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THE OHIO ASSOCIATION OF ECONOMISTS AND POLITICAL SCIENTISTS

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The Ohio Association of Economists and Political Scientists is a not-for-profit, professional association of practitioners, academics, and students in economics, political science, and related fields. It is devoted to the understanding and dissemination of knowledge, and to the facilitation of dialogue regarding economic and political concepts and events. Our emphasis is on how the interaction of these two social sciences impact Ohioans.

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Journal of Economics and Politics

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The *Journal of Economics and Politics* is a scholarly journal directed to a broad audience of economists and political scientists. It is sponsored by the **Ohio Association of Economists and Political Scientists**, *OAEPS*, but is open to contributions from non-members as well as from members. It has a particular interest in the publication of articles dealing with Ohio and with the region, but it is a general journal. No particular method or approach is favored over another.

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Journal of Economics and Politics

A MESSAGE FROM THE EDITOR-IN-CHIEF

This combined issue of the *Journal of Economics and Politics (JEP)* marks yet another milestone. We are publishing Volumes 17 & 18 first as an electronic journal and, several months from now, as a bound-paper copy. The paper copy will include all of the electronic articles published in the electronic version plus any additional accepted refereed articles received after the electronic deadline. We are pleased to publish the electronic version of the *JEP* before the annual meetings this October 21 – 22, 2005.

Another exciting prospect is a Special Edition of the *Journal of Economics and Politics* devoted to Entrepreneurship. As Editor-in-Chief, I will be soliciting articles for the Entrepreneurship Edition which I expect to be published sometime in March/April 2006. A very special thanks to Heidelberg College on the award of a substantial sum of money to cover the publication cost of the *Entrepreneurship* special edition of the *Journal of Economics and Politics*.

The Ohio Association of Economists and Political Scientists is in its 65th year. The Mission Statement of the OAEPS emphasizes the interaction of political and economic concepts. It is a professional association of practitioners, academics, and students in economics, political science, and related fields. It is devoted to the understanding and dissemination of knowledge, and to the facilitation of dialogue regarding economic and political concepts and events. Our emphasis is on how the interaction of these two social sciences impact Ohioans.

The *Journal of Economics and Politics* is in its 18th year. The quality of the *JEP* would not be what it is without able referees. I wish to thank a legion of referees who worked with me on Volumes 17 & 18. Their names can not be mentioned since the *JEP* is a double-blind refereed *Journal*, but the results of their labor is evident in the quality of the articles which make-up this issue. Guidance and able assistance from the Associate Editors, Professors Mary Ellen Benedict, Dennis Miller, Dennis Petruska, and Thomas Sutton, has greatly improved the *JEP*. A special thanks goes to Dr. Andrew Lucker for his work on the OAEPS website and for placing the *JEP* on this site.

The title of our *Journal*, the *Journal of Economics and Politics*, reflects the reality of interdependence. Regional and State issues in economics and politics cannot be addressed in isolation from the environment around them. The growing global/international influences affect us all and certainly affect regional/state issues. The *Journal* welcomes articles on regional and state issues as well as topics of national, international, and global importance.

Finally, I wish to thank the Officers, the Executive Committee, and the OAEPS Membership for the trust they have shown in me through the years by appointing me to the position of Editor-in-Chief of the *Journal of Economics and Politics*. ***Nam b'e an diugh an de, cha bhithinn-sa mar a tha mi.***

Henry G. Rennie

Editor-in-Chief

Journal of Economics and Politics

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Abstracts of Articles

REAL WAGE RESPONSES TO UNEMPLOYMENT SHOCKS IN FRANCE AND THE U.K.

Much research has examined the response of real wages to unemployment shocks. The notion of sustained unemployment has been studied and some results indicate that downwardly rigid responses from real wages could be the culprit. Some research has been done comparing the labor markets of Canada and the United States of America (the U.S.). Greater levels of unemployment in the former have made many suspect that real wage response in Canada is more downwardly rigid than in the U.S. Some recent studies indicate this to be the case.

This paper will look at two different countries – France and the United Kingdom (the U.K.). France, like Canada, has suffered from greater unemployment rates over the last fifteen years than the U.K. has. This paper will use data on the gross domestic product (GDP), price levels, employment levels and wage rates from each country to see if real wage responses in the French labor market are more rigid in the face of decreased demand for labor than they are in the labor market of the U.K.

ELLIS HEATH, DEPARTMENT OF ECONOMICS, WEST VIRGINIA UNIVERSITY

YIH-WU LIU, DEPARTMENT OF ECONOMICS, YOUNGSTOWN STATE UNIVERSITY

LESSONS IN SUSTAINABLE ECONOMIC DEVELOPMENT AND SERVICE ON THE DINE (NAVAJO) NATION

A lesson is offered in this paper regarding sustainable economic development in the context of an appreciation for distinct cultural value systems as well as the larger ecological system in which development takes place. Economists frequently wrestle with questions of valuation in regard to both cultural traditions and the natural world. Sustainable development plans can be called into question when nature and cultural traditions are not given sufficient consideration. In spending some time with the Dine, working on development plans, as well as listening to stories, this author learned a valuable lesson concerning sustainable economic development. It is a lesson which is transmitted in the context of a story.

STEVE SZEGHL, DEPARTMENT OF ECONOMICS, WILMINGTON COLLEGE

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REAL WAGE RESPONSES TO UNEMPLOYMENT SHOCKS IN FRANCE AND THE U.K.

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ABSTRACT

MUCH RESEARCH HAS EXAMINED THE RESPONSE OF REAL WAGES TO UNEMPLOYMENT SHOCKS. THE NOTION OF SUSTAINED UNEMPLOYMENT HAS BEEN STUDIED AND SOME RESULTS INDICATE THAT DOWNWARDLY RIGID RESPONSES FROM REAL WAGES COULD BE THE CULPRIT. SOME RESEARCH HAS BEEN DONE COMPARING THE LABOR MARKETS OF CANADA AND THE UNITED STATES OF AMERICA (THE U.S.). GREATER LEVELS OF UNEMPLOYMENT IN THE FORMER HAVE MADE MANY SUSPECT THAT REAL WAGE RESPONSE IN CANADA IS MORE DOWNWARDLY RIGID THAN IN THE U.S. SOME RECENT STUDIES INDICATE THIS TO BE THE CASE.

THIS PAPER WILL LOOK AT TWO DIFFERENT COUNTRIES – FRANCE AND THE UNITED KINGDOM (THE U.K.). FRANCE, LIKE CANADA, HAS SUFFERED FROM GREATER UNEMPLOYMENT RATES OVER THE LAST FIFTEEN YEARS THAN THE U.K. HAS. THIS PAPER WILL USE DATA ON THE GROSS DOMESTIC PRODUCT (GDP), PRICE LEVELS, EMPLOYMENT LEVELS AND WAGE RATES FROM EACH COUNTRY TO SEE IF REAL WAGE RESPONSES IN THE FRENCH LABOR MARKET ARE MORE RIGID IN THE FACE OF DECREASED DEMAND FOR LABOR THAN THEY ARE IN THE LABOR MARKET OF THE U.K.

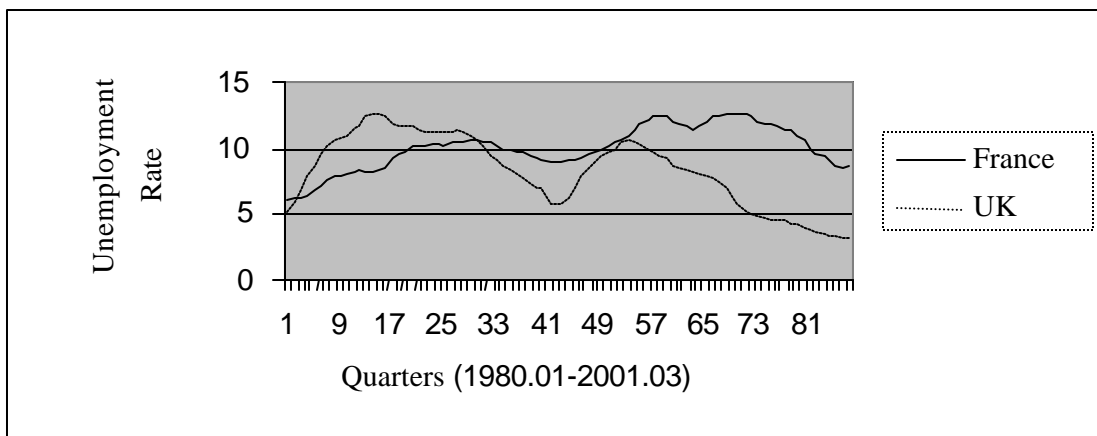
I. INTRODUCTION

An important question in economic study concerns the manner in which real wages respond to unemployment shocks. Specifically, what is their downward response? Is it rigid? Or, does it operate in a market-clearing fashion? If negative shocks to the demand of labor are coupled with inflexible responses by real wages, then, sustained unemployment might be the result. Whether intentional or not, many free market economies do indeed have real wage protections in place on the downside. Examples of this are minimum wage laws, unemployment benefits, and mobility in the labor market, job security and the costs of contracting labor. A comparison of two economies in order to investigate whether the symmetry of real wage response differs in each might provide some insight. An economy with less rigidity in the labor market should see less sustained unemployment when the demand for labor falls; if real wage response is not downwardly rigid, then real wages should fall in response to a decrease in the demand for labor; this, in turn, should eventually cause an increase in the quantity demanded for labor,

since due to the real wage adjustment, labor is cheaper than before and finally, a fall in the unemployment rate should occur. Conversely, in an economy with downward structural rigidity in the labor market, the expectation would be to see higher sustained rates of unemployment given similar falls in the demand for labor; since real wages would not adjust to the lower levels of demand for labor, then the unemployment rates would stay the same as labor is not any cheaper. In a study done on the labor markets of both Canada and the U.S., Ashenfelter and Card (1986) could not prove that structural rigidities in the labor markets explained differences in unemployment between the two countries. However, a study done later by Card and Freeman (1994) concluded that the differing unemployment rates were caused by policies in the U.S. that permitted incomes of workers and poverty rates to adjust to increased unemployment and by policies in Canada that in order to provide a safety net for workers, incomes and poverty rates were held in check in the face of unemployment. An interesting study comparing the real wage responses in Canada and the U.S. to unemployment shocks was done by Dibooglu and Enders (2001). In their study they found that real wages in the U.S. responded almost symmetrically to changes in the labor market, while in Canada the response was asymmetric; real wages were downwardly rigid. That is, in the U.S. real wages adjusted to increased levels of unemployment, whereas in Canada they did not, or rather they did not adjust symmetrically.

In this paper the aim will be to do another case study on two different economies: France and the U.K. This study will follow procedures very similar to those used by Dibooglu and Enders. France and the U.K. make for an interesting comparison. While both Western European countries have economies and populations of about the same size, they are markedly different in their political attitudes towards their respective economies. France has a GDP of \$1.54 trillion and a population of 59,765,983, while the numbers for the U.K. are \$1.52 trillion and 59,778,002, respectively. Even though the two publicly claim to favor a welfare state for their citizens, in the U.K. there is a low level of benefits and services and spending is tightly controlled. In France, however, the welfare net is much more elaborate, expensive and

Figure 1: Unemployment in France and U.K



extensive. The U.K., like the U.S., tends to favor fewer controls on the poverty rate and incomes of their citizens. While France, similar to Canada, prefers to provide a minimum standard of social welfare for theirs. Given this, the expectations are for real wage responses to be asymmetric in the French economy with downward rigidity and in the U.K. such rigidity should not be as prevalent as the real wage responses ought to be more symmetrical. In fact, looking at Figure 1, it can be seen that there is disparity between the unemployment rates of the two countries since 1980.

While in the early 1980s the U.K. actually had a higher unemployment rate than France, the difference was short-lived. Indeed, the difference was no greater than 4.3 percentage points. However, since the second quarter of 1987, France's unemployment rate has consistently exceeded that of the U.K. Since 1992, the margin of difference has become significant, reaching a peak in the fourth quarter of 1997 of 7.4 percentage points. In the third quarter of 2001 (the last date of the data for this study) the difference between the two rates was close to 6 percentage points. This prolonged difference in the two rates suggests that there is sustained unemployment in the French economy that could be due to a more rigid real wage response in the face of a decreased demand for labor.

In order to explore this in more detail, the possible asymmetry in the real wage responses in France needs to be taken into consideration. Traditional unit root and cointegration tests will not suffice. Methods that allow for non-linear adjustment must be used. Enders and Granger (1998) and Enders and Siklos (2000) developed with some unit root and cointegration tests that will allow for asymmetric linear adjustments. These tests are more appropriate for this study given that asymmetry is suspected in the French labor market.

II. THEORETICAL FRAMEWORK

In their study done on Canada and the U.S., Dibooglu and Enders created with a bargaining framework for both wages and employment that followed models previously given by Layard and Nickell (1986) and Nickell (1988). For firms, the motivation to bargain stems from the causal effect on profits caused by wages. The firms' profit functions depend on wages, price level and productivity, which is defined as output divided by employment. Also, capital stock is a factor as well. For the unions, their utility functions depend on employment and union members' utility levels for both the unemployed and employed. From this, they came up with an economic model for real wages:

$$W/P = W(Y/N,U,Z), \tag{1}$$

where W is the nominal wage level, P is the price level, Y is output, N is the number of people employed, U is the unemployment level and Z represents other factors (they mention "wedge elements, price of imported goods, union power, and variables that affect welfare if workers are unemployed"). A log linear model to represent this would be the following:

$$w = \beta_0 + \beta_1 q_t + \beta_2 u_t + e_t, \quad (2)$$

where w is the real wage in logarithm form, q is equal to Y/N , which represents labor productivity, u is the unemployment rate in logarithm form and e_t is the error term. It should be pointed out that real wages and the unemployment rate can have either a positive or negative relationship, since the supply of and demand for labor could cause interactions between the two of either a positive or negative sign. Neftci (1984) and Sumner and Silver (1989) both showed in their studies that this could be the case. Concerning Equation (2), Hall (1986, 1989), Mehra (1991), Nymoen (1992), Schoonbeek and Sterken (1995), Chiarini and Piselli (1997) and Dibooglu and Enders (2001) have all provided varying versions of this equation.

It is known that labor productivity, real wages and unemployment tend to be $I(1)$ process. Therefore, after estimating Equation (2), either an Engle and Granger (1987) or a Johansen (1995) test for cointegration is in order. Using the Engle and Granger test (1987), the following equation can be formed:

$$\rho e_t = \rho e_{t-1} + \mu_t, \quad (3)$$

where μ represents the residuals from this equation and the coefficient ρ permits cointegration to be tested. If ρ is between -2 and 0 , μ is thought to be stationary around a mean of zero and cointegration is present. It does not matter whether e_{t-1} is positive or negative. Either way, a change in e_t suggests an adjustment which is symmetrical and has the magnitude of ρ times e_{t-1} .

Obviously, this procedure will not work in this study. In this study, in which wage rigidity on the downside is suspected in the French economy, real wages should take longer to return to equilibrium levels when they are above their equilibrium levels than when they are below them. The reasoning being that real wage protection will prevent them from falling to their equilibrium levels if they are found to be above them. Whereas, conversely, when no such protections and, hence, no such rigidity on the topline are present, real wages should adjust more quickly back to their equilibrium levels when found below these levels. Since the goal here is to test for asymmetric responses, using Equation (3) will result in a model in which the dynamics are specified incorrectly. This will cause the model to suffer from a low power in the unit-root and cointegration tests.

In their study on Canada and the U.S., Dibooglu and Enders use a Threshold Autoregressive (TAR) process to allow for asymmetry. Instead of Equation (3), they use the following:

$$\rho e_t = I_t \rho_1 e_{t-1} + (1-I_t) \rho_2 e_{t-1} + \mu_t, \quad (4)$$

where I_t is a dummy variable such that $I_t = 1$, if $e_{t-1} < t$ and $I_t = 0$, if $e_{t-1} = t$. t represents the value of the threshold.

The two coefficients γ_1 and γ_2 allow for different values and asymmetric adjustment. A value of e_{t-1} that is below t would adjust by the product of γ_1 and e_{t-1} , and of course, if the threshold value is greater than e_{t-1} , then, the adjustment would take the form of γ_2 times e_{t-1} . Of course, for the residuals e_t to be stationary, both coefficients γ_1 and γ_2 must have values between negative two and zero. Furthermore, Tong (1983) shows that when e_t is stationary, using the least squares estimates, both γ_1 and γ_2 have an asymptotic multivