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In This Issue

**Testing the St. Louis Fed's Hypothesis That State Budgeting Practices
Are Asymmetrically Countercyclical**

Gary A. Latanich and Louella Moore

**Impact of a Subchapter S Designation as a Competitive Measure:
Small Community Banks versus Credit Unions in Texas**

John Martinez, Roy P. Patin, and Jennifer L. Barger

The Influence of Sales Trainee Expectations on Selected Selling Outcomes

Phillip H. Wilson, Jeffery Sager, Chris Shao, and Charles Ramser

A Conceptual Approach to Selecting a Jurisdiction for the New Venture

Brian Winrow

In Search of a Global Business Cycle

Larry Allen

An Evaluation of Self-Management, Empowerment, and Autonomy

Charles M. Carson, Don C. Mosley, Jr., and Scott L. Boyar

**Examining Wage Discrimination in the Market for Ph.D.'s:
An Oaxaca Decomposition**

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Table of Contents

Testing the St. Louis Fed’s Hypothesis That State Budgeting Practices Are Asymmetrically Countercyclical <i>Gary A. Latanich and Louella Moore</i>	1
Impact of a Subchapter S Designation as a Competitive Measure: Small Community Banks versus Credit Unions in Texas <i>John Martinez, Roy P. Patin, and Jennifer L. Barger</i>	5
The Influence of Sales Trainee Expectations on Selected Selling Outcomes <i>Phillip H. Wilson, Jeffery Sager, Chris Shao, and Charles Ramser</i>	11
A Conceptual Approach to Selecting a Jurisdiction for the New Venture <i>Brian Winrow</i>	19
In Search of a Global Business Cycle <i>Larry Allen</i>	23
An Evaluation of Self-Management, Empowerment, and Autonomy <i>Charles M. Carson, Don C. Mosley, Jr., and Scott L. Boyar</i>	27
Examining Wage Discrimination in the Market for Ph.D.’s: An Oaxaca Decomposition <i>Mark Gius</i>	33

ABSTRACTS

TESTING THE ST. LOUIS FED'S HYPOTHESIS THAT STATE BUDGETING PRACTICES ARE ASYMMETRICALLY COUNTERCYCLICAL

Research by the St. Louis Fed suggests that state fiscal policies are countercyclical in the expansion phase. This study tests whether these results are valid for five states located in the South. The data comes from the state fiscal year financial reports. The results support the conclusion that the effect of budgeting practices for those states with a state income tax system is countercyclical in the expansion phase of the business cycle.

IMPACT OF A SUBCHAPTER S DESIGNATION AS A COMPETITIVE MEASURE: SMALL COMMUNITY BANKS VERSUS CREDIT UNIONS IN TEXAS

Using data provided by the Federal Deposit Insurance Corporation for year-end 2004, this study examined the impact of a Subchapter S designation on the competitiveness of small Texas community banks with credit unions. The results of this study suggest that small community banks which operate in areas with credit union presence experience lower profitability and higher risk than small community banks which operate in areas without credit union presence. Small non-Subchapter S community banks with credit union competition also experience lower profitability and higher risk than small non-Subchapter S community banks without credit union competition. It does appear, however, that the Subchapter S designation improves the competitiveness of small community banks with credit unions.

THE INFLUENCE OF SALES TRAINEE EXPECTATIONS ON SELECTED SELLING OUTCOMES

Management seeks ways to hasten salespeople towards greater productivity. Sales training is a common avenue for enhancing salespersons' performance. However, relatively little formal knowledge exists concerning how salespersons' expectations of training impacts training satisfaction and transfer of training materials from the training setting and into the sales area. This study proposes and examines a model intended to shed light on how trainees' training expectations impact training satisfaction and transfer of training are determined and how they relate to salespersons' performance. The model is evaluated using a single company sample of domestic industrial salespeople. Initial findings support significant and strong relationships between selected training perceptions, training satisfaction, transfer of training, and ultimately sales performance.

A CONCEPTUAL APPROACH TO SELECTING A JURISDICTION FOR THE NEW VENTURE

When starting a new venture, the entrepreneur must make a decision as to the form of business structure under which to conduct the operations of the business. To ascertain which form of organization best coincides with the venture, the entrepreneur must determine the state in which to form the organization. In order to gain a comprehensive understanding, the entrepreneur should focus on the three branches of government, which all affect the relative attractiveness of a state as a jurisdiction in which to form the business. As a result, the analysis should incorporate the executive, legislative and judicial branches of government.

IN SEARCH OF A GLOBAL BUSINESS CYCLE

This study tests the hypothesis that globalization has led to greater synchronization between national business cycles. To test this hypothesis this paper examines for selected variables the trend in the standard deviations of annual growth rates in particular countries. The countries covered in the study are the United States, Germany, France, Italy, Japan, the United Kingdom, Canada, and the new Asian economies. The selected variables are GDP growth, inflation, and gross fixed capital formation. The data comes from the International Monetary fund's World Economic Outlook publication. Findings suggest that globalization has reduced the standard deviation of GDP growth rates and inflation rates between the selected countries. The standard deviation for growth in gross fixed capital formation, however, has not diminished, suggesting that national component remains in national business cycle.

AN EVALUATION OF SELF-MANAGEMENT, EMPOWERMENT, AND AUTONOMY

Self-management, empowerment, and autonomy have been used as analogous terms. Determining if they are indeed separate constructs or overlapping ideas would allow for clarification among scholars and practitioners in usage and application of the concepts. This paper provides data supporting the notion that these concepts should not be used interchangeably.

EXAMINING WAGE DISCRIMINATION IN THE MARKET FOR PH.D.'S: AN OAXACA DECOMPOSITION

There have been numerous studies on the wage differentials between men and women. The present study attempts to expand on this area of research by utilizing a recent data set from 1999 that no prior study has used. Looking at nine different disciplines, an Oaxaca decomposition suggests that from 22% to 74% of the wage differential between male and female Ph.D.'s can be attributed to sex discrimination. Most of the explained wage differential for many of the disciplines examined can be attributed to years of experience.

TESTING THE ST. LOUIS FED'S HYPOTHESIS THAT STATE BUDGETING PRACTICES ARE ASYMMETRICALLY COUNTERCYCLICAL

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INTRODUCTION

Most discussion of stabilization policy focuses on the role of the federal government. However, state governments could help to stabilize the economy if they took a long-term budgeting perspective by building reserves during economic expansions to spend during economic recessions. Recent research conducted by economists at the Kansas City Federal Reserve Bank has in fact found preliminary evidence that state fiscal policies are countercyclical at certain stage of the business cycle.

Our research is intended as a replication study, to validate, on a regional level, whether the results found by the Kansas City Fed, are valid for five states located in the South: Arkansas, Tennessee, Mississippi, Oklahoma, and Louisiana. Do these Southern states have revenue and expenditure patterns that are asymmetrically countercyclical? Or, are state budget practices still pro-cyclical?

LITERATURE REVIEW

Keynes (1936) maintained that an appropriate role of fiscal policy is to stabilize the economy by implementing counter cyclical measures. During the Clinton administration, efforts to stimulate the economy emphasized primarily monetary policy. However, fiscal policy is still considered a policy instrument in the U.S., especially, as some economists have suggested, when interest rates are so low that there is little room left for stimulus (Cooper & Madigan 2001).

The idea that state budgets could be countercyclical, stands in sharp contrast to the conventional wisdom regarding state fiscal policies, and for good reason. During the depression most of the stimuli provided by the federal government were offset by spending cuts at the state level. The experience in Canada has been that the levels of provincial spending interfere with the ability of federal government to maintain effective fiscal policies (Grady 1997).

This view, that state budgeting practices are procyclical, is now so common that it has even filtered down into the principles textbooks, where, for example, McConnell and Brue (2005), state that, "During the recession of 2001, many states had to increase tax rates, impose new taxes, and reduce spending to offset falling tax revenues."

Supporting this view is the modern public administration theory which focuses its primary attention on political actors using available resources to maximize the satisfaction of potential

voters in order to maintain positions of power. Modern public administration theory suggests that in democratic societies those in control of financial resources are more likely to take a short term perspective, keeping low reserves in order to maximize short-run ballot gains.

This view is compatible with a model developed by Tornell and Lane. In this model there are "voracity" effects. Political groups either engage in wasteful spending to satisfy their constituents, or refrain from engaging in accumulating budget surpluses for fear that the surpluses will be spend by "voracious" special interests. In any event the lack of accumulated surplus tax dollars prevents the state government from engaging in practices that are countercyclical. This same conscious attempt to avoid building up a budget surplus is at the heart of Persson, Persson, and Svensson's "political economy" model.

Some economists have suggested that state budgeting practices are not procyclical but may be, at least in part, countercyclical. Evidence of procyclical budget surpluses can be interpreted as evident of a countercyclical fiscal policy at the state level. This exactly what Eichengreen and Bayoumi (1994) and Holtz-Eakin, Newey, and Rosen (1989) found. The more interesting question then becomes, "Is the countercyclical nature of these budget surpluses symmetric or asymmetric?"

One source of asymmetry in state fiscal policy actions may be the balanced budget rules that are imposed on most states by their state constitutions. With balanced budget rules in effect, state spending may be constrained by the size of surpluses accumulated during the expansion phase of the business cycle (Alesina and Bayoumi).

While all state governments, except for Vermont, are restrained from deficit spending, states can still play a positive role in stabilizing the economy. To do so, states would need to hold back financial reserves (i.e., budget surplus) during periods of economic growth in order to maintain or at least minimize reductions in spending levels during periods of economic recession.

In spite of the suggestion that states could hold back reserves in good times, the seemingly unlimited public demand for services makes it politically difficult to withhold available funds from existing needs even during financial boom times.

Recent economic research by the Kansas City Federal Reserve, found that the level of reserves is not as important in influencing the trend in the business cycle as is the use of

budgeting techniques that cause a lag between collections and disbursements. (Sorensen and Yosha 2001) Specifically, what they found was that state fiscal policy is countercyclical but asymmetric. Early in an economic expansion, expenditures lag revenue resulting in budget surpluses which work to dampen the business cycle. By the end of the expansion phase, expenditures have caught up with revenues thus eliminating most surpluses. During periods of recession, since budget surpluses have long since been depleted, revenue reductions are matched by expenditure reductions or compensated for by tax rate increases. Thus, during the recession phase of the business cycle, state budgets do not exhibit any counter cyclical behavior. This view, that the states budget practices can be countercyclical, is supported by the traditional stewardship theory of public administration which suggests that one purpose of taxation is to impose forced savings on the populous for hard times.

DATA SOURCES AND DATA EXPECTATIONS

The data used in this study comes from the combined statement of revenues, expenditures and changes in fund balances which is part of the state fiscal year financial reports. The years, 1990 to 2002, cover a time period from the cyclical peak in 1990 (July) to well past the cyclical trough in 2001 (November). This allows us to look at the entire recovery/expansion phase of the most recent business cycle (March 1991 to March of 2001).

Because each of the last two recessions lasted less than one year, and because the timing of each of the recessions either covers less than one fiscal year, or covers parts of two different fiscal years, the fiscal year data is unable to completely isolate the effect that just the recession phase of the cycle has on state revenues and expenditures. Thus, our interest is only in the recovery/expansion phase of the business cycle.

The measures selected for study fall into four groups: 1. total revenue (TR), 2. other financial sources (OFS), 3. total

TABLE 1: REVENUE TO EXPENDITURE RATIOS THREE YEAR MOVING AVERAGE OF REVENUE TO EXPENDITURE RATIOS FIVE SOUTHERN STATES

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
ARKANSAS													
Total Revenue (TR) ÷ Total Expenditure (TE)	1.34	1.31	1.27	1.08	1.09	1.10	1.11	1.03	1.10	1.09	1.08	1.06	1.03
(TR) + Other Financial Sources ÷ (TE) + Other Financial Uses	1.00	.99	1.00	.99	1.02	1.03	1.04	.99	1.04	1.00	1.03	.99	.98
3-Year Moving Average (TR) ÷ (TE)	N/A	1.30	1.22	1.14	1.09	1.10	1.08	1.08	1.08	1.09	1.07	1.05	N/A
3-Year Moving Average (TR) + Other Financial Sources ÷ (TE) + Other Financial Uses	N/A	.99	.99	1.00	1.01	1.03	1.03	1.03	1.01	1.03	1.00	.99	N/A
LOUISIANA													
TR ÷ TE	.37	.35	.40	.38	.48	.44	.44	.43	.43	.43	.43	.43	.39
TR + Other Financial Sources ÷ TE + Other Financial Uses	.98	.94	.94	.99	1.01	.98	1.01	.99	1.00	.99	.99	1.00	.99
3-Year Moving Average TR ÷ TE	N/A	1.17	.37	.43	.43	.43	.43	.43	.43	.43	.43	.41	N/A
3-Year Moving Average TR + Other Financial Sources ÷ TE + Other Financial Uses	N/A	.94	.94	.98	.99	1.00	.99	1.00	.99	.99	.99	.99	N/A
MISSISSIPPI													
TR ÷ TE	1.07	1.04	1.04	1.13	1.14	1.13	1.08	1.08	1.11	1.07	1.08	1.03	.97
TR + Other Financial Sources ÷ TE + Other Financial Uses	.98	.99	1.00	1.03	1.03	1.04	1.01	1.02	1.04	1.04	.95	.98	.98
3-Year Moving Average TR ÷ TE	N/A	1.06	1.08	1.10	1.12	1.11	1.09	1.09	1.08	1.08	1.04	1.03	N/A
3-Year Moving Average TR + Other Financial Sources ÷ TE + Other Financial Uses	N/A	.99	1.01	1.04	1.03	1.04	1.03	1.03	1.03	1.01	.99	.97	N/A
OKLAHOMA													
TR ÷ TE	1.30	1.17	1.13	1.09	1.13	1.13	1.11	1.13	1.13	1.08	1.10	.99	.94
TR + Other Financial Sources ÷ TE + Other Financial Uses	1.01	1.03	.98	.97	.99	1.01	1.02	1.03	1.01	1.01	1.03	1.01	.95
3-Year Moving Average TR ÷ TE	N/A	1.16	1.12	1.11	1.11	1.12	1.12	1.12	1.11	1.11	1.05	1.01	N/A
3-Year Moving Average TR + Other Financial Sources ÷ TE + Other Financial Uses	N/A	1.00	.99	.98	.99	1.00	1.03	1.03	1.01	1.01	1.01	.99	N/A
TENNESSEE													
TR ÷ TE	1.10	1.09	1.13	1.09	1.04	1.04	1.04	1.07	1.08	1.05	1.08	1.04	1.00
TR + Other Financial Sources ÷ TE + Other Financial Uses	.94	.97	1.02	1.02	.99	.99	.99	1.02	1.03	.99	1.04	1.00	.94
3-Year Moving Average TR ÷ TE	N/A	1.10	1.10	1.09	1.06	1.04	1.03	1.06	1.06	1.07	1.03	1.04	N/A
3-Year Moving Average TR + Other Financial Sources ÷ TE + Other Financial Uses	N/A	.98	1.00	1.01	1.00	.99	1.00	1.01	1.01	1.03	1.01	1.00	N/A

N/A - Not Applicable

expenditures (TE), and 4. other financial uses (OFU). A revenue-to-expenditure ratio of greater than one during the recovery phase, which declines during the expansion phase, would indicate that, initially, expenditures are not keeping up with revenues. This finding would be consistent with the Sorensen and Yosha study showing that state budgeting practices are countercyclical in the recovery stage of the business cycle.

With Louisiana's lower dependence on taxes due largely to its higher dependence on federal grants, the revenue-to-expenditure ratio in Louisiana may misrepresent the true state for financial reserves. With this in mind, two different revenue-to-expenditure ratios will be analyzed, 1. total revenue-to-total expenditures (TR/TE), and 2. total revenue plus other financial sources to total expenditures plus other financial uses $[(TR+OFS)/(TE+OFU)]$.

Of the five states being studied, Louisiana is the least dependent on internal tax sources. Of the five states being studied, only Tennessee has no income tax. Thus it is our expectation that Louisiana will show up, due to federal aid, as the state with an asymmetric countercyclical fiscal policy different in size from the other states, while Tennessee will be the one state that will not fit the model for the simple fact that the absence of an income tax, or federal grants, will not generate the procyclical tax flows needed to prove an asymmetric countercyclical fiscal policy.

RESULTS

There is one problem with the use of fiscal year budgets. And that problem is that fiscal years are arbitrary time periods. There is nothing intrinsically special about the July through December time period. As a matter of fact, this artificially constrained time period may mask changes in revenues and expenditures that reveal counter cyclical patterns.

For this reason, each of the ratios, total revenue-to-total expenditure and total revenue plus other financial sources-to-total expenditure plus other financial uses is calculated using a three-year moving average. This technique will smooth out some of the variability in the ratios, but with a loss of data for the years 1990 and 2002. This we feel is of no consequence. The remaining years 1991 to 2001 correspond exactly with the recovery/expansion phase of the most recently completed business cycle.

Table 1(row 3) represents the three-year moving average ratio of total revenue to total expenditures for each state. If states are either building reserves or have budget practices which result in expenditures lagging revenues, then the total revenue-to-total expenditure ratio should be rising during the beginning stage of the economic recovery. In the case of Louisiana, and Mississippi this pattern generally seems to hold. The ratio peaks in 1995 for Louisiana and 1994 for Mississippi. Afterwards the ratio steadily declines.

For Oklahoma after the first year the ratio shows almost no change until the year 2000. For Arkansas the ratio declines almost continuously with only the slightest upturn in 1995 and

1999. For Tennessee the ratio declines from 1990 to 1995 and then rises steadily until 1999 when it again begins to decline.

From these results we see that only the Louisiana and Mississippi budget's exhibit counter cyclical characteristics. But as we have previously noted, some states have a smaller dependence on state income tax revenue due to a large dependence on federal aid. This is particularly true for Louisiana. With this in mind we also looked at the three-year moving average ratio of total revenue plus other financial sources-to-total expenditure and other financial uses (row 4).

In this case we see that not only do Mississippi and Louisiana still exhibit counter cyclical tendencies in the beginning of the business cycle, but all the states seem to exhibit the same counter cyclical pattern until the mid 90s.

To test whether the ratio of total revenue plus other financial sources-to-total expenditures plus other financial uses $[(TR+OFS)/(TE+OFU)]$ is significantly different for the time period 1991 to 1995 (the beginning of the expansion phase) than it is for the time period 1991 to 2001 (the entire recovery/expansion phase) we regress $[(TR+OFS)/(TE+OFU)]$ on nominal Gross Domestic Product (GDP). The null hypothesis to be tested is that there is no statistically significant relationship between GDP and $[(TR+OFS)/(TE+OFU)]$.

If our hypothesis is correct, we should see the following:

1. For the entire time period, 1991 to 2001, the null hypothesis should hold. No significant statistical relationship should hold between nominal GDP and $[(TR+OFS)/(TE+OFU)]$. This would be evidenced by a large p-value indicating that there is no evidence that the alternative hypothesis is true.
2. For the time period, 1991 to 1995, the null hypothesis should not hold. There should be a significant statistical relationship between nominal GDP and $[(TR+OFS)/(TE+OFU)]$. This would be evidenced by a very small p-value indicating that there is overwhelming evidence to infer that the alternative hypothesis is true. In Table 2 we see the p-values for the two time periods, for each of the five states.

State	Time Period	p-value
Arkansas	1991 - 2001 1991 - 1995	.497 .462
Louisiana	1991 - 2001 1991 - 1995	.496 .463
Mississippi	1991 - 2001 1991 - 1995	.146 .024
Oklahoma	1991 - 2001 1991 - 1995	.238 .436
Tennessee	1991 - 2001 1991 - 1995	.487 .464

For the time period 1991 to 2001 the p-values for Arkansas, Mississippi, and Oklahoma are not statistically significant since they exceed 10%. Thus there is weak evidence to suggest that the alternative hypothesis is true. For the time period 1991 to 1995 the p-values for Arkansas, Mississippi and Oklahoma are statistically significant at the 5% level. There is strong evidence to suggest that the alternative hypothesis, a strong relationship between nominal GDP and $[(TR+OFS)/(TE+OFU)]$ is true. For the state of Louisiana during the time period, 1991 to 2001 the relationship between nominal GDP and $[(TR+OFS)/(TE+OFU)]$ is significant as shown by a p-value of less than 5%. But, we also see that during the time period 1991 to 1995, the relationship between nominal GDP and $[(TR+OFS)/(TE+OFU)]$ is even stronger than the relationship during the 1991-2001-time period. The p-value for the period 1991 - 1995 is .005, this is highly significant suggesting that the alternative hypothesis is overwhelmingly true.

The only state for which we get perverse results is Tennessee. During the time period 1991 to 2001 the relationship between nominal GDP and $[(TR+OFS)/(TE+OFU)]$ is moderately significant as shown by a p-value of less than 10% but greater than 5%. On the other hand, there seems to be no significant relationship between nominal GDP and $[(TR+OFS)/(TE+OFU)]$. The p-value for the 1991 to 1995 time period is .691, suggesting no support for the alternative hypothesis.

CONCLUSIONS

The data collected suggests that the effect of budgeting practices in the states, with state income tax systems (all but Tennessee) are counter cyclical in the recovery/expansion phase of the business cycle. When looking at the relationship between nominal GDP and $[(TR+OFS)/(TE+OFU)]$, for the time period 1991 to 1995, we see that all the states (except Tennessee) have p-values of 5% or less, indicating evidence that the alternative hypothesis is true. In this case we can say the test between nominal GDP and $[(TR+OFS)/(TE+OFU)]$ is significant. For the remaining four states: Arkansas, Louisiana, Mississippi, and Oklahoma, our finding support those of Sorensen and Yosha who found that state budgets were countercyclical during the recovery/expansion phase of the business cycle.

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IMPACT OF A SUBCHAPTER S DESIGNATION AS A COMPETITIVE MEASURE: SMALL COMMUNITY BANKS VERSUS CREDIT UNIONS IN TEXAS

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INTRODUCTION

Banking officials have long believed that credit unions have been given an unfair competitive advantage due to favorable legislative treatment. Today, this controversy is stronger than ever as a result of current legislation which continues to support the role of credit unions in the United States. Bankers believe that existing legislation gives credit unions an unfair competitive advantage due to their tax-exempt status.

RATIONALE AND PURPOSE

The purpose of this study is to analyze how commercial banks, more specifically community banks, compete against credit unions on a local basis in Texas. Often referred to as the battle of David and Goliath, the controversy between commercial banks and credit unions is dominated by several arguments made by the commercial banks. These arguments specifically reference how credit unions adversely affect the ability of commercial banks to conduct their business.

This study will explore the current debate between credit unions and commercial banks and identify the key arguments made by commercial banks. Although this debate is evident in the entire United States, the state of Texas was chosen for this study in order to view the competitive implications on a smaller geographic scale.

Does the presence of credit unions in the same geographic region as community banks in Texas cause there to be a variation in the way community banks compete? In analyzing this question, it will then be possible to test the claim made by bankers that the presence of credit unions within the same geographic area adversely affects their ability to compete.

IMPORTANCE OF STUDY

This controversy between credit unions and commercial banks is a research-worthy topic because it is a driving source of controversy in the banking world today. This debate not only affects the banking industry and how commercial banks and credit unions compete; it also has a direct impact on consumer welfare. In addition, advocates of both credit unions and banks are constantly lobbying for legislation in favor of one type of institution over the other. The empirical results of this study should provide us with a better understanding of the true effect of both a community bank and a credit union competing in the same local geographic market.

THE CURRENT CREDIT UNION CONTROVERSY

Since their true inception in 1934, controversy has surrounded these financial institutions. Initially, credit unions were subjected to taxation on their income. However, three years later an amendment granted tax exemption to federal credit unions. In 1937 the U.S. Treasury cited two main reasons for granting credit unions a tax-exempt status (Chmura, *et al.*, 2004, p. 6):

- 1) If credit unions are taxed on their shares this “places a disproportionate and excessive burden on the credit unions” due to the fact that shares act as deposits; and
- 2) Credit unions operate solely for their members as well as by their members. This means that the credit unions are member-owned not shareholders-owned.

Today many critics are concerned with the decision making abilities of credit unions and how much power they are allowed to hold, especially since the main objective for credit unions is not profitability. (Branch & Baker, 1998).

Presently, it is highly controversial that credit unions are not subjected to federal taxation in the same way as profit-making organizations like commercial banks. (Emmons & Schmid, 1999). The benefits of the tax-exempt status for credit unions are that credit unions avoid paying taxes by paying out all “profits” to their members. The profits are paid out either in the form of lower borrowing rates or higher deposit rates. (Emmons & Schmid, 1999).

In 1991, the United States General Accounting Office (GAO) cited several reasons why the tax-exempt status should be removed from credit unions. Despite these reasons of the GAO, the tax-exempt status has not been removed thus far because credit unions have remained cooperative institutions, which are member-owned. (Chmura, *et al.*, 2004).

LEGISLATIVE ACTIONS

Bankers have incessantly attempted to gain momentum for their idea that credit unions should no longer be tax exempt. In the article, “Bankers’ Threat Is Real,” the American Bankers Association has launched ‘Operation Credit Union,’ which includes letters from depository institutions to Congress asking for support on taxing credit unions. (Mica, 2004, p. 1).

In addition, there are constant battles being waged on Capitol Hill about the controversy between credit unions

and commercial banks. CUNA's Gary Kohn, vice president of legislative affairs stated, "We've not allowed the bankers to divert us from pursuing a proactive legislative agenda". (Kohn, 2004). An example of this proactive agenda is the Credit Union Regulatory Improvements Act of 2005 (CURIA), a bill introduced in the House of Representatives through the bipartisan efforts of California Republican, Ed Royce, and Pennsylvania Democrat, Paul Kanjorski. ("Legislative Issues: Credit Union Regulatory Improvements Act", 2006).

CURIA would increase the limit on credit union member business loans to 20% of assets, and allow a system for credit unions to take into account more accurate risk assessments. (Kohn 2004). The Act, which was most recently referred to a House Financial Services subcommittee on October 18, 2005, also seeks changes in the areas of Economic Growth and Regulatory Modernization. ("Legislative Issues," 2006.) CURIA is just one of many pieces of legislation that lawmakers have to consider, there are numerous others being considered, some in favor of credit unions and some in favor of banks.

SERVICES PROVIDED BY COMMUNITY BANKS

One of two divergent trends seen in the U.S. banking system today is that there are still thousands of smaller institutions that focus on local communities and regions. In the United States today, there are more than 8,000 banks, and almost 90 percent of those institutions have less than \$1 billion in assets. In addition, capital, earnings, and asset quality are improving not only for banks in general, but specifically for community banks. (Schmit Bies, 2005).

According to a definition provided by the Kansas City Federal Reserve Bank "a community bank is defined as a bank owned by an organization with less than \$1 billion in total banking assets". (Kahn, 2003). Two other important characteristics of community banks are that they are typically small in size, and they conduct most of their business in their local communities. Almost half of all community banks hold \$100 million or less in assets though the definition of a community bank includes those with \$1 billion or less in assets.

The importance of community banks as financial service providers is that this type of banking institution performs important roles as a provider of relationship-based and information intensive banking services. Some of these services include small business lending and retail deposit services.

When looking into retail deposit services, these services are important to small businesses and many depositors. It has been argued that large banks are not as interested as community banks in providing personal service to depositors of low to moderate wealth. A reason cited for this is that community banks are more highly dependent on this type of deposit than the large banks. In addition, community banks also typically charge less for retail banking services than larger banks. (Kahn, 2003).

Nationally, the number of credit unions has declined from 10,439 in 2000 to 8,801 in 2005. Mirroring national trends, the

number of credit unions in Texas has declined from 714 to 625 over the same period. Even though the number of community banks has declined in the past few years, they continue to provide banking services to smaller communities.

SUBCHAPTER S-CORPORATIONS

The issue of being classified as a Subchapter S-Corporation for community banks is not only critical, it is a significant point of controversy for the debate among credit unions and commercial banks. S-Corporations can be defined as corporations that are domestic, not deemed ineligible, which generally means it has no more than 100 shareholders that are individuals, estates, certain trusts, and in a few limited instances corporations, and has only one class of stock. (Scally, 2005).

An advantage of being classified as an S-Corporation is that banks receive substantial tax savings under this classification. For example, when classified as an S-Corporation, a bank can avoid the imposition of income taxes at the corporate level while retaining many of the advantages of a corporation, particularly limited liability. Therefore, the bank's earnings are no longer subject to a double corporate tax. When double taxation is eliminated, community banks can utilize the increase in financial resources for loans and investments. This use of additional financial resources enables an S-Corporation bank to compete more effectively (Witt, nod.).

Interestingly enough, 25 percent of the banking industry has elected to become a S-Corporation, and typically the type of bank that would choose to make such a decision, due to the limitations of this classification, would typically be a smaller, more closely held, or family-owned bank which would most likely fit the requirements. (Scally, 2005).

Even though banks have had the ability to become S-Corporations since 1997, the restrictions on the number and type of shareholders who can hold stock in this type of corporation have prevented many community banks from considering S-Corporation status. Under previous legislation, the number of shareholders of an S-Corporation was limited to 75 members. The main point of controversy of S-Corporation classification came about in 2004 when the American Jobs Creation Act of 2004 (AJCA) was created. This piece of legislation, which passed in June 2004, makes significant changes to the rules governing S-Corporations.

The Act allows many more closely held community banks to take advantage of tax benefits available to S-Corporations by changing certain requirements to achieve such status prior to the Act's inception. After the enactment of the AJCA, the number of shareholders for S-Corporations was increased to 100 members making it more enticing for these community banks to seek S-Corporation status. In addition, the AJCA allows family members for up to six generations to be recognized as one shareholder. (Scally, 2005. These guidelines, which were a result of the 1996 Tax Law, are just a few of the examples of the additional restrictions that exist as obstacles for a bank to become an S-Corporation. ("Types of Corporations nod" p. 1).

METHODOLOGY

Univariate statistical procedures are used to examine the possible effects of the existence of a Subchapter S designation on the profitability and risk of small community banks which compete with at least one credit union in their geographic areas. The geographic area is delineated by the zip code area in which the community bank is located. Geographic markets designated as having a 'credit union presence' are limited to those markets with only one credit union headquartered in the same zip code area as the community bank.

Selected profitability and risk-related ratios are compared for all small, Subchapter S community banks with similar ratios for all small, non-Subchapter S community banks in each zip code area. In this study, all of the small community banks involved are located in the State of Texas. The banking industry ratios were provided by the Federal Deposit Insurance Corporation for the year 2004.

Banks having total assets of \$1 billion or less are generally considered to be community banks. Community banks are often divided into two groups: (1) banks with total assets of less than \$100 million are considered small, and (2) banks with total assets of \$100 million or more, but less than \$1 billion, are considered large.

Table 1 indicates that there were 650 community banks in state of Texas in 2004. Of the 650 community banks, 162 were in a geographic area in which there was at least one credit union present, while 488 were in areas with no credit unions. Approximately 41 percent (269) of all Texas community banks are large and 59 percent (381) are small.

The focus of this paper is limited to all small community banks in Texas which are located in geographic areas of the state where at least one credit union is also present. As shown in **Table 1**, there are 76 community banks (about 47 percent of all small community banks) which satisfy these criteria. In order to measure the effects of Subchapter S designation on bank profitability and risk, this sample of small community banks are divided into two groups. One group consisted of small, Subchapter S community banks (31 banks), and the other group consisted of small, non-Subchapter S community banks (45 banks).

In 2005, there were 267 banks in Texas chartered as Subchapter S-Corporations, which means that they avoided paying \$107 million in federal income tax". (CUNA Economics and Statistics Department, 2005). Today, there are 2,242 banking institutions (banks, savings and loan associations) with approximately \$347 billion in assets that enjoy Subchapter S-Corporation status. (CUNA Economics and Statistics Department, 2005).

Size	SubS Status	Credit Union Presence	Number of Banks	Mean (\$000)
Large	No	No	100	\$243,980
Large	No	yes	59	\$258,252
Large	Yes	No	75	\$212,064
Large	Yes	Yes	27	\$239,456
Large	All		269	\$246,531
Small	No	No	181	\$45,847
Small	No	Yes	45	\$55,376
Small	Yes	No	124	\$50,227
Small	Yes	Yes	31	\$57,404
Small	All		381	\$49,338
		ALL	650	\$130,946

Source: Federal Deposit Insurance Corporation and Federal Credit Union Administration, 2004

STATISTICAL RESULTS

Profitability Ratios	No Credit Union Presence	Credit Union Presence	t Value	P > t
Yield on earning assets	5.3041	5.5438	-1.65	0.10
Cost of funding earning assets	1.0650	1.1915	-2.22	0.03
Net interest margin	4.2381	4.3522	-0.87	0.38
Noninterest income to earning assets	1.1769	1.1650	0.05	0.96
Noninterest expense to earning assets	4.1015	4.4353	-1.19	0.23
Efficiency ratio	79.6991	103.8438	-1.92	0.06
Net operating income to assets	0.8607	0.4788	2.34	0.02
Return on assets (ROA)	0.8728	0.4861	2.34	0.02
Pretax return on assets	1.0120	0.5849	2.27	0.02
Return on Equity (ROE)	8.8398	5.9158	1.87	0.06
Retained earnings to average equity	3.0810	0.1606	1.93	0.05

Source: Federal Deposit Insurance Corporation and National Credit Union Administration, 2004

Tables 2a and 2b summarize comparisons of selected profitability and risk-related ratios between small, Texas community banks with credit union presence and small, Texas community banks without credit union presence for the year 2004.

Comparisons of profitability ratios, from Table 2a, suggest that the "cost of funding earning assets" (intexpy) is higher for small community banks which operate in areas where at least one credit union is present than for small community banks which operate in areas where there are no credit unions.

Also from Table 2a, we note that the "efficiency ratio" (eeffr) is lower for banks operating without credit union presence than community banks operating with credit union presence. A lower efficiency ratio indicates that the institution is more efficient since the ratio is computed as non-interest costs as a percent of operating assets.

The same table also reveals that "net operating income to assets" (noiyy), "return on assets" (ROA), "pretax return on assets" (roaptx), "return on equity" (ROE), and "retained earnings to average equity" (roejnr) are all higher for small community banks without credit unions presence than for small community banks with credit union presence.

Risk-related Ratios	No Credit Union Presence	Credit Union Presence	t Value	P > t
Net charge-offs to loans	0.3205	0.6238	-1.67	0.10
Loss allowance to loans	1.6331	1.5775	0.34	0.74
Noncurrent loans to loans	1.1326	1.0936	0.16	0.87
Equity capital to assets	11.5121	11.8612	-0.46	0.65
Core capital (leverage) ratio	11.4847	11.7968	-0.35	0.73
Total risk-based capital ratio	22.9620	28.7836	-1.14	0.26
Interest-bearing deposits to assets	66.2592	65.9819	0.23	0.82
% insured deposits to assets	297.5270	166.8310	1.07	0.28
Volatile liabilities to assets	15.3530	17.6335	-1.89	0.06
FHLB advances to assets	1.1217	1.5838	-1.07	0.29
Loans and leases held for sale to assets	27.6648	4.0603	0.82	0.41
Net loans and leases to core deposits	69.4195	88.7429	-0.82	0.40

Source: Federal Deposit Insurance Corporation and National Credit Union Administration, 2004

In summary, small community banks in Texas which operated in areas where at least one credit union was present experienced (1) higher cost of funding assets, (2) lower efficiency, and (3) lower net operating income to assets and lower profitability than small Texas, community banks operating in areas without the presence of a credit union.

Comparisons of risk-related ratios for the two groups of small community banks can be found in Table 2b. The results suggest that small Texas community banks which operate in areas with credit union presence have, on average, a higher ratio of (1) “net charge-offs to loans” (ntnlr), (2) “volatile liabilities to assets” (r_voliab), and (3) “net loans and leases to core deposits” (idlncorr) than small, Texas community banks without credit union presence. Table 2b also reveals differences in the remaining nine risk-related ratios between the two groups of small, Texas community banks were not significant.

