. dollar. The language of such statements would be English and the format would be in accordance with International Financial Reporting Standards.

**Tools for Teaching Accounting Systems in a Global Environment**

Most business schools in the United States teach accounting courses with the assistance of one or more accounting packages. Peachtree Accounting and Microsoft Dynamics (formerly Microsoft Accounting) are examples of accounting systems frequently used to teach accounting. Enterprise Resource Planning (ERP) systems have tools for selecting appropriate currencies and formats, but ERP systems introduce many new sets of problems including high license fees, complicated installations and very high maintenance costs. Some schools have added a third option for teaching accounting in a global environment. The third option is software specifically designed to demonstrate differences between different accounting systems.

At the University of Houston – Clear Lake, a software package called Clear Lake Accounting is being developed to help in teaching accounting. Figure 2 (above) shows a portion of the Clear Lake Accounting
which allows the user to select data for the Mexican Telecommunications company, TeleMex. Before reaching this screen, the user would have selected the mode of data entry as Text file, spreadsheet, XML file or Database.

One feature of Clear Lake Accounting is the ability to integrate data from different sources and present that data in different formats.

Clear Lake Accounting can access data from text files, spreadsheets, XML files, or databases. In displaying financial reports, the user of this system can translate currencies and present reports in various languages and formats. A portion of this program was specifically designed to be used to compare features of different accounting systems throughout the world.

The package Clear Lake Accounting allows the user to combine different methods for converting currencies with different templates for display financial reports.

The income statement, shown in Figure 3, below, shows the result of combining the selected data with a template for an income statement. In this example, the language is Spanish and the currency units are Mexican pesos.

![Figure 3 Income statement for Telemex in Spanish.](image)

Figure 3 Income statement for Telemex in Spanish.

Figure 4, below, shows a simple process of converting pesos into U.S. dollars. This simple conversion process can be used to prepare “Convenience” statements, but may not serve the needs of foreign investors because the GAAP of the home country is maintained.
Figure 5, below, shows a “convenience statement”, a version of the Telemex income statement in English, after converting the currency to U.S. dollars.

Figure 5, a version of the Telemex income statement converted to U.S. dollars.
Simply converting language and currency units will not be sufficient to attract investment funds from the U.S. capital markets. Any company hoping to attract U.S. capital should provide audited statements showing compliance with U.S. GAAP. This could be very expensive. While a large company such as TeleMex can afford to provide such a restatement of its financial position, most companies can not afford such luxuries.

Even for large companies such as TeleMex, there are limits to the expense which can be justified in order to provide secondary financial statements. Capital markets in India, China and the European Union offer excellent opportunities for companies which can afford to provide financial information in an effective manner, but providing secondary financial statements in multiple languages to satisfy the requirements of multiple GAAPs would be prohibitive for even large firms.

As an added difficulty, companies which have a major portion of their operations in a country which uses a different currency would have to account for gains and losses due to fluctuations in the value of that currency relative to the home currency of the country. This means that foreign exchange transaction risks and foreign currency translation risks would have to be considered in preparing financial statements.

According to the rules proposed by the International Financial Standards Board, transaction risks would be accounted for on consolidated income statements and translation risks would not be accounted for on the current income statement, but would be recognized as an adjustment to owners’ equity. The difference would occur because different items would be translated using exchange rates from different time periods.

For instance, sales of merchandise, operating expenses and current liabilities would be converted at the current (reporting) date while long-term investments and long-term liabilities would be converted at historic rates. Converting items at different rates (due to different time periods) introduces translation adjustments. These adjustments are reported as part of the “Other Comprehensive Income” category which is added to increases in retained earnings in determining Stockholder Equity. Figure 6, below, shows a complex process of converting pesos into U.S. dollars for several different categories of accounts.
Figure 7, below, shows the results of calculating Stockholder Equity which includes Currency Translation Adjustment as part of Other Comprehensive Income.

Figure 7, a version of the Telemex Equity statement converted with IFRS rules.

**Conclusion**

Utilizing an almost universally accepted set of international standards, even small companies could reach capital markets which previously had been unavailable to them. It is extremely important that companies act in a timely manner to take advantage of new opportunities as they become available. This means that
entrepreneurs must be ready and able to use international standards as soon as they become accepted. This will not happen unless educators begin immediately to provide materials which demonstrate the effects of international financial reporting standards.

REFERENCES


Saudagaran, Shahrokh, (2009), International Accounting, CCH, Chicago, IL 60646