In the final analysis, the three significantly different risk-related ratios suggest, at least tentatively, that small, Texas community banks with credit union presence are exposed to greater risk, on average, than small, Texas community banks without credit union presence.

Tables 3a and 3b summarize comparisons of profitability and risk-related ratios between small, Texas, non-Subchapter S community banks which operate in areas with credit union presence and small, Texas, non-Subchapter S community banks without credit union presence for the year 2004.

Comparisons of profitability ratios for the two groups of small community banks suggest that small, non-Subchapter S community banks operating in areas with credit union presence have, on average, higher (1) “yield on earning assets” (intncy), (2) “cost of funding earning assets” (intexpy), and (3) “net interest margin” (nimy) than small, non-Subchapter S community banks operating in areas without credit union presence.

From Tables 3a, we observe that small, non-Subchapter S community banks operating in areas with credit union presence have, on average, lower (1) “net operating income to assets” (noijy), (2) “return on assets” (ROA), (3) “pretax return on assets” (roaptx), (4) “return on equity” (ROE), and (5) “retained earnings to average equity” (roeinjr) than small, non-Subchapter S community banks operating in areas without credit union presence.

In summary, it appears that small, non-Subchapter S community banks which operate in areas with credit union presence are (1) less profitable and (2) experience higher cost funding earning assets than small, non-Subchapter S community banks operating in areas without credit union presence. The higher average values of “yield on earning assets” and “net interest margin” for small, non-Subchapter S community banks does not fit with expectations.

Table 3b compares risk-related ratios for the two groups of small community banks suggesting that small, non-Subchapter S community banks with credit union presence experience higher

TABLE 3-a				
Mean Differences in Selected Profitability Ratios for Small Community Banks in Texas Without Sub-Chapter S Status By Credit Union Presence, 2004				
Profitability Ratios	No Credit Union Presence	Credit Union Presence	t Value	P > t
Yield on earning assets	5.1789	5.7821	-3.82	0.00
Cost of funding earning assets	1.8618	1.2444	-2.39	0.02
Net interest margin	4.1152	4.5377	-2.34	0.02
Noninterest income to earning assets	1.2339	1.1378	0.24	0.81
Noninterest expense to earning assets	4.2375	4.7269	-1.10	0.27
Efficiency ratio	81.7487	90.6283	-1.32	0.19
Net operating income to assets	0.5463	0.8927	2.84	0.04
Return on assets (ROA)	0.5548	0.8873	2.83	0.04
Pretax return on assets	0.7875	0.2659	1.87	0.06
Return on Equity (ROE)	5.6790	1.7298	1.75	0.08
Retained earnings to average equity	2.4812	-2.5994	2.15	0.03

Source: Federal Deposit Insurance Corporation and National Credit Union Administration, 2004

TABLE 3-b				
Mean Differences in Selected Risk-related Ratios for Small Community Banks in Texas Without Sub-Chapter S Status By Credit Union Presence, 2004				
Risk-related Ratios	No Credit Union Presence	Credit Union Presence	t Value	P > t
Net charge-offs to loans	0.3784	0.8756	-1.88	0.10
Loss allowance to loans	1.7638	1.6482	0.45	0.65
Noncurrent loans to loans	1.2463	1.2744	-0.06	0.94
Equity capital to assets	12.1925	11.6143	0.58	0.56
Core capital (leverage) ratio	12.1473	11.5811	0.48	0.63
Total risk-based capital ratio	24.8996	19.5572	2.87	0.04
Interest-bearing deposits to assets	65.7293	66.1348	-0.23	0.82
% insured deposits to assets	35.7788	16.1888	0.96	0.34
Volatile liabilities to assets	15.5577	17.8822	-1.25	0.21
FHLB advances to assets	1.1854	1.8327	-1.10	0.27
Loans and leases held for sale to assets	31.7022	5.8702	0.84	0.52
Net loans and leases to core deposits	67.1182	91.5884	-4.52	0.00

Source: Federal Deposit Insurance Corporation and National Credit Union Administration, 2004

TABLE 4-a				
Mean Differences in Selected Profitability Ratios for Small Community Banks in Texas With Sub-Chapter S Status by Credit Union Presence, 2004				
Profitability Ratios	No Credit Union Presence	Credit Union Presence	t Value	P > t
Yield on earning assets	5.4898	5.1975	1.47	0.14
Cost of funding earning assets	1.8723	1.1147	-8.51	0.01
Net interest margin	4.4175	4.8828	1.89	0.06
Noninterest income to earning assets	1.0938	1.2871	-8.28	0.03
Noninterest expense to earning assets	3.9029	4.0104	-8.88	0.03
Efficiency ratio	76.7074	82.8256	-1.58	0.12
Net operating income to assets	1.3196	1.0382	1.38	0.17
Return on assets (ROA)	1.3280	1.0504	1.41	0.16
Pretax return on assets	1.3396	1.0480	1.43	0.15
Return on Equity (ROE)	13.4535	11.9833	0.97	0.34
Retained earnings to average equity	3.9286	4.0510	-8.06	0.05

Source: Federal Deposit Insurance Corporation and Federal Credit Union Administration, 2004

TABLE 4-b				
Mean Differences in Selected Risk-related Ratios for Small Community Banks in Texas With Sub-Chapter S Status by Credit Union Presence, 2004				
Risk-related Ratios	No Credit Union Presence	Credit Union Presence	t Value	P > t
Net charge-offs to loans	0.2363	0.2582	-8.24	0.01
Loss allowance to loans	1.4634	1.6778	-8.25	0.01
Noncurrent loans to loans	0.9674	0.8311	8.52	0.01
Equity capital to assets	10.5190	12.2197	-1.46	0.15
Core capital (leverage) ratio	10.5175	12.1089	-1.20	0.23
Total risk-based capital ratio	20.2780	22.3677	-8.89	0.03
Interest-bearing deposits to assets	67.0328	65.7813	8.79	0.03
% insured deposits to assets	28.9823	17.4121	1.16	0.25
Volatile liabilities to assets	15.0542	17.5884	-1.53	0.13
FHLB advances to assets	1.0288	1.2225	-8.31	0.06
Loans and leases held for sale to assets	21.7564	2.7486	8.50	0.02
Net loans and leases to core deposits	72.7603	84.6529	-2.02	0.05

Source: Federal Deposit Insurance Corporation and Federal Credit Union Administration, 2004

ratios of (1) “net charge-offs to loans” (ntlslr) and (2) “net loans and leases to core deposits” (idlncorr) than small, non-Subchapter S community banks without credit union presence.

Also, from Table 3b, we note that small, non-Subchapter S community banks with credit union presence have, on average, lower “total risk-based capital ratios” than small, non-Subchapter S community banks operating without credit union presence.

Tables 4a and 4b summarize comparisons of profitability and risk-related ratios between small, Subchapter S community banks which operate in areas with credit union presence and small, Subchapter S community banks without credit union presence for the year 2004.

According to Table 4a, profitability ratios for the two groups of small community banks reveal that small, Subchapter S community banks which operate in areas with credit union presence have, on average, lower “net interest margin” than small, Subchapter S community banks without credit union presence. The remaining ten profitability ratios are not significantly different for the two groups of small, Subchapter S community banks.

Based on a comparison of risk-related ratios for the two groups of small community banks suggests, Table 4b reveals that small, Subchapter S community banks which operate in areas with credit union presence have, on average, higher ratios of “net loans and leases to core deposits” (idlncorr) than small, Subchapter S community banks which operate in areas without credit union presence. From Table 4b, we note that the remaining eleven risk-related ratios are not significantly different for the two groups of community banks.

SUMMARY

There is an ongoing war between credit unions and banks that has yet to be resolved. It is a war that has its roots in the early 1900’s with the conception of the first credit union. In more recent years, this debate has escalated, partially due to new legislation introduced, and partially due to the heightened competition.

Based on our statistical results, it appears that all small community banks which operate in areas with credit union presence experience lower profitability and higher risk than small community banks which operate in areas without credit union presence. Our results also indicate that small non-Subchapter S community banks which operate in areas with credit union presence appear to experience lower profitability and higher risk than small, non-Subchapter S community banks without credit union presence.

Finally, we conclude that the existence of a Subchapter S designation does appear to impact the profitability and risk of small community banks which operate in areas with credit union presence. The tax effects of the Subchapter S designation appear to improve small bank competitiveness relative to credit unions.

While there are strong arguments for allowing banks to claim an S-Corporation status, there are a number of safeguards that should be operational. For one, the IRS should monitor the size of banking institutions who utilize this classification. Secondly, because the directors of national banks are required to own stock in their bank, regulators should be alert to potential conflicts that may arise due to the requirement that S-Corporations are allowed only one class of stock. Finally, it is important to ensure that banks who do elect S-Corporation status use their tax preference to benefit the public and their communities.

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THE INFLUENCE OF SALES TRAINEE EXPECTATIONS ON SELECTED SELLING OUTCOMES

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Several of my sales colleagues and I had just attended a regional sales meeting and were waiting at the airport for our flights home when one asked, "What did you think of the sales training?" Another colleague replied, "It must have been good! Look at the great new binder they gave each of us." There was no discussion of the topic, the presentation of the materials, or the learning experience; just the idea that we now had a really nice new binder. Although none of us would voice it, the general consensus was, "another wasted trip." We began to call meetings of this nature 'binder meetings.' This event took place over two decades ago. It was certainly not the first time the sentiments had been spoken, nor will it ever be the last.

I still remember this particular sales meeting; the topic of the meeting was our company's version of Total Quality Management. There was great interest in the *Malcolm Baldrige National Quality Award* and the company was pursuing concepts of TQM. I never used any of the materials from the meeting nor did any of my colleagues, but I still have that binder. The training materials were adequately prepared, delivered competently, but why was there so little, or no transfer of materials into the sales arena?

INTRODUCTION

Many changes have impacted sales forces over the past two decades.

- Selling organizations are experiencing more competition for customers leading to greater emphasis on relationship selling.
- The emphasis toward relationship selling has impacted on the amount and quality of successful communication between selling and buying organizations.
- Technology advances have made sharing information between selling and buying organizations much easier and more commonplace.
- Customers have more information, demand increased levels of customer service, and have higher expectations of service and support (Román, Ruiz, and Munuera 2002).

Taken together these issues symbolize a need or demand that organizations examine and perhaps revise their philosophies for conducting business.

Changes in philosophy of conducting business add to the complexity of selling organizations' situations. Over the last two decades, the scope of large business organizations has decreased. Organizational hierarchies have flattened considerably. Many selling organizations have consolidated or reduced the size of

sales forces. For example, in 1990 Procter & Gamble downsized its consumer products sales force from a product aligned sales force to a sales force aligned by customer or sales functions. From 1992 to 1994, IBM reduced its sales force size by 50% (Judge, 1995). Other organizations have replaced full-time company sales people with manufacturers' representatives or part-time merchandisers (e.g., Con Agra, General Mills). These changes place greater demands on incumbent salespeople. Each salesperson is now responsible for more and larger clients. Consequently they have less time to spend with each customer, there is more pressure to make the sale, and they are expected to be more productive. Salespeople today must attain proficiency quickly. As well, fewer salespeople must generate higher sales revenue.

A further complication is the number of sales veterans moving toward retirement or into new jobs, sales managers will face a flood of inexperienced employees entering their sales forces; applicants transitioning from other industries, moving into new careers, or are recent graduates new to selling (Cummings 2004). Greg Ruffer, Director of Retail Operations for LA Gym Equipment estimates that each untrained or undertrained sales representative costs the firm as much as \$30,000 in lost sales their first month on the job (Cummings 2004).

Ongoing sales training is critically important to most companies. The introduction of new products and product features requires constant updating of the sales force knowledge, skills, and abilities (Industry Report 2007). Sales training programs are expensive to deliver since most require large amounts of in-person training and involve dispersed, multi-cultural, and multi-national learners. Now many companies are experimenting with online training and podcasting to deliver training programs (Industry Report 2007).

Sales managers and those who train and coach salespeople can take several approaches (independently or in concert) to increasing the effectiveness of salespeople. Redesigning the sales job is one approach. Some progressive selling organizations have altered their selling philosophy (alt. the salesperson's role) from one of immediate revenue generation to one of building long-term relationships. Developing selling teams is another approach to increasing the effectiveness of the sales force as part of the quest for effectiveness and efficiency. A third approach to increasing salespersons' effectiveness involves refining sales training practices in order to increase training transfer.

It remains necessary to understand better how training materials transfer and how salespeople's training satisfactions and training expectations relate to the transfer of knowledge and skills and ultimately sales performance. A training expectation model is developed and evaluated to understand the nature of training expectations and training satisfactions.

TRANSFER OF SALES TRAINING

Dubinsky and Staples (1982) conceptualize sales training as providing the salesperson with requisite knowledge (e.g., product knowledge, market and competitive information, company policies and procedures) and selling skills (i.e., how to sell/salesmanship). Goldstein (1993, p.3) defines training as "the systematic acquisition of skills, rules, concepts, and attitudes that results in improved performance in another environment." Goldstein's (1993) definition can be readily adapted to the sales force setting. Sales training refers to a deliberate and formalized accumulation of information, concepts, and skills that are intended to foster competence or enhance the performance of salespeople.

A basic objective of most sales training efforts is to induce changes in salesperson behavior that promote performance (e.g., ability to demonstrate equipment, implementation of a new selling philosophy or model, enactment of new knowledge and its transfer to the client). In formalized training, trainees usually learn knowledge or skills in artificial environments. They are then expected to apply that information to the job - that is, transfer the training materials into the sales environment. The application or adaptation of training materials from the training environment to the field or work environment is titled transfer of training (Goldstein, 1993).

Empirical results show that sales trainees' transfer of knowledge, skills, and abilities accrued in training is favorably related to achieving desired sales training outcomes such as, improved organizational commitment, heightened sales effectiveness, and improved customer relations (Leach and Liu 2003). Sales trainers and managers alike undoubtedly hope that as much relevant training material as possible is transferred to the actual job setting. Lorge (1998) estimates that only 10% of what trainees learn in training meetings carry over to the sales arena. Burke and Baldwin (1999) stipulate that a substantial portion of an organization's training investment is often wasted due to poor learning transfer and trainee relapse. It follows, then, that the identification of variables or traits that facilitate or inhibit transfer of training holds great promise.

WHY STUDY TRANSFER OF SALES TRAINING?

In 2007, U.S. organizations spent in excess of \$58.5 billion for training and 13% of that amount, \$7.6 billion was spent on sales training (Industry Report 2007). Sales training is an overhead expense. The breakeven point is increased for any new or experienced salesperson. Management needs to understand better whether and how to manage training so as to shorten the time to breakeven while improving the performance of the sales force.

Several categories of variables fall within the scope of salespeople's training perceptions. The variables can be ordered in a causal format as: determinants of salespeople's training perceptions; dimensions of salespeople's training perceptions; outcomes of salespeople's training perceptions; and moderators or mediators of relationships between salespeople's training perceptions and both antecedent and outcome variables (Baron & Kenny, 1986). One outcome variable is transfer of training.

Transfer of training refers to the extent that the salesperson, while selling, uses skills and knowledge acquired through training (Goldstein, 1993). Transfer of training materials is of interest to sales trainers, sales managers, and sales management researchers alike because the extent of transfer of training materials can reflect the salesperson's confidence in perceived efficacy of the sales training program. If the sales trainee fails to transfer training materials or only partially transfers them, the training organization has achieved a sub-optimal return on its investment. If salespeople transfer training materials, the company may conclude that the salespeople are comfortable and confident with sales training and that the company's investment in training will result in a positive return.

Transfer of sales training materials can be considered a barometer of the effectiveness of sales training. Table 1 summarizes taxonomy of transfer. In Cell 1, a salesperson transfers (uses) training materials and achieves increased performance. From that behavior/outcome combination, the sales manager or sales trainer may infer that the training was appropriate and effective. One can speculate that the sales manager or sales trainer could draw the same inference concerning the effectiveness of sales training were the sales person to exhibit low transfer and low performance (Cell 4). That is, salespeople who fail to use training materials (i.e. transfer training) experience difficulty achieving performance goals. Underlying Cell 4, then, is a belief that the training program was appropriate. Sales managers and sales trainers could possibly infer from occurrences that place salespersons in Cell 2 that training was improper for the salesperson's particular mix of customers or situation. If transfer is positive, yet performance declines or is poor, reason exists to believe that the training was ineffective or even inappropriate. For salespersons falling into Cell 3 with low transfer and high performance, sales managers and sales trainers might

Table 1

Transfer of Training and Potential Outcome Matrix

		Potential Outcomes	
Transfer of Training Materials (Inputs)	High Transfer	High Performance (Cell 1)	Low Performance (Cell 2)
	Low Transfer	High Performance (Cell 3)	Low Performance (Cell 4)

believe that these salespeople would be successful regardless of the training provided. This anomaly might be the result of experienced salespeople or product dominance in the market.

Another point of interest concerns Cells 1 (high transfer/high performance) and 4 (low transfer/low performance). If some salespeople utilize training and progress toward successful selling careers, it would be logical that other salespeople who do not use the identical training would fail at a sales career. That question can be partially answered by identifying and studying potential antecedents to transfer of sales training.

If the ultimate objectives of sales training are changes in behavior resulting in improved sales performance, and if training is appropriate and applicable, then the trainees can be expected to employ materials, techniques, and knowledge acquired during sales training to meet the desired objectives. The notion of a trainee applying or adapting materials from the training environment into the work environment is referred to as transfer of training. Transfer of training refers to the trainee's ability to learn something in one environment and use the learned skill or knowledge in another environment (Goldstein, 1993). The desire of sales trainers and sales managers should be for as much training as possible to be transferred into the job setting and identification of factors that facilitate or hinder transfer is very important.

PREMISE FOR THE MODEL

Post training attitudes are expected to be a major determinant of post training application of training. Tannenbaum et al.

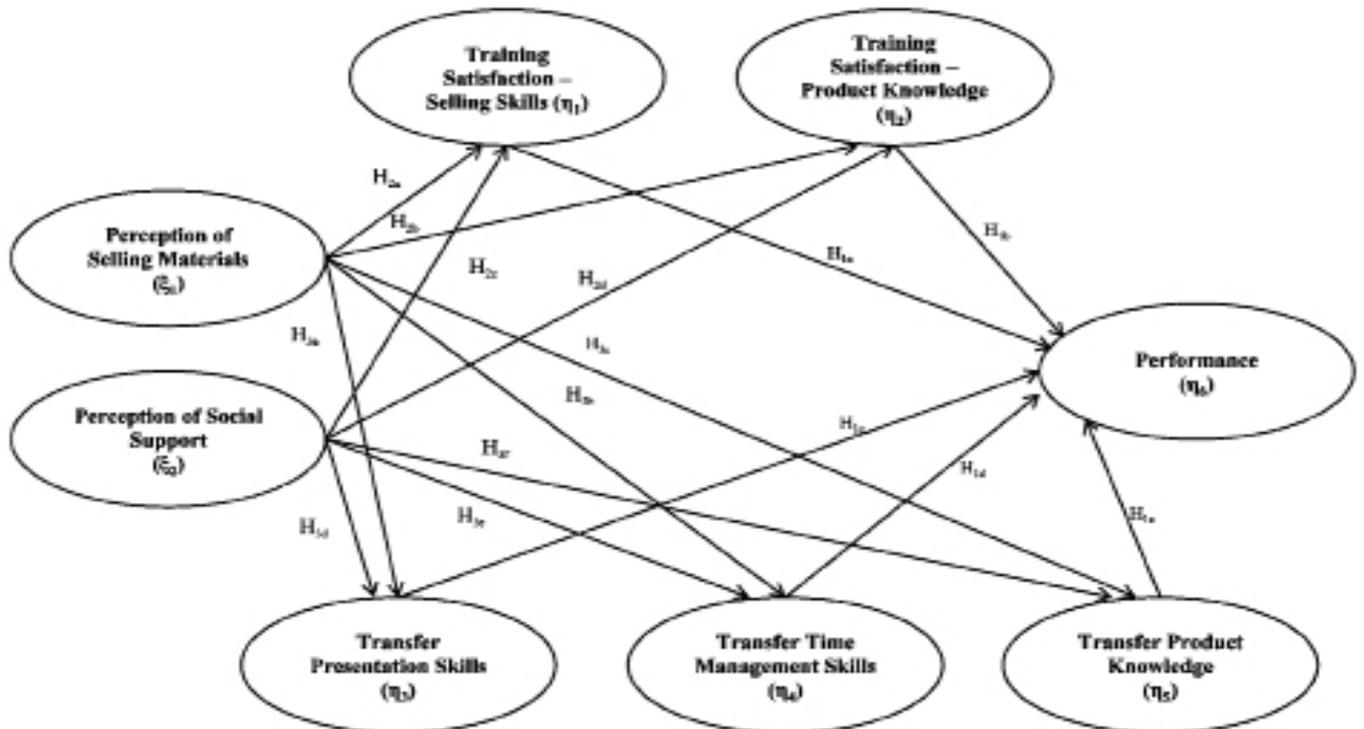
(1991) investigated the role of post-training attitudes and the determinants of post-training attitudes. One of the determinants they investigated was training fulfillment which is the extent to which training meets or fulfills a trainee's expectations and desires. Individuals enter training with varying expectations and desires (Hoiberg & Berry, 1978). That is, individuals do not share identical expectations and desires concerning training. When training falters in meeting trainees' expectations and desires, or training fulfillment is low, desired training outcomes are reduced (Tannenbaum et al. 1991). Much the same tenors of results have been reported relative to salespeople's career orientation by Cron and Slocum (1986) and Ornstein, Cron, and Slocum (1989).

The extent that training meets or exceeds expectations is represented by sales trainee training perceptions of training in the Trainee Expectations Model. The model posits that the lower the discrepancy between the pre-training expectations and perceived reality, the greater the salesperson's satisfaction with the training (an attitude) which, in turn, will lead to high sales performance. The discrepancy between pre-training expectations and perceived quality is conceptualized as training perceptions. Also, the extent that training meets or exceeds expectations (i.e. the lower the discrepancy between pre-training expectations and training reality), the greater transfer of training, and consequently the greater sales performance.

HYPOTHESIZED RELATIONSHIPS

The Trainee Expectations Model (Figure 1) suggests that outcomes are positively associated with favorable attitude

Figure 1
Trainee Expectations Model



(satisfaction with training) and desired behavior (transfer of training). That is, transfer of training, a behavior, contributes to performance, an outcome; and satisfaction with training, an attitude, contributes positively to performance, an outcome.

H₁: *Performance Outcomes = f(Training Satisfaction, Transfer of Training)*

Attitude (e.g., satisfaction with training) and behavior (e.g., transfer of training) relate positively to perceived utility of sales training. To the extent the trainee perceives that the training received meets pre-training expectations, the trainee experiences greater satisfaction and higher transfer of training.

H₂: *Training Satisfaction = f(Training Perceptions)*

Favorable perceptions of training positively influence training satisfaction. Salespeople who possess favorable impressions of sales training are more satisfied with elements of the sales training program.

H₃: *Transfer of Training = f(Training Perceptions)*

Favorable perceptions of training positively influence transfer of training. Salespeople who are satisfied with the sales training experience are more inclined to transfer (use) training materials from the training setting into the selling environment.

Reality tells us that training is used as a recruiting tool in some sales hiring situations. Such use of training as a recruiting inducement sets higher expectations in the sales recruit. In particular, people who lack sales experience desire training. As well, individuals who possess sales experience but are unfamiliar with the industry for whom they will be selling, desire some type of training to familiarize them with the characteristics of that industry.

Of primary concern regarding the Trainee Expectations Model is the formation of initial training expectations. The formation of these expectations may ultimately determine behavior and attitudes, and through them affect the outcomes of a salesperson's training experience.

METHODOLOGY

Sample

To provide field data for evaluating the three hypotheses, a self-administered questionnaire was mailed to 1,200 salespeople and 100 sales managers comprising the domestic industrial sales force of a company that manufactures several lines of specialty chemicals, water and waste stream treatment products, and specialty lubricants. The sales representatives were full-time employees of the manufacturer. At the time of the survey, 25% of the sales force was female. This gender ratio corresponded to the national average reported by Heide (1996).

A total of 512 completed surveys were returned (response rate = 42.7%). Sales representatives accounted for 452 of the responses (88.3%). Because the transfer of training in salespeople was the research focus, sales manager responses were excluded from the final analysis.

Measures

Perception of Selling Materials. Training perception of selling materials (TP-Selling Materials) was assessed using four Likert items that were developed by the research team and validated in a pilot study. The items were intended to measure each trainee's opinion of the various aspects of the training course (e.g. how to handle sales calls, performance feedback, practice opportunities, presentation clarity).

Perception of Social Support. Training perception of social support (TP-Social Support) was assessed using two Likert items developed by the research team and validated in a pilot study. The items were intended to measure each trainee's opinion of social support from peer trainees.

Transfer of Training. Transfer of training was assessed through eleven Likert-type items that had been validated in a pilot study. The items were developed by the research team with the cooperation of the sample organization's director of recruiting and training. The scale was intended to assess the extent to which sales trainees actually employed the concepts, knowledge, skills, and abilities developed during sales training. Three distinct factors were identified among seven items. Factor one addressed transfer of time management skills (TY-Time Management Skills); factor two captured transfer of sales presentation skills (TY-Sales Presentation Skills), while factor three tapped transfer of product knowledge (TY-Product Knowledge).

Training Satisfaction. Tannenbaum et al. (1991) conceptualized a construct, which was labeled training fulfillment, that is similar to training satisfaction. The construct referred to the extent to which the training met trainees' expectations and desires. Training satisfaction also captures salespersons' satisfaction with sales training; that is, their emotional disposition toward specific elements of the sales training program.

With the aid of the sample organization's director of recruiting and training, a fourteen-item training satisfaction scale was developed. Respondents were asked to report their level of satisfaction ('very unsatisfied' to 'very satisfied') with various aspects of their training program. Exploratory factor analysis extracted two factors that explained sixty-nine percent of item variation. The first factor appeared to address training satisfaction pertaining to sales presentation activity (TS-Selling Skills). The second factor reflected training satisfaction with product knowledge (TS-Product Knowledge).

Performance. Sales performance was measured using sales revenue information provided by the subject company for a twenty-four month period. An average of the last three months' sales revenue was used to derive the sales performance measure. (Please see Appendix for individual items.)

RESULTS

Multiple hypotheses were tested simultaneously using structural equation models. The LISREL 8.12a program (Jöreskog & Sörbom, 1993) was used. A two-step protocol recommended by

Anderson and Gerbing (1988) was employed to test the model. Measurement model goodness-of-fit statistics are incorporated in Table 2.

Analysis of the structural coefficients, percent variance explained, and fit indices derived from the theoretical model yielded several points for discussion. First, a strong influence exists between Perception of Selling Materials and Training Satisfaction-Selling Skills, Training Satisfaction-Product Knowledge, and Transfer-Presentation Skills. Structural coefficients (γ_{ij}) range from .57 to .77 ($p < .001$). Although the expected relationship from Perceptions of Selling Materials on Transfer-Time Management Skills and Transfer-Product Knowledge is intuitively appealing, the structural coefficients

are moderate in magnitude. The structural (gamma) coefficients range from .35 to .19.

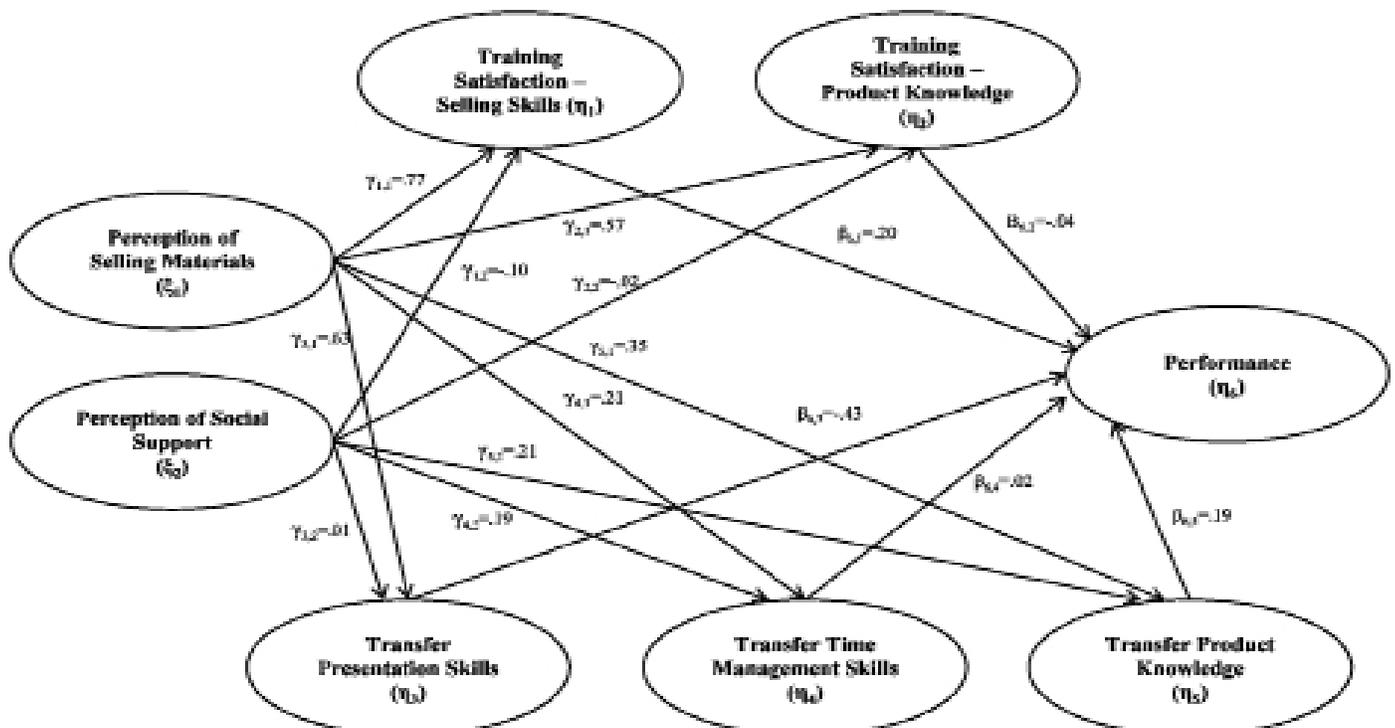
Certain relationships may be indirect (through) TS-Product Knowledge, TS-Selling Skills and Transfer of Training. These findings suggest that as sales training materials are perceived more favorably, training satisfaction and transfer of training materials increases.

The influence of Training Perceptions-Social Support is difficult to interpret. A weak relationship exists between salespeople's Training Perceptions-Social Support and Training Satisfaction constructs and Transfer of Training constructs. Structural coefficients range from a high of .21 to a low of -.10. In general,

Table 2
Trainee Expectation Model Goodness of Fit Indices

Model	Chi ²	df	p<	TLI	PGFI	RMER	Percent Variance Explained					
							Training Sat - Selling Skills	Training Sat - Product Knowledge	Transfer of Presentation Skills	Transfer of Time Management Skills	Transfer of Product Knowledge	Performance
Measurement	418.57	172	1.40E-32	0.86	0.65	0.068	50%	31%	31%	13%	30%	18%
Theoretical	422.59	174	1.04E-32	0.87	0.67	0.067	50%	31%	40%	13%	30%	18%
Trimmed Model	424.32	179	5.75E-32	0.87	0.69	0.069	48%	30%	41%	13%	30%	18%

Figure 2
Full Trainee Expectations Model



Training Perceptions-Social Support exhibits little influence on Training Satisfaction-Selling Skills, Training Satisfaction-Product Knowledge, or Transfer of Training-Presentation Skills. These findings are surprising since feedback and interaction between sales trainees and sales trainers was hypothesized to be associated with heightened satisfaction and transfer. Some relationship exists between Training Perceptions-Social Support and Transfer of Training-Time Management Skills ($\gamma_{4,2}=.19$, $p=.036$) and with Transfer of Training-Product Knowledge ($\gamma_{5,2}=.21$, $p=.003$). Perhaps time management skills and product knowledge are easier to reinforce through social support.

The relationship between Training Satisfaction constructs and Performance in the Trainee Expectations Model is disappointing. However, the relationship between Training Satisfaction-Selling Skills and Performance suggests some marginal influence ($\beta_{6,1}=.20$, $p=.097$). The relationships between Transfer of Training constructs and Performance are similar to those found in the Wilson, Strutton, and Farris (2002) Behavior Based Model. Transfer of Training-Presentation skills is negatively related to Performance, and Transfer of Training-Time Management skills maintains a weak relationship with Performance.

Table 2 summarizes the fit indices for the “best” Trainee Expectations Model. Goodness of fit measures for the model are acceptable and the model is more parsimonious ($df=179$) than the theoretical model ($df=174$). The trimmed model explains only slightly less of the endogenous construct variance than does the theoretical model, but is the preferred model because it is more parsimonious than the theoretical model.

CONCLUSIONS

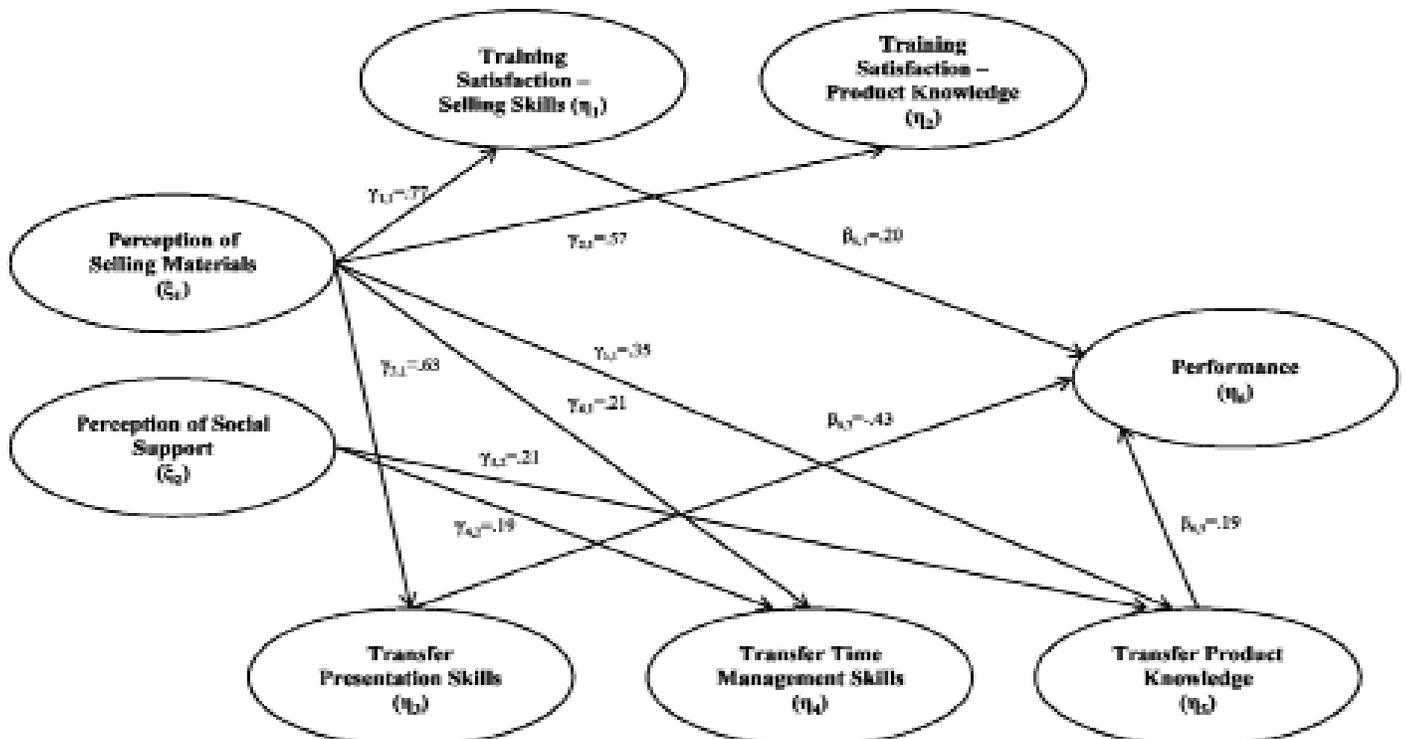
The Trainee Expectations Model illustrates the influence of how salespeople perceive the types and amount of training upon satisfaction, transfer of training, and ultimately performance. The Trainee Expectations Model also posits an influence for training perceptions (Training perceptions-Selling Materials, Training Perceptions-Social Support) on attitudes (Training Satisfaction-Presentation Skills and Training Satisfaction-Product Knowledge) and behaviors (Transfer-Sales Presentation Skills, Transfer-Time Management Skills, and Transfer-Product Knowledge). Findings suggest that Training Perceptions-Selling Materials relates positively to Training Satisfaction-Presentation Skills, Training Satisfaction-Product Knowledge, and Transfer-Presentation Skills. Training Satisfaction-Selling Materials related positively to Performance. Surprisingly, Transfer-Presentation Skills related negatively to Performance.

Drawing from the findings, it appears that industrial supplies sales representatives as a population desire to possess greater knowledge concerning the products they sell. Salespeople may see acquiring greater knowledge as helpful for establishing what aspects of the product transcend to specific buyer benefits.

An additional observation involves salespeople’s perceptions regarding the degree to which initial training met or exceeded training expectations (Training Perceptions). Favorable Training Perceptions were expected to lead to heightened Transfer of Training (behavior) and greater Training Satisfaction (attitude). Training Perceptions had varied influences on behavioral and attitudinal constructs. Training Perceptions-Selling Materials

Figure 3

Trimmed Trainee Expectations Model



was positively related to Training Satisfaction-Selling Skills, Training Satisfaction-Product Knowledge, and Transfer-Presentation Skills. However, Training Perceptions of Social Support demonstrated no significant relationships with Training Satisfaction or Transfer constructs.

It appears that salespeople equate the quality of sales training materials with the quality of sales training. Hence, salespeople's satisfaction with training would derive directly from perceptions of training materials' quality. Along those lines, salespeople are expected to recognize the importance of sales materials to the performance of their jobs. The salesperson who believes the training materials provided by the company are of higher quality is more likely to use those materials in the selling arena.

The lack of consistent relationships between Perceptions of Social Support and Transfer is surprising. Apparently, sales trainees are less concerned with the encouragement and support from fellow trainees and trainers than they are with learning how to do the job better from other salespeople and trainers.

MANAGERIAL IMPLICATIONS

The results of this study point toward the important roles that sales trainee expectations have on their attitudes, behaviors, and the resulting outcomes. Of particular interest is the role of perceptions of selling materials. Sales trainees expect sales training to prepare them for the sales arena. Inappropriate or substandard materials or delivery will effect training satisfaction and performance. Therefore, managers must insure that sales training materials meet the sales trainees' expectations. Trainers must insure the pertinence and quality of training materials and excellence in the delivery of training. Trainers should also make the connection between training activities and sales performance transparent to the trainees.

Two unusual observations are also apparent from the Trimmed Sales Trainee Expectation Model. The surprising observations are the negative path coefficients from Transfer Presentation Skills to Performance and Transfer Product Knowledge to Performance. These suggest that the organization specific presentation skills and the product knowledge imparted during sales training were not appropriate for the product or the target customers in this particular case.

LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

This study reflects the limitations attributable to research conducted using self-report instruments within a cross-sectional data collection. As well, employees were subject to the bias of retrospection. That is, the respondents were in many cases mature in their careers. A design such as this serves as a less useful basis for inferring how training perceptions exits than would a cohort oriented design. Such a design would allow for performance to be analyzed over subsequent periods. A second limitation is the generalizability of these findings. The sample was industry and policy specific. Finally, a more refined operationalization of the transfer of training construct would be more desirable.

In spite of the limitations, the study was generally successful in accomplishing its stated objectives, yet many questions remain. One such question might involve a query into what the specific expectations for training were and how those expectations were formed. Addressing the managerial implications, limitations, and suggestions for future research may reduce the number of 'binder meetings' for sales representatives now and in the future.

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Appendix 1
Training Satisfaction - Presentation Skills (adapted from Tannenbaum et al 1991) $\alpha = .86$
Qualifying prospects
Closing the sale
Handling prospects' objections
Warming up/approaching the prospects
Gaining control over the sales presentation
Training Satisfaction - Product Knowledge (adapted from Tannenbaum et al 1991) $\alpha = .78$
Developing product knowledge
Understanding how prospects use our products
Transfer of Training - Presentation Skills (study specific) $\alpha = .72$
I seldom use the product demonstration ideas the division provides (R)
I usually employ training I received on warming up prospects
I seldom use the training I received on warming up prospects
Transfer of Training - Time Management Skills (study specific) $\alpha = .69$
I regularly employ the time management training I receive
I rarely use the territory planning training I receive (R)
Transfer of Training - Product Knowledge (study specific) $\alpha = .73$
I use very little of the technical information I receive (R)
I regularly use the product applications information I receive
Perception Sales Training Materials (study specific) $\alpha = .85$
Sales training showed me the right way to handle my sales calls
I received sufficient feedback about my performance during sales training
I had a chance to practice what I learned during sales training
The training material was clearly presented to me
Perception of Sales Training Social Support (study specific) $\alpha = .81$
I met with other people during sales training
Other sales people were supportive of me during sales training

A CONCEPTUAL APPROACH TO SELECTING A JURISDICTION FOR THE NEW VENTURE

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INTRODUCTION

According to the Small Business Development Center, approximately two-thirds of newly established businesses fail within the first four years of operations (U.S Small Business Administration, 2003). This is an alarming statistic, as entrepreneurs commonly invest large amounts of their personal wealth into the newly formed entity. When the business fails, the entrepreneur often loses the entire amount of the initial investment. With such anemic success rates, it is important for the entrepreneur to procure adequate precautions in order to minimize the losses associated with a failed business experience. One such precaution begins with selecting the appropriate business structure under which to conduct the organization's business activities (Mallor, Barnes, Bowers & Langvardt, 2004). By properly matching the entrepreneur's objectives with the appropriate business structure, the practitioner can isolate his personal assets, protecting them from an aggrieved creditor. In contrast, a poorly researched and designed business structure could cost the entrepreneur more than his business, it could exhaust any personal assets whether they were intended to be used for business purposes or not.

Traditionally, the decision as to which business structure to select was limited to either the C corporation whereby the entrepreneur was assessed a second level of taxation but cloaked with limited liability, or to form a general partnership capitalizing upon the favorable tax treatment, but exposing the partner's personal assets to satisfy any judgments or debts against the partnership. Over the past three decades, however, a number of hybrid organizations have emerged, such as the limited liability company (LLC), affording the practitioner with the opportunity to capitalize upon favorable tax treatment in conjunction with the limited liability attribute.

There has been sufficient research in regards to the different forms of entity available to the practitioner. However, understanding the different forms of organization is only part of the equation as to establishing the appropriate business structure. The second portion of the equation involves determining the jurisdiction in which the entrepreneur should incorporate/organize in. The purpose of this article is to proffer a new way to analyze the advantages of a specific jurisdiction as the state of organization. This new process entails analyzing the three branches of government, and how the respective branches coincide and affect the attractiveness of a particular state.

The article will first provide an overview of the general legal principle permitting organizations to form a business within

one state, and the strategic advantage of capitalizing upon the laws of that state, even as the business conducts operations outside the jurisdiction in which it is organized. The article will then proceed to discuss the three branches of government and how each branch affects the operations of the business. Finally, the article will conclude by providing some additional insight into the process of selecting a jurisdiction in which to organize the business.

LEGAL PRINCIPLE

It is a well established principle that an entrepreneur can form a business in a state of his choosing, even if the entrepreneur does not intend to actually conduct business within that jurisdiction. This is accomplished by filing the appropriate articles with the designated agency, usually the Secretary of State. The state in which the business organizes becomes the businesses home state and is referred to as a domestic entity within said state. The entrepreneur is then permitted to conduct business in any other state. When operating outside the state of incorporation, the business is referred to as a foreign corporation. In order to obtain this status, the organization must register as a foreign entity by filing the appropriate form with the designated agency.

EXECUTIVE

When evaluating the feasibility of a state as a possible jurisdiction for the organization of a newly established business, the entrepreneur should first analyze the offices falling under the control of the executive branch of government. While the executive considerations are technically derived from the legislative function, it suffices in developing a comprehensible model in selecting an appropriate jurisdiction in which to organize the business. This analysis should encompass two specific components that contribute to the overall attractiveness of a state as the jurisdiction in which to organize. The components entail the Department of Revenue and Secretary of State.

Taxation plays an important role within a newly established business (Porcaro, 2007). With such dismal success rates for new businesses, it is imperative to maximize the profits of the business during the start-up phase of the organizational lifecycle. As a result, it is important to study the Department of Revenue, which serves as the tax collection agency within the state, to ascertain the level of income and franchise taxes imposed upon businesses.

The level of taxes assessed to a corporation significantly varies by state (Cornia, Edmiston, Sjoquist, & Wallace, 2005).

When analyzing the tax consequences of a particular state, the entrepreneur should review the state corporate income tax, and whether the state charges the organization an annual franchise fee to incorporate within the state. When reviewing the tax structure of a particular state, the entrepreneur should consult with an experienced accountant to determine the potential tax liability of incorporating within a state, as the tax structures significantly vary by state. To illustrate the variance between states, Pennsylvania imposes a flat rate of 9.99% as the corporate level of income tax (Pennsylvania Department of Revenue, 2007). Delaware imposes a corporate income tax on businesses conducting business within the state, but does not tax businesses incorporated within the state that do not actually conduct operations within the state (Delaware Economic Development Office, 2007). Delaware does, however, impose a franchise tax on businesses incorporated within the state, even if the business does not conduct business within the border of the state (Delaware Economic Development Office, 2007). In contrast, South Dakota does not impose a state income tax, or franchise tax for businesses conducting operations within the state, with the exception of the banking industry (South Dakota Governor's Office of Economic Development, 2007).

The second executive function which should be encompassed in the overall analysis of the jurisdiction relates to the Office of the Secretary of State, or other designated office designed to handle the filing of corporate documents. When reviewing the legal filing formalities, a couple issues that need to be reviewed include the cost associated with filing as well as the length of time associated with the processing of the request. The formalities include the efficiency in which the designated office handles requests from filing to issuance of corporate stock as well as the applicable filing fees. Some states, such as Delaware have actively targeted the market and in the process, have set the benchmark for efficiency, as they moved down the learning curve based upon the number of corporations incorporated with the state. A few other issues that should be reviewed within this component of the analysis include the available methods of filing as whether the organization must maintain an office within the state of formation.

LEGISLATIVE

The legislative component of the comprehensive analysis involves researching the various state statutes to ascertain the laws of the jurisdiction. One of the functions of the state legislature is to enact laws, which are recorded as statutes (Black, Nolan & Nolan-Haley, 1991). The statutes serve as primary authority with respect to the law. While each state legislature possess great autonomy, subject to the constraints of the state and U.S. Constitution, uniform acts and codes have been promulgated with respect to laws regarding the treatment of various business structures, such as partnerships, corporations and the limited liability company (American Bar Association, 2002; National Conference of Commissioners on Uniform State Laws, 1996). While the model codes have been adopted by most states, they are merely persuasive, and can be modified or rejected by the state legislature (Miller & Jentz, 2004). Even with such model codes, there remain significant differences between the laws of each state (Miller, 1995).

The variation between state statutes is far reaching and must be thoroughly analyzed to determine which state laws are most advantageous to the entrepreneur's mission and objectives. While it is beyond the scope of this paper to discuss all the possible differences, some of the broad statutes that should be reviewed include the available forms of organization within the respective states, the restrictions to establish a particular entity, and the protections afforded to the investors of the business.

Most states have enacted legislation creating similar forms of organization. The basic forms of organizations offered in the majority of states includes the sole proprietorship; general partnership; limited partnership; limited liability partnership; limited liability company; S corporation and C corporation. However, as the advent of newly established hybrid forms of organization continue to emerge, there are some business structures that have not been enacted in all fifty states. One such form of organization is the statutory close corporation (*O.C.G.A. § 14-2-902, 2006*). This relatively new form of organization allows entrepreneurs to capitalize upon the advantages of the corporate attributes while relaxing the formalities associated with the traditional corporation. One of the relaxed formalities includes dispelling with the requirement that the corporation maintains a board of directors (*O.C.G.A. § 14-2-922, 2006*). This permits the shareholder(s) to maintain control of the corporation without the formality of the board of directors. Currently, this business structure is only offered in a few states such as Kansas and Georgia, whereas other states such as South Dakota have not enacted such legislation creating this particular business structure.

Even among states offering similar business structures, there are disparities within the statutes regarding who may form an organization under a particular business structure. This disparity is best illustrated in terms of the limited liability partnership. The limited liability partnership provides the corporate attribute of limited liability protection to the partners of the partnership, while also providing the partners with the favorable flow-through taxation, circumventing a corporate level of taxation on the profits of a partnership (Miller & Tucker III, 2005). While this form of organization offers some favorable attributes, some states have restricted this form of structure to businesses engaged in professional services, such as accountants, lawyers and medical professionals. (*Ca. Corp. Code, 2006*). In contrast, other states have taken a more inclusive approach, and allow any business with two or more owners to form a limited liability partnership (*TN, Stat., 2007*).

The next set of statutes that should be analyzed involves the protection afforded to the practitioner. This is important as it directly relates to the personal liability of the investors and directors. For example, there are three different generations of limited liability partnership statutes affording different levels of protection for the entrepreneur (Miller, 1997). The first generation statutes were designed to shield partners from the malpractice or malfeasance of the other partners within the partnership (Miller, 1997). The second generation of statutes expanded the protection afforded to partners for the conduct of their co-partners. This level of protection was again increased during the third generation of statutes which affords limited

liability protection for all the debts of the partnership (Miller, 1997). As a result, an entrepreneur's personal assets could be in peril simply because they organized in a state which adopted the first generation statutes, as opposed to a state that falls within the third generation statutes.

Finally, the entrepreneur needs to explore the different provisions relating to the directors and shareholders rights and responsibilities. For example, North Dakota recently enacted legislation creating "shareholder friendly" statutes which the corporation may elect to be governed under, in an attempt to allure more corporations to incorporate within the state (Graybow, 2007). Among the most noteworthy statutes includes majority voting in the election of directors as well as reimbursement for successful proxy contests (Graybow, 2007). These provisions, in addition to other contained within the legislation, afford the shareholder significantly more rights within the corporation than other states (Graybow, 2007).

JUDICIAL

While it is the role of the legislative branch to create law, the role of the judiciary is to interpret the legislation. While judges are suppose to avoid creating law, some disregard this limitation, engaging in what has become coined as judicial activism (Black, Nolan & Nolan-Haley, 1991). The result is judge made law which is not available within the state statutes, and can only be found in established case law. As a result, it is imperative to review the case law to ascertain the judicial decision and overall treatment and interpretation of the statutes.

The difference between the judiciary of each state is best illustrated when reviewing the case law in regard to piercing the corporate veil. It must be noted, however, that it is the law of the state in which the business is operating, and not the state of incorporation, that is applied in a case attempting to pierce the corporate veil. The following example is being used in this article merely for demonstrative purposes to illustrate the differences in case law among the states, as it is the most litigated aspect of corporate law (Rapp, 2006).

As a general rule, limited liability entities shield the investors and directors from incurring personal liability for the debts of the business. While the limited liability attribute has become a fundamental concept, the attribute is not without exception, and can be disregarded in limited situations, allowing an aggrieved creditor to attach the investor's personal assets to satisfy his claim against the business. The fundamental premise with respect to the imposition of personal liability imputed to investors in a limited liability entity for the businesses debts is that, by legal fiction, the business is a separate entity and is treated as such under all ordinary circumstances. (*Consumer's Co-op of Walworth County v. Olsen*, 1988). While the presumption is in favor of limited liability and is not lightly disregarded, a corporation's separate identity may be disregarded upon a showing that it is a mere sham or where necessary to accomplish justice. (*Oceanics Schools, Inc. v. Barbour*, 2003). The party seeking to disregard the corporate entity bears the burden of showing by a preponderance of the evidence that they are entitled to equitable relief. (*Spivey v. Page*, 2004). Only then

will a corporation's identity be disregarded, which will be done with great caution and not precipitately (*Schlater v. Haynie*, 1991). The determination of whether the business is merely a corporate facade is determined on a case by case basis in light of the facts presented (*Schlater v. Haynie*, 1991).

Most states have adopted a balancing test consisting of several factors in order to ascertain whether a corporation should be pierced. While each state distinctively articulates the factors, most states incorporate, either expressly or implicitly, a six-factor balancing test. The six factors considered when determining whether equity demands piercing the corporate veil include: (1) undercapitalization; (2) failure to observe corporate formalities; (3) absence of corporate records; (4) commingling of funds; (5) fraudulent misrepresentation; and (6) use of the corporation to promote fraud, injustice or illegality (*Brevet Int'l, Inc. v. Great Plains Luggage Co.*, 2000).

While many jurisdictions use the same factors within the balancing test, the weight afforded to the various factors differs. For example, in some states, such as Missouri, undercapitalization alone is a substantial, if not a sufficient basis to pierce the corporate veil, thus imposing personal liability on the shareholders (*Collet v. American Nat'l Stores*, 1986). In material contrast, other states, such as Texas, have held that undercapitalization is merely a cog in the overall analysis (*Ramirez v. Hariri*, 2005). This distinction is critical, as it can be the difference between the shareholders and directors being personally liable for all the debts of the organization, thus exposing his personal wealth to satisfy an aggrieved creditor, or protecting ones personal wealth.

CONCLUSION

Finding the proper business structure and jurisdiction in which to form the organization is an important decision that has long lasting affects. The simplicity of forming an organization often misleads the entrepreneur as to the importance and magnitude of this decision. The consequences for selecting the "wrong" form of organization or jurisdiction are often times latent and remain undiscovered until the triggering events have already tainted the organization. In order to maximize the protection of the entrepreneur's personal wealth, it is important to approach this issue with caution and deliberation. This can be accomplished by engaging in a comprehensive analysis of the different states. The comprehensive analysis should consist of an evaluation of the executive, legislative and judicial branches of government. It is the combination of the three branches that reflect the relative attractiveness of a jurisdiction as an appropriate state in which to organize the business.

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IN SEARCH OF A GLOBAL BUSINESS CYCLE

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I. INTRODUCTION

A famous story in the history of science tells us how in 1665 the Dutch mathematician, Christiaan Huygens, studied two unlinked pendulum clocks suspended side by side on a beam. At first the clock pendulums swung back and forth at slight different frequencies and were not synchronized. After a time, however, because of slight vibration conveyed from clock to clock through the beam, the clocks fell into synchronization and the pendulums fluctuated in step with each other even though the natural frequencies of the pendulums were slightly different. This little story raises an interesting question about the global economy: Will in time the national economics of the world, under the sway of globalization, tend to fluctuate in step with a global business cycle.

The objective of this paper is to uncover and analyze changes in the degree of synchronization between national business cycles that has occurred in the last two decades. The paper is frankly empirical in scope and purpose. Innovations in computer networking and telecommunications, coupled with an easing of restrictions on capital mobility and trade, have woven the global over with an infinite web of economic and financial currents and flows. Economic integration and unification gives a larger place to an international business cycle component relative to national and regional business cycles, eventually leading to a global business cycle that dominates the national and regional cycles. The issue of a common international business cycle component holds large implications for policy analysis. If all countries march in step with one international business cycle, individual countries will be powerless to stimulate domestic economies by scaling down real exchange rates. Falling real exchange rates for a specific country are unlikely to boost net exports in a worldwide downturn. Economic destabilization owed to an overshadowing international business cycle may force countries to consider optimal currency areas and greater monetary integration and unification.

Short-term and long-term synchronization between national business cycles has been analyzed in economic literature. Kraay and Ventura (2002) found that the correlation of annual per capita real GDP growth among the G-7 countries averaged 0.61 between 1960 and 1996. For the same time frame correlation of real per capital GDP growth between OECD countries averaged 0.47. Bernard and Durlauf (1995) employ time series analysis to investigate the persistence, comovement, and convergence properties of international output data. Using cointegration techniques, they discover more than one integrated process driving the output data of the OECD

countries, suggesting the eventual convergence of the output of these fifteen countries should not be expected.

Several studies have zeroed in on the search for an international business cycle component. These studies assume the output dynamics of individual countries is driven partly by the international business cycle component, partly by an internal or endogenous cyclical component, and partly by cyclical impulses propagated by other countries. The empirical evidence for an international business cycle component common to major trading partners is less than transparent. Campbell and Mankiw (1989), applying autocorrelation techniques, suggest that the G7 countries do not share in a common business cycle component. Bowden and Martin (1995), using latent factor time series analysis, discovered mild but statistically significant evidence of an international business cycle component. They also found that coherence between national cycles tended to increase in the flexible exchange rate regime relative to the fixed exchange rate regime. Cheng and Westerman (2002), applying cointegration techniques to real per capita GDP data of the G7 countries, concluded that the international output data of these countries is driven by more than one growth-generating process. While different forces drive business cycles in individual countries, they concluded that the countries under consideration shared one common cyclical component, suggesting an international business cycle. Lumsdaine and Prasad (2003) raise the question “whether a substantial fraction of economic fluctuations is country-specific or if there exists a ‘world business cycle’ which might be defined as fluctuations that are common across all countries.” They develop an aggregation procedure using time-varying weights for constructing the common component of international economic fluctuations. Their findings indicated that industrial production growth fluctuations on 17 OECD countries exhibited strong, positive correlations with the common component of international fluctuations, and the correlations were stronger after 1973 when flexible exchange rates were introduced.

II. METHODOLOGY

Thus far investigations of the international or world business cycle have made use of the latest advances in econometric procedures. The paper is built around the idea that the simplest and most basic of statistical measures can throw light on the issue of world business cycle. Our premise is that globalization should strengthen the development of an international business cycle. One reason encouraging the development of an international business cycle is that expectations-influencing information is instantaneously disseminated globally. Economic

Table I—Real GDP Growth and Standard Deviation

	1979-1988	1992-2001	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
U.S.	2.7	3.7	3.4	2.7	-0.9	3.1	2.7	4.0	2.7	3.7	4.5	4.2	4.4	3.7	0.5	2.2	3.1
Germany	1.8	1.7	3.6	5.7	5	2.2	-1.1	2.3	1.7	0.8	1.4	2.0	2.0	2.9	0.8	0.2	-0.1
France	2.2	2.1	4.3	2.5	0.8	1.5	1.9	1.9	1.8	1.0	1.9	3.6	3.2	4.2	2.1	1.2	0.2
Italy	2.7	1.7	2.9	2.2	1.1	0.8	-0.9	2.2	2.9	1.1	2.0	1.8	1.7	3.0	1.8	0.4	0.3
Japan	3.8	1.1	4.8	5.1	3.8	1.0	0.5	0.9	1.7	1.7	1.8	-1.2	0.2	2.8	0.4	-0.3	2.7
U.K.	2.5	2.6	2.2	0.4	-2.0	0.1	2.3	4.7	2.9	2.9	3.3	3.1	2.8	3.8	2.1	1.7	2.3
Canada	3.2	3.2	2.4	0.3	-1.9	0.9	2.4	4.8	2.8	2.8	4.2	4.1	5.5	5.3	1.9	3.3	1.7
New Asian Econ.	8.1	5.8	6.6	7.3	7.9	6.0	6.5	7.7	7.5	7.5	5.6	-2.2	7.2	7.9	1.1	5.1	3.0
Standard Deviation	2.00	1.50	2.39	2.52	3.55	2.56	1.87	2.18	1.89	1.92	1.54	2.42	2.25	1.71	0.71	1.79	1.33

Table II—Inflation

	1979-1988	1992-2001	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
U.S.	6.6	2.0	4.2	4.3	4.0	2.4	2.4	2.1	2.2	1.9	1.7	1.1	1.4	2.2	2.4	1.5	1.6
Germany	3.1	1.9	2.4	3.2	3.9	5.0	3.7	2.5	2.0	1.0	0.07	1.1	0.5	-0.3	1.3	1.6	1.0
France	7.8	1.3	3.0	3.1	3.3	2.0	2.3	1.7	1.6	1.4	1.3	0.08	0.4	0.7	1.7	2.0	1.7
Italy	12.7	3.2	6.3	7.6	7.7	4.5	3.9	3.5	5.0	5.3	2.4	2.7	1.6	2.2	2.6	3.1	2.9
Japan	2.3	-0.1	2.0	2.3	2.7	1.7	0.6	0.2	-0.6	-0.8	0.03	-0.1	-1.5	-2.0	-1.5	-1.2	-2.5
U.K.	8.2	2.7	7.1	6.4	6.5	4.0	2.7	1.5	2.5	3.4	2.9	2.8	2.3	1.4	2.3	3.2	3.1
Canada	6.2	1.5	4.8	3.1	2.7	1.3	1.5	1.1	2.3	1.6	1.2	-0.4	1.7	4.0	1.0	1.0	3.4
New Asian Econ.	7.7	3.2	5.7	7.3	7.6	6.4	5.9	5.5	4.7	4.3	3.5	3.5	-1.5	-0.7	1.6	0.8	-0.2
Standard Deviation	3.23	1.10	1.87	2.12	2.13	1.83	1.63	1.63	1.77	1.96	1.25	1.48	1.44	1.91	1.30	1.40	1.97

Table III—Growth in Fixed Investment Expenditures

	1979-1988	1992-2001	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
U.S.	2.5	7.7	2.0	-1.4	-6.6	5.2	5.7	7.3	5.4	8.1	8.9	9.1	8.2	6.1	-2.3	-2.3	4.0
Germany	1.0	1.6	6.3	8.5	6.0	4.5	-4.2	4.0	-0.7	-0.8	0.6	3.0	4.2	2.7	-4.2	-6.7	-2.9
France	1.8	2.2	7.9	2.8		-1.4	-6.4	1.6	2.2	-0.1	-0.2	7.2	8.3	8.4	2.1	-1.4	-0.8
Italy	2.5	1.5	4.4	3.6	0.08	-1.4	-10.9	0.1	6.0	3.6	2.1	4.0	5.0	6.9	1.9	1.2	2.1
Japan	4.0	0.3	8.2	8.5	3.3	-1.5	-2.0	-0.8	1.7	7.0	0.6	-4.3	-0.5	2.8	-1.3	-6.0	3.3
U.K.	3.6	3.9	6.0	-3.5	-9.5	-0.7	0.8	3.6	2.9	5.7	6.8	12.7	1.6	3.6	3.6	1.8	2.6
Canada	5.5	5.2	6.1	-3.6	-3.5	-1.3	-2.7	7.4	-1.9	4.4	15.2	2.8	7.3	5.5	4.3	1.3	4.9
New Asian Econ.	7.5	5.3	13.5	16.7	11.1	5.9	6.9	9.8	3.4	7.5	4.6	-9.1	2.4	10.6	-6.8	1.5	1.1
Standard Deviation	2.12	2.49	3.34	7.04	7.26	3.37	5.96	3.78	2.72	3.37	5.30	7.06	3.25	2.79	3.95	3.44	2.58

agents sharing a common information set are likely to form similar expectations, and expectations exercise a strong force in the business cycle. In addition, there are the normal channels via international trade by which cyclical impulses are transmitted from one country to another.

If an international business cycle is gradually overriding and displacing country specific cycles, then individual countries should see greater stability in deviations of growth in cyclical indicators relative to international mean growth rates in same indicators. This is not the same as saying that all countries will converge to the same growth rate. For instance annual real GDP growth of a specific country will exhibit fewer cyclical deviations from the annual mean international growth of real GDP as the cyclical experience of that country yields to the domination of the international business cycle. As the international business cycle enters a phase of decelerated growth, the annual mean international growth in real GDP could decline without changing the deviation of each country's growth rate from the mean international growth rate. Country specific shocks cause changes in the deviation of each country's growth rate from the mean international growth rate. Also, changes in the composition of durable goods relative to non-durable goods for an individual country changes that country's deviation from the mean international growth rate.

A trend toward smaller average annual deviations of growth rates in all countries from the annual mean international growth rates indicates an international business cycle is accounting for a larger share of economic fluctuations in individual countries. The average deviation for all countries could be declining even though the deviations of one country might be increasing because of structural changes such as increased emphasis on durable goods. This paper argues that globalization of the business cycle causes the average deviations of all countries from the mean international averages to decline.

III. DATA ANALYSIS

To test these ideas we selected three key economic indicators, real GDP growth, GDP deflator growth, and Gross Capital Formation growth for a sample of advanced countries and groups of advanced countries. The countries are the United States, Germany, France, Italy, Japan, United Kingdom, Canada, New Asian Countries. The data is annual and covers the years 1989 through 2003. In additional annual average growth rates for the periods 1979-1988 and 1992-2001 are analyzed. The choice of countries and time frame are partially determined by the data available in the statistical appendix of the International Monetary Fund's *World Economic Outlook* publication. The intention to study a period that underwent strong globalization also influenced the time frame. The annual average growth rates for the periods 1979-1988 and 1992-2001 are computed by the International Monetary Fund and reported in the statistical appendix.

Table I reports the standard deviation of real GDP growth rates of the selected countries from the mean real GDP growth rate. When the standard deviation of average growth rates over ten

year intervals is calculated, the timeframe 1979-1988 shows a higher standard deviation than the timeframe 1992-2001. This finding suggests that progress toward globalization has reduced the standard deviation of growth rates, increasing the synchronization between national business cycles. A glance at individual years indicates that the standard deviation of national growth rates increases during economic recessions and decelerations. The highest standard deviation occurred in 1991 when three countries reported negative growth. The next highest standard deviation occurred in 1992 which was also a slow growth year. The third highest standard deviation occurred in 1998, the year that the East Asian financial crisis made itself felt on national growth rates. The standard deviations of annual growth rates during and right after the 1991 recessions and decelerations are higher than the standard deviation of growth rates during and right after the 2001 recessions and decelerations. The timeframe from 1991-1993 also shows six countries reporting negative growth rates for one year, while the timeframe from 2001-2003 shows only two countries reporting negative growth rates for one year. While many factors enter into the amplitude of national business cycles, it is possible that globalization is reducing the amplitude of national business cycles. In summary, the real GDP growth data is consistent with the hypothesis that globalization is leading to greater synchronization of national business cycles.

Table II reports the standard deviations of inflation rates measured as the rate of change in GDP deflators. For the timeframe 1992-2001, the standard deviation of average inflation rates measured 1.10, substantially below a standard deviation of 3.23 for the timeframe 1979-1988. These findings may be interpreted as an indication that globalization has led to greater conformity in inflation rates, perhaps reflecting greater coordination in monetary policy. These findings may simply reflect a tendency for inflation to exhibit less volatility at lower inflation rates than at higher inflation rates. Worldwide inflation rates trended downward during the 1990's. For example, Japan underwent annual deflation between 1998 and 2003. Standard deviations of annual inflation rates between 1989 and 2003 show evidence of declining from 1989 through 1997. After the Asian financial crisis of 1997, the standard deviations show evidence of turning up, perhaps reflecting the use of monetary policies around the world to ward off financial contagion and counteract recession.

When national business cycles are explained without reference to international economic conditions, investment expenditures are often regarded as playing a key role. Investment expenditures are more volatile than other categories of expenditures and are more dependent upon expectations. This study chooses gross fixed capital formation as the one internal variable most likely linked to the creation and propagation of national business cycles independent of a world business cycle. A strong expansion amid global sluggishness is extremely unlikely without a boom in investment expenditures, and economic deceleration is unlikely amid a global boom without a major slump in investment expenditures. Investment expenditures play a key role in many theories of business cycles in closed economies. The surest sign that a world business cycle is dominating national business

cycles lies in greater conformity in national growth rates for investment expenditures.

Table III reports the standard deviations of growth rates in gross fixed capital formation for the same sample of countries. Unlike the standard deviations for real GDP Growth and inflation, the standard deviations of growth rates in gross fixed capital formation show no indication that trends in this variable are yielding to a worldwide business cycle. The standard deviation of average growth rates between 1979-1988 stand at 2.12, below the standard deviation of 2.49 for the timeframe 1992-2001. The standard deviations computed from decade averages of growth suggest a rise in the standard deviation during a time of rapid globalization, but the annual standard deviations between 1989 and 2003 do not reveal a tendency for the standard deviation to rise. Between 1989 and 1996 the standard deviation fell below 3.00 only once, while between 1996 and 2003 the standard deviation fell below 3.00 on two occasions.

In summary globalization has not exerted much influence on one prominent business cycle indicator and that is gross fixed capital formation.

IV. SUMMARY

This paper had taken the standard deviation of three central economic indicators, real GDP growth rates, inflation rates, and growth rates of fixed capital formation to study the effects of globalization on business cycles in individual countries. The study began under the expectation that globalization has led to greater synchronization between national business cycles and that for a major economic indicator such as real GDP growth rates, greater synchronization should reduce the standard deviation within a sample of countries for an individual year. A world business cycle can only go so far in displacing national business cycles unless investment expenditures begin to wear the aspect of a global pattern yielding to global shocks. So far, investment expenditures at the national level have not mirrored a global pattern

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AN EVALUATION OF SELF-MANAGEMENT, EMPOWERMENT, AND AUTONOMY

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This paper examines the relationship between self-management, empowerment, and autonomy as management interventions. Although previous research has linked these practices with important organizational outcomes, the interventions have been discussed as similar, (Campion, Medsker, & Higgs, 1993; Guzzo & Dickson, 1996) as well as differing (Mohrman, Cohen, & Mohrman, 1995; Kirkman & Rosen, 1999) management tools, which causes confusion for practitioners and managers alike. The objective of this paper is to investigate these interventions in order to arrive at a clearer understanding of what each of these ideas truly encompasses.

The following sections discuss the definitions and theory associated with self-management, empowerment, and autonomy and how they have previously been used in the literature. This brief review will highlight the areas in which these three concepts overlap and diverge. Finally, the behaviors and outcomes associated with the implementation of these concepts and their effectiveness as management tools will be discussed. This discussion will help illustrate the similarities and differences of these constructs.

SELF-MANAGEMENT

Self-management is an intervention that has received great interest from both scholars and practitioners. In self-managed work environments, individuals solve problems independently of supervisor input (Uhl-Bein & Graen, 1998) and with a sharpened focus on creativity and other intellectual efforts as opposed to physical labor (Shipper & Manz, 1992). Employees are allowed and encouraged to make decisions regarding how a task is to be completed, to monitor their own performance towards the completion of the task, and to institute corrective action plans when performance standards are not met (Manz & Sims, 1989). Self-management has been researched as a contributing factor to numerous desirable organizational outcomes including: productivity / effectiveness (e.g. Cohen & Ledford, 1994), job satisfaction (Uhl-Bien & Graen, 1998), attendance (Frayne & Latham, 1987; Cordery, Mueller, & Smith, 1991), and performance (Prussia, Anderson, & Manz, 1998).

EMPOWERMENT

Empowerment refers to any situation in which employees can make decisions and commitments independently instead of just suggesting them (Forrester, 2000). Empowerment functions are much broader than self-management or autonomy

functions and begin to bring in cognitive elements not seen in the other concepts. It is important to note that empowerment is a continuous variable with different employees falling at varying ends of the empowerment spectrum. Some employees are more empowered than others, but they should not be viewed as empowered or not empowered (Spreitzer, 1995).

Empowerment has shown to have significant consequences pertaining to productivity (Spreitzer, Kizilos, & Nason, 1997; Kirkman & Rosen, 1999), satisfaction (Spreitzer et al., 1997; Deci & Ryan, 1985; Kirkman & Rosen, 1999), and leadership (Spreitzer, DeJanasz, & Quinn, 1999) in organizational settings.

AUTONOMY

Autonomy is seen as a necessary component of self-management and empowerment. Without autonomy, neither of those management interventions could be possible. Autonomy has been defined as “the degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out” (Hackman & Oldham, 1976: 258). It also includes the choice and ordering of work operations and the pace at which those operations will be done (Dodd & Ganster, 1996).

There are numerous important organizational outcomes associated with autonomy including organizational commitment (e.g., Cordery et al., 1991), effectiveness and performance (e.g., Srivasta & Salipante, Jr., 1976), satisfaction (e.g., Farh & Scott, 1983), cohesiveness (Langfred, 2000), and cost savings (Wall et al., 1986).

Reflecting on the aforementioned conceptualizations of self-management, empowerment, and autonomy it is apparent that further testing is necessary in order to determine if they are in fact separate, distinct constructs or just the same concept with a different name applied to each. Repeated misuse of construct definitions and confusion regarding the nature and context of each of these concepts continues to be a pitfall for organizational researchers and management practitioners. Untangling these semantic issues would aid in establishing a “common denominator” for scholarly and practical usage regarding these concepts. The present research offers an attempt to provide needed clarification as to the construct validity of these intertwined, seemingly identical constructs.

METHOD

Sample

The sample was composed of factory floor, production oriented employees from an upholstered furniture company in the Southeast United States. The sample consisted of 168 employees from the various production departments: frame cutting, frame building, leather and fabric cutting, sewing, bundling of fabric, cushioning, upholstery, and packaging. Forty-nine percent of the respondents were males and 51 percent were females. The mean age of the sample was 34 and the mean number of years of work experience was 11.66.

Data Collection Procedures

Questionnaires were distributed to employees via their supervisors. Participation in the study was voluntary. To ensure confidentiality, the respondents returned their completed surveys to the human resources manager's office and placed them into a locked collection box.

Measures

A Likert-type 5-item scale was used to collect all data. Responses ranged from (1) Strongly Disagree to (5) Strongly Agree (see the Appendix). Empowerment questions were taken from Spreitzer's (1995) scale. The self-management items were taken from Manz's (1992) Self-Leadership Questionnaire 1 (SLQ1). Manz states that self-leadership and self-management are parallel concepts and uses them interchangeably. The response categories were slightly modified to provide consistency within the current study. Finally, Breugh's (1989) Work Autonomy items were included with the continuum reduced from a 7-point to a 5-point response scale along the same strongly disagree – strongly agree anchors.

ANALYSES

The objective of the analyses was to examine the factor structure of self-management, empowerment, and autonomy. The first step was to perform a test of unidimensionality on each construct. Each individual construct was factor analyzed using principal component analysis with Varimax rotation and Kaiser normalization to see if the items would all load on one factor. Each of the three constructs required some items to

**TABLE 2: Autonomy Scale
RELIABILITY ANALYSIS - SCALE (ALPHA)**

		Mean	Std Dev	Cases
1.	A1	3.7563	1.3211	160.0
2.	A2	3.7000	1.3166	160.0
3.	A3	3.4938	1.3690	160.0
4.	A4	2.0313	1.4249	160.0
5.	A5	3.0813	1.3962	160.0
6.	A6	2.7625	1.4428	160.0
7.	A7	2.5000	1.2235	160.0
8.	A8	3.6938	1.3458	160.0
9.	A9	3.4563	1.3120	160.0

	Scale Mean if item Deleted	Scale Variance if item Deleted	Corrected item- total correlation	Squared Multiple Correlat	Alpha if item deleted
A1	24.718	54.7066	.5890	.6139	.8358
A2	24.7750	54.2258	.6190	.6301	.8328
A3	24.9813	53.3267	.6382	.6209	.8306
A4	26.4428	53.9842	.5706	.3710	.8377
A5	25.3938	52.3283	.6774	.6404	.8263
A6	25.7125	51.5017	.6943	.6665	.8242
A7	25.9750	57.7226	.4702	.2624	.8469
A8	24.7813	58.8009	.3561	.3342	.8585
A9	25.0188	55.5783	.5450	.4373	.8401

Reliability Coefficients 9 items
Alpha - .8528 Standardized item alpha - .8517

**TABLE 1: Empowerment Scale
RELIABILITY ANALYSIS - SCALE (ALPHA)**

		Mean	Std Dev	Cases
1.	E1	4.7843	.5122	153.0
2.	E2	4.3856	1.0332	153.0
3.	E3	3.8039	1.1066	153.0
4.	E4	3.5621	1.3020	153.0
5.	E5	3.8627	1.1588	153.0
6.	E6	2.2876	1.3605	153.0
7.	E7	3.5556	1.3615	153.0
8.	E8	3.2876	1.4173	153.0
9.	E9	4.4510	.8187	153.0
10.	E10	4.0131	1.2030	153.0
11.	E11	2.5882	1.4397	153.0
12.	E12	4.4314	.8010	153.0

	Scale Mean if item Deleted	Scale Variance if item Deleted	Corrected item- total correlat	Squared Multiple Correlat	Alpha if item deleted
E1	40.2288	67.7171	.2646	.3301	.8421
E2	40.6275	60.3669	.5466	.5868	.8524
E3	41.209	59.1533	.5777	.3958	.8227
E4	41.4510	58.5124	.5022	.4040	.8285
E5	41.1503	57.5628	.6429	.6174	.8173
E6	42.7255	58.2926	.4846	.5025	.8304
E7	41.4575	56.2104	.5949	.5914	.8205
E8	41.7255	55.1215	.6215	.5927	.8180
E9	40.5621	65.2478	.3245	.3622	.8392
E10	41.0000	58.9605	.5306	.5703	.8259
E11	42.4248	55.3907	.5948	.6260	.8207
E12	40.5817	65.7055	.2975	.3467	.8406

Reliability Coefficients 12 items
Alpha - .8402 Standardized item alpha - .8367

**TABLE 3: Self-Management Scale
RELIABILITY ANALYSIS - SCALE (ALPHA)**

		Mean	Std Dev	Cases
1.	S1	4.3077	.8989	156.0
2.	S2	3.7051	1.3355	156.0
3.	S3	4.4295	.8433	156.0
4.	S4	4.5449	.8602	156.0
5.	S5	3.3846	1.3897	156.0
6.	S6	2.7949	1.2736	156.0
7.	S7	4.2508	.7921	156.0
8.	S8	4.4359	.9108	156.0
9.	S9	4.3141	.9284	156.0
10.	S10	2.8846	1.3098	156.0
11.	S11	3.5321	1.2465	156.0
12.	S12	3.4103	1.3094	156.0
13.	S13	3.8598	1.1743	156.0
14.	S14	3.8974	1.1797	156.0
15.	S15	3.9231	1.1825	156.0
16.	S16	3.8877	1.3118	156.0
17.	S17	3.6667	1.2461	156.0
18.	S18	3.3462	1.2984	156.0

	Scale Mean if item Deleted	Scale Variance if item Deleted	Corrected item- total correlation	Squared Multiple Correlat	Alpha if item deleted
S1	63.4679	118.5344	.4137	.4208	.8636
S2	64.8705	114.7369	.3817	.2957	.8648
S3	63.3462	115.7504	.6050	.5785	.8558
S4	63.2308	117.7408	.4880	.4656	.8596
S5	64.3910	113.6203	.4016	.3634	.8634
S6	64.9808	118.7803	.5619	.5618	.8553
S7	63.5256	128.1477	.3838	.2958	.8627
S8	63.3397	118.8064	.3934	.3173	.8622
S9	63.4615	115.9533	.5313	.4688	.8576
S10	64.8910	114.5751	.3976	.6458	.8638
S11	64.2436	112.3939	.5186	.4814	.8576
S12	64.3654	108.4785	.6323	.4993	.8518
S13	63.9167	112.8769	.5874	.4342	.8548
S14	63.8782	116.9464	.3999	.3588	.8621
S15	63.8526	112.3459	.6458	.5779	.8528
S16	64.6859	114.6039	.3957	.6278	.8631
S17	64.1890	113.6977	.4587	.4723	.8608
S18	64.4295	118.2724	.5677	.5849	.8558

Reliability Coefficients 18 items Alpha - .8659
Standardized item alpha - .8723

be dropped because of bad wording or faulty loadings across components. In conjunction with the test of unidimensionality reliability tests were performed for each construct (Tables 1-3) in order to determine the strongest items to include in the initial overall factor analysis (Table 4). Coefficient alphas were used to determine how well the items from each scale held together. The results of this analysis are reported for each representative construct: Table 1 (Empowerment Scale), Table 2 (Autonomy Scale) and Table 3 (Self-Management Scale) and are included on the previous page.

Based on the initial factor analysis and reliability tests for each construct several items from each construct were dropped from the final analysis. Nine self-management items (see Appendix) were eliminated (s6, 7, 8, 9, 12, 13, 14, 15, 18). Many of these items dealt with practicing a task, monitoring individual progress, and goal setting, three concepts that may not have a strong connection to the self-management construct. Four autonomy items (see Appendix) were also eliminated (a4, 7, 8, 9). These four items deal directly with work criteria autonomy and determining the scheduling of work. In the current sample of upholstered furniture workers, scheduling is largely dictated and controlled by the employee's supervisor – employees have little input into this process. Finally, item e3 was eliminated from the empowerment questions. This particular item (see Appendix) contained the word "autonomy," a word that many employees in this sample may not have been exposed to or were familiar with. It is not surprising that there would be some loadings across factors given the similarity of the constructs in question. However, in general, the loadings were high on their respective and anticipated factors. These loadings were strong enough to suggest independent, unique constructs.

The first rotated component matrix (Table 4 below) resulted in loadings across nine Factors.

By deleting the above-mentioned items over multiple iterations the items loaded across seven factors (Table 5 below).

Items could have been further eliminated, but the table above illustrates some important distinctions between the three constructs. The first factor appears, at an initial glance, to be somewhat problematic but a closer examination of the actual items that load on this factor do provide compelling evidence for the construct of autonomy. Five of the seven items (a2, 1, 3, 5, 6) that primarily loaded onto this factor were from the autonomy scale. The remaining two items were from the empowerment scale. A careful look at these empowerment items reveals their similarity in concept and description to the definitions previously offered for autonomy in this review and the actual autonomy items used in the instrument. The highest empowerment item loadings were for items e8 and e7. Both items were under Spreitzer's (1995) framework for the self-determination aspect of empowerment. According to Bell and Staw (1989), self-determination is having the autonomy to initiate and continue work behaviors and processes. Clearly, based on their definitional content and usage, these empowerment items fall under the umbrella of the autonomy construct. The second, third, and fifth factors cluster more empowerment items. The self-management items group tightly on factors four, six, and seven.

This analysis reveals that, although all of the autonomy items grouped together, the empowerment and self-management items grouped into splintered clusters across the remaining six factors. What does this factor analysis tell us? Contrary to the literature, which would suggest that self-management and autonomy are nearly identical concepts and that empowerment is a broader concept, we find that each of these constructs stand apart from the other. In addition, we find that empowerment and self-management likely have sub-constructs imbedded within the definition and usage of the concepts as indicated by the strong loadings of multiple items across multiple factors.

Table 4
Rotated Component Matrix

	Component								
	1	2	3	4	5	6	7	8	9
A2	.852								
A1	.947								
A3	.812								
E8	.734		.284						
E7	.728		.318						
E1		.722							
E9		.679						.306	
E12		.630						.381	
S14		.583				.330			
S15		.585				.355	.271		
S8		.484		.305	.316		.282	-.256	
E11			.789						
E6			.729						.295
E4			.711				-.284		
A7	.271		.548				.326		
S6		.382	.458	.287			.349		-.355
S17			.830						
S5			.785			.271			
S11			.809						
S18		.385	.325	.519					-.326
S12		.254	.284	.489		.288			-.280
S4		.356			.632				
S1					.621	.288			
S2			.333		.586				
S7		.289			.539			.339	
E3	.435		.282		.522	.315			
S8		.380			.506	.274			
S3		.457		.413	.503				
S13				.293	.413	.309	.290		-.283
E10					.793	.770			
E2	.321				.348	.691			
E5									
S10							.874		
S16							.842		
A8								.688	
A9								.627	
A5	.422		.348						.647
A6	.447		.273						.631
A8	.440		.281						.631
A4	.257		.337				.284		.339

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 19 iterations.

Table 5
Rotated Component Matrix

	Component						
	1	2	3	4	5	6	7
A2	.862						
A1	.847						
A3	.827						
E8	.796	.322					
E7	.744	.294					
A5	.807	.380					
A6	.588	.384					
E11	.282	.815					
E8		.784					
E4	.260	.847					
E10			.844				
E2	.286	.792					
E5		.747	.355				
S1			.250	.729			
S4				.868	.260		
S3				.860		.283	
S2		.344		.825			
E8					.792		
E12					.780		
E1					.750		
S17						.860	
S5		.333				.737	
S11						.713	
S10							.809
S18							.889

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

LIMITATIONS

This paper is not without limitations. As previously noted, our sample is from one production facility in one single industry. A more diverse sample would add credence to our findings. Additionally, we only collected data from our respondents during one particular point in time. If we had been able to use a longitudinal collection procedure we could have reduced the potential for biases including mood and state-related biases.

We also used only one scale for each of the three constructs (self-management, autonomy, and empowerment). While each of these scales have enjoyed usage in other studies, it would have been beneficial if we could have incorporated different scales in order to determine if our responses were construct-specific or rather, scale-specific.

CONCLUSION

Even given the aforementioned limitations, we do believe that this research is a step in the right direction. This research illustrates that self-management, empowerment, and autonomy are most definitely not the same construct. There is a need to test this notion using different items and different types of samples. If later studies, using other items and different types of samples, reveal similar findings then management scholars and practitioners would need to heed the call for correct usage of these terms. As it stands now, these terms are often used interchangeably; this research would suggest that this is a practice that must cease in order to provide for consistency and clarity when studying and discussing these concepts.

This clarification is important from many perspectives. When engaging students on topics such as organizational structure and design the topic of pushing down responsibilities to lower organizational levels is often addressed. If there is a relevant distinction (which we believe we have identified such in this manuscript) we should not lump self-management, empowerment, and autonomy into that discussion without making sure that some very important, albeit subtle, differences between the three constructs are first addressed.

From a research lens, these distinctions may be even more important. While certainly not purely an issue of semantics, scholars must be certain that when writing and researching any given construct they must have a confidence that their audience understands the variables and constructs that they are using. What one researcher considers self-management may be more in line with what their reader would identify as autonomy or vice-versa. Without a shared meaning, research findings on these constructs lose much of their intended and deserved impact.

Hopefully, this study will be a first step towards shedding some light on the confusion and will intensify efforts to arrive at more concrete construct definitions for self-management, empowerment, and autonomy that consider each a separate and independent entity.

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APPENDIX TEXT OF ITEMS

Self-Management (Manz, 1992)

- I try to keep track of how well I'm doing while I work (s1).
- I often use reminders to help me remember things I need to do (s2).
- I like to work toward specific goals I set for myself (s3).
- After I perform well on an activity, I feel good about myself (s4).
- I tend to get down on myself when I have performed poorly (s5).
- I often practice important tasks before I actually do them (s6).
- I usually am aware of how I perform on an activity (s7).
- I try to arrange my work area in a way that helps me positively focus my attention on my work (s8).
- I establish personal goals for myself (s9).
- When I have successfully completed a task, I often reward myself with something I like (s10).
- I tend to be tough on myself when I have not done well on a task (s11).
- I like to go over an important activity before I actually perform it (s12).
- I keep track of my progress on projects I'm working on (s13).
- I try to surround myself with objects and people that bring out my desirable behaviors (s14).
- I like to set task goals for my performance (s15).
- When I do an assignment especially well, I like to treat myself to something or an activity I enjoy (s16).
- I am often critical of myself concerning my failures (s17).
- I often rehearse my plan for dealing with a challenge before I actually face the challenge (s18).

Empowerment (Spreitzer, 1995)

- I am confident about my ability to do my job (e1).
- The work I do is important to me (e2).
- I have significant autonomy in determining how I do my job (e3).
- My impact on what happens in my department is large (e4).
- My job activities are personally meaningful to me (e5).
- I have a great deal of control over what happens in my department (e6).
- I can decide on my own how to go about doing my own work (e7).
- I have considerable opportunity for independence and freedom in how I do my job (e8).
- I have mastered the skills necessary for my job (e9).
- The work I do is meaningful to me (e10).
- I have significant influence over what happens in my department (e11).
- I am self-assured about my capabilities to perform my work activities (e12).

Autonomy (Breugh, 1989)

- I am allowed to decide how to go about getting my job done (the method to use) (a1).
- I am able to choose the way to go about my job (the procedures to utilize) (a2).
- I am free to choose the method(s) to use in carrying out my work (a3).
- I have control over the scheduling of my work (a4).
- I have some control over the sequencing of my work activities (when I do what) (a5).
- My job is such that I can decide when to do particular work activities (a6).
- My job allows me to modify the normal way we are evaluated so that I can emphasize some aspects of my job and play down others (a7).
- I am able to modify what my job objectives are (what I am supposed to accomplish) (a8).
- I have some control over what I am supposed to accomplish (what my supervisor sees as my job objective) (a9).

EXAMINING WAGE DISCRIMINATION IN THE MARKET FOR PH.D.'s: AN OAXACA DECOMPOSITION

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INTRODUCTION

According to the U.S. Census, in 2000, median annual earnings of females who worked full time were \$27,355; for men, median earnings in 2000 were \$37,339. Although narrowing in recent years, this wage gap has persisted despite increasing numbers of women obtaining college degrees and more and more women going back to work after having children.

There are two popular theories as to why this discrimination persists. The first theory is preference-based discrimination. This theory assumes that women and men are equally productive; nonetheless, employers do not like to hire women. This displeasure translates into an additional cost associated with hiring females, which is denoted as d . The female wage, from the employer's perspective, is $w_f + d$, while the female worker receives only w_f . Male workers have no such discrimination cost associated with their wages. Hence, in the labor market, women will earn less than men, even though they are equally productive.

The second wage discrimination theory is customer discrimination. According to this theory, customers don't like buying goods or services sold or produced by a particular subgroup of the population, such as women or African-Americans. An additional cost is associated with purchasing products from firms employing members of this subgroup. In order to compete, firms hiring blacks and women must pay their workers less.

Prior research done in this area vary greatly in focus and methodology (Ginther and Hayes, 1999; O'Neill and Sicherman, 1997; McNabb and Wass, 1997; Broder, 1993; Formby, Gunther, and Sakano, 1993; Lindley, Fish, and Jackson, 1992; Ferber and Kordick, 1978). Most of these studies, found, using a variety of statistical techniques and data sets, that women earn less than men, holding all other factors constant.

Ferber and Kordick (1978), one of the first to empirically examine wage discrimination in the workplace, had as its primary aim the testing of the significance of various affirmative action programs for women in the workplace. The authors used the results of an earlier survey of Ph.D. recipients and expanded on the original questionnaire, asking such relevant questions as number of hours worked and reasons for leaving a job. Using this data for two different years, three separate regressions were estimated, each one with sex as an explanatory variable and with sample sizes ranging from 2320 to 713; the years in question were 1965 and 1974. Results indicated that women

earned 10-12% less than men, holding all other factors constant. In addition, it was found that even after controlling for tenure, rank, and experience, women still earned less than men.

Lindley, Fish, and Jackson (1992) come to a conclusion that is at odds with most other research in this area. Using longitudinal data from the University of Alabama, they find that women do not earn less than men after accounting for differences in human capital, academic discipline, rank, and research productivity. Formby, Gunther and Sakano (1993) come to a similar conclusion for Ph.D. economists.

Broder (1993) tests for gender differences in salaries for economists using data obtained from grants and grant proposal applications to the National Science Foundation. As other studies have found, this article finds significant differences in the salaries paid to male and female economists.

O'Neill and Sicherman (1997) looked at the earnings of economists over the past 20 years. Using data from the Survey of Natural and Social Scientists, the authors use descriptive statistics to examine trends in the salaries of economists. Their findings indicate that male Ph.D. economists earned 20% more than female Ph.D. economists in the 1970's, but that figure dropped to 7% in the 1980's.

McNabb and Wass (1997) examined the earnings differentials of professors at British universities. Using data obtained from the Universities Statistical Record and an Oaxaca decomposition, the authors find that two factors dominate the earnings differential: age and rank. Since male professors are typically older than female professors and since men hold higher academic rank than women, women earn less than men at British universities. Even after accounting for these two factors, however, female professors still earned less than their male counterparts.

In Ginther and Hayes (1999), the authors, using data from the Survey of Doctorate Recipients, attempted to determine if sex has any role to play in explaining the differences in employment outcomes and salaries observed in the market for Ph.D.'s in the humanities. Using a data set that covers the years 1981-1993, the authors examined the salary differentials between men and women in the humanities using the Oaxaca decomposition. The results of the study indicate that observed differences in salaries by gender can be explained by academic rank; however, differences in promotion and tenure outcomes persist even after accounting for productivity and other explanatory variables.

Hence, female Ph.D.'s in the humanities are not promoted nor are granted tenure as frequently as men are, holding all other factors constant.

The present study differs from this prior research by using much more recent data and by using a data set that nobody else has exploited. In addition, wage discrimination will be examined in nine different disciplines, something few other studies have done. The results indicate that wage discrimination based on sex exists in the market for Ph.D.'s for all of the disciplines examined. From 22% to 74% of the wage differential between male and female Ph.D.'s can be attributed to sex discrimination.

SECTION 2: DATA AND EMPIRICAL TECHNIQUE

To measure the extent of sex discrimination in the market for Ph.D.'s, the Oaxaca decomposition is used. In this empirical technique, wage regressions are estimated for male and female Ph.D.'s. It is assumed that both equations have the same explanatory variables.

$$w_m = \alpha_m + \beta_m X \quad (1)$$

$$w_f = \alpha_f + \beta_f X \quad (2)$$

where w is the wage, X is the explanatory variable, subscript m denotes male, and subscript f denotes female. For purposes of outlining the Oaxaca decomposition, it is assumed that wages depend upon only one variable. In the empirical model used in the present study, however, several explanatory variables are used.

In equations (1) and (2), α denotes the level of the earnings profile of each group, and β tells us the effect of an additional unit of X on wages. To estimate the level of discrimination, it is necessary to distinguish between wage differences that can be explained by differences in the explanatory variables and differences that cannot be explained. Once equations (1) and (2) are estimated, the difference between the wage means of each group is calculated, and the following equation is obtained:

$$\Delta w = w_m - w_f = (\alpha_m - \alpha_f) + (\beta_m - \beta_f)X_f + \beta_m(X_m - X_f) \quad (3)$$

where the first two terms on the right side of the equation denote the difference in wages that can be attributed to discrimination (unexplained differences) and the last term denotes the difference in wages attributable to differences in the explanatory variable. It is assumed in equation (3) that the male wage structure applies to both sexes in the absence of discrimination. Equation (3) is the Oaxaca decomposition.

To estimate wage regressions for male and female Ph.D.'s, it is necessary to determine what factors may affect their earnings. Theory, anecdotal evidence and prior research suggest the following equation:

$$S = \alpha_0 + \alpha_1 \text{CHILD} + \alpha_2 \text{EDUC} + \alpha_3 \text{SOUTH} + \alpha_4 \text{WHITE} + \alpha_5 \text{EXPER} + \alpha_6 \text{EXP2} + \alpha_7 \text{LGCO} + \alpha_8 \text{HRSWK} + u \quad (4)$$

where S is the individual's annual salary, CHILD is the number of children a person has (Ginther and Hayes, 1999), EDUC is 1 if person is employed in the education field and 0 otherwise (Ferber and Kordick, 1978; Ginther and Hayes, 1999), SOUTH is 1 if person lives in the South and 0 otherwise, WHITE is 1 if person is white and 0 otherwise (Ginther and Hayes, 1999), EXPER is years of experience which is calculated by subtracting years of education plus 5 from person's age, EXP2 is experience squared, LGCO is 1 if person works for a company with more than 500 employees and 0 otherwise, and HRSWK is the number of hours worked per week. It is expected that number of children, career in education, and region of residence (South) will all have negative effects on salaries, while race, experience, large employer, and hours worked per week will have positive effects on salaries. Experience squared will have a negative effect on salary, indicating the nonlinear effect that experience has on salaries.

The data used in the present study was obtained from the Scientists and Engineers Statistical Data System (SESTAT) developed by the National Science Foundation (NSF). SESTAT consists of data obtained from the following three surveys: the National Survey of College Graduates (NSCG), the National Survey of Recent College Graduates (NSRCG), and the Survey of Doctorate Recipients (SDR). The NSCG and NSRCG consist of those individuals with earned master's and bachelor's degrees; the SDR consists of those persons with earned doctorates. The SESTAT data consists of salary, demographic and work history. Most of the data is protected; only a small proportion of the data is available for public use. Hence, the number of variables available for statistical analysis is limited, and some of the variables contained in the public release version of SESTAT are reported in either 5-year ranges or 5-year averages. Some of the more relevant variables necessary for the present study, such as annual salary, are available however on an annual basis. In the present study, sample sizes range from 20,600 males in engineering to 129 females in the non-science category.

A unique feature of the present study is that the Oaxaca decomposition will be estimated for nine disciplines. Those disciplines are as follows: biology, chemistry, computer science, economics, engineering, non-science, physics, psychology, and sociology. The non-science category includes a variety of non-science disciplines that are not included in any of the other categories; hence, economics and sociology, for example, are not in the non-science category. Although a few prior studies have looked at individual disciplines, no other study has examined the issue of sex-based wage discrimination for nine separate Ph.D. disciplines.

SECTION 3: RESULTS

Results for equation (4) for both males and females and the Oaxaca decomposition are presented on Tables 1 through 9. These results indicate that most variables have the expected signs for both males and females. In addition, the R^2 's range from 16% to 39%. Some of the more noteworthy results are the following: EDUC has a strong negative effect on the salaries of Ph.D.'s. For example, male computer science Ph.D.'s who work in education earn \$33,627 less on average than their counterparts

Table 1 Biology Regression Results					
Variable	Male Coefficient	Male Test Statistic	Female Coefficient	Female Test Statistic	Explained Differential
Constant	-34141	-9.58	-12524	-3.85	
CHILD	3802	7.09	2551	3.92	0.04
EDUC	-20118	-18.51	-16136	-13.64	0.047
SOUTH	-1429	-1.20	585	0.45	0.0009
WHITE	3740	3.11	1242	1.00	0.017
EXPER	4017	18.63	3058	12.57	0.302
EXPF2	-53	-12.19	-47	-8.64	
LGCO	4779	3.79	4582	3.32	0.00029
HRSWK	940	20.13	692	15.59	0.176
Total Explained Differential = 0.583 Total Unexplained Differential = 0.417 Male Sample Size = 3573 Female Sample Size = 2112 Mean Male Wage = 73005 Mean Female Wage = 56835 Male R ² = 0.29 Female R ² = 0.25					

Table 4 Economics Regression Results					
Variable	Male Coefficient	Male Test Statistic	Female Coefficient	Female Test Statistic	Explained Differential
Constant	3788	0.49	-421	-0.05	
CHILD	1496	1.26	1966	1.17	0.0013
EDUC	-23276	-8.95	-24474	-8.18	-0.25
SOUTH	1977	0.76	1517	0.49	-0.009
WHITE	6048	2.26	3064	1.05	0.098
EXPER	2390	4.87	1548	2.45	0.246
EXPF2	-37	-3.78	-20	-1.38	
LGCO	10709	3.56	9267	2.75	0.029
HRSWK	940	8.71	1143	8.97	0.28
Total Explained Differential = 0.393 Total Unexplained Differential = 0.607 Male Sample Size = 717 Female Sample Size = 269 Mean Male Wage = 80019 Mean Female Wage = 68889 Male R ² = 0.22 Female R ² = 0.40					

Table 2 Chemistry Regression Results					
Variable	Male Coefficient	Male Test Statistic	Female Coefficient	Female Test Statistic	Explained Differential
Constant	-18811	-5.24	5556	0.96	
CHILD	1647	3.01	1658	1.41	0.023
EDUC	-28629	-23.03	-30219	-14.17	0.114
SOUTH	-3747	-2.81	-2507	-1.00	-0.0036
WHITE	4557	3.50	5549	2.74	0.06
EXPER	3540	15.44	2178	5.28	0.534
EXPF2	-54	-11.08	-31	-3.15	
LGCO	9486	7.48	6441	2.68	-0.02
HRSWK	987	18.55	744	8.75	0.07
Total Explained Differential = 0.777 Total Unexplained Differential = 0.223 Male Sample Size = 2280 Female Sample Size = 547 Mean Male Wage = 78429 Mean Female Wage = 63900 Male R ² = 0.37 Female R ² = 0.39					

Table 5 Engineering Regression Results					
Variable	Male Coefficient	Male Test Statistic	Female Coefficient	Female Test Statistic	Explained Differential
Constant	-8778	-6.86	134	0.09	
CHILD	1854	9.28	2082	6.39	0.017
EDUC	-23317	-55.19	-18152	-31.05	0.097
SOUTH	-2203	-4.65	-635	-0.96	0.001
WHITE	1915	4.20	-348	-0.58	0.0076
EXPER	2805	34.15	1898	16.26	0.137
EXPF2	-40	-23.53	-28	-10.56	
LGCO	6526	13.82	5841	8.84	0.0075
HRSWK	981	53.91	815	37.71	0.168
Total Explained Differential = 0.435 Total Unexplained Differential = 0.565 Male Sample Size = 20600 Female Sample Size = 8193 Mean Male Wage = 74798 Mean Female Wage = 57281 Male R ² = 0.27 Female R ² = 0.25					

Table 3 Computer Science Regression Results					
Variable	Male Coefficient	Male Test Statistic	Female Coefficient	Female Test Statistic	Explained Differential
Constant	10573	2.59	30736	5.40	
CHILD	1285	1.93	1210	0.95	0.015
EDUC	-33627	-24.92	-31817	-14.77	0.132
SOUTH	-2870	-1.90	-3996	-1.70	0.003
WHITE	1579	1.13	-316	-0.15	0.018
EXPER	2183	8.13	189	0.46	0.146
EXPF2	-31	-5.26	5.98	0.64	
LGCO	6807	4.30	5518	2.16	-0.011
HRSWK	1008	16.31	906	10.31	0.095
Total Explained Differential = 0.398 Total Unexplained Differential = 0.602 Male Sample Size = 1540 Female Sample Size = 464 Mean Male Wage = 75827 Mean Female Wage = 64105 Male R ² = 0.37 Female R ² = 0.39					

Table 6 Non-Science Regression Results					
Variable	Male Coefficient	Male Test Statistic	Female Coefficient	Female Test Statistic	Explained Differential
Constant	-18711	-1.45	13980	1.13	
CHILD	607	0.34	-3387	-1.34	0.004
EDUC	-14039	-3.53	-9959	-2.06	0.25
SOUTH	-1175	-0.27	9154	1.93	0.0036
WHITE	11005	2.32	-6181	-1.32	0.099
EXPER	2097	2.44	1755	1.89	-0.03
EXPF2	-40	-2.59	-37	-1.98	
LGCO	10614	2.62	1683	0.36	-0.14
HRSWK	1077	7.48	610	3.80	0.076
Total Explained Differential = 0.264 Total Unexplained Differential = 0.736 Male Sample Size = 260 Female Sample Size = 129 Mean Male Wage = 59307 Mean Female Wage = 47923 Male R ² = 0.27 Female R ² = 0.16					

Table 7 Physics Regression Results					
Variable	Male Coefficient	Male Test Statistic	Female Coefficient	Female Test Statistic	Explained Differential
Constant	-10296	-2.73	-1550	-0.17	
CHILD	1386	2.18	3692	2.14	0.0014
EDUC	-23994	-18.27	-20795	-6.70	0.059
SOUTH	-4826	-3.28	-5689	-1.64	-0.00046
WHITE	974	0.67	1599	0.54	0.023
EXPER	3481	14.26	2385	3.25	0.4824
EXP2	-52	-10.13	-34	-1.88	
LGCO	6036	4.04	7500	2.12	-0.0097
HRSWK	932	16.38	837	6.59	0.044
Total Explained Differential = 0.60 Total Unexplained Differential = 0.40 Male Sample Size = 1716 Female Sample Size = 240 Mean Male Wage = 77060 Mean Female Wage = 66485 Male R ² = 0.36 Female R ² = 0.36					

in non-academic work, while male sociology Ph.D.'s who work in education only earn \$9,165 less on average than their non-academic colleagues. Contrary to expected results, having children actually increases a Ph.D.'s salary. In biology, males with children earn \$3,802 more on average than their childless colleagues, whereas in the non-sciences, men with children earn only \$607 more on average than their childless colleagues. White Ph.D.'s in most disciplines earn more than their non-white colleagues, although there are exceptions. For example, in the non-science category, white males earn \$11,005 more on average than their non-white colleagues, while white females in the same category earn \$6,181 less than their non-white colleagues. Finally, females, on average, earn less than males in every discipline examined.

Regarding the results of the Oaxaca decomposition, the wage attributable to discrimination (unexplained differential) ranges from 22% for chemistry to 74% for the non-science category. This implies that female Ph.D.'s in the sciences actually experience less discrimination than they do in the non-sciences. Concerning the explainable part of the wage differential, for most disciplines, experience explains most of this differential. The range is from 53% in chemistry to -3% in the non-science category. Hours worked was also very important in explaining the differences between male and female Ph.D. salaries. The range for this differential was 35% for psychology to 7% for chemistry.

Table 8 Psychology Regression Results					
Variable	Male Coefficient	Male Test Statistic	Female Coefficient	Female Test Statistic	Explained Differential
Constant	-22451	-4.99	-10487	-3.17	
CHILD	2724	4.22	1455	2.08	0.018
EDUC	-14840	-10.25	-11161	-8.16	0
SOUTH	997	0.64	-412	-0.28	0.0009
WHITE	5332	2.69	2425	1.54	0.019
EXPER	2725	9.28	2171	8.82	0.206
EXP2	-41	-7.32	-34	-6.42	
LGCO	74	0.05	1654	1.23	0.00013
HRSWK	1146	21.23	929	20.72	0.35
Total Explained Differential = 0.596 Total Unexplained Differential = 0.404 Male Sample Size = 2038 Female Sample Size = 1771 Mean Male Wage = 68180 Mean Female Wage = 52844 Male R ² = 0.26 Female R ² = 0.27					

SECTION 4: CONCLUSIONS

Much research has been devoted to the study of wage discrimination based on sex. The present study attempted to expand on this area of research by utilizing a recent data set from 1999 that no prior study has used. Looking at nine different disciplines, the results from an Oaxaca decomposition indicate that anywhere from 22% to 74% of the wage difference between male and female Ph.D.'s can be attributed to discrimination. The most important factor in the explainable part of the wage difference for most disciplines was years of experience. The present study is important since it uses very recent data and looks at the nation's most educated individuals and yet still finds wage discrimination on the basis of sex in all nine of the disciplines examined.

Table 9 Sociology Regression Results					
Variable	Male Coefficient	Male Test Statistic	Female Coefficient	Female Test Statistic	Explained Differential
Constant	-1824	-0.26	169	0.03	
CHILD	1752	1.70	1688	1.40	0.042
EDUC	-9165	-4.08	-10791	-4.74	-0.011
SOUTH	-1686	-0.71	2010	0.91	0.01
WHITE	647	0.31	-2755	-1.34	0.004
EXPER	1222	2.59	1147	2.75	0.284
EXP2	-5	-0.52	-13	-1.54	
LGCO	2120	0.89	4532	1.90	0.01
HRSWK	799	9.90	841	12.20	0.173
Total Explained Differential = 0.513 Total Unexplained Differential = 0.487 Male Sample Size = 696 Female Sample Size = 628 Mean Male Wage = 59700 Mean Female Wage = 51405 Male R ² = 0.20 Female R ² = 0.24					

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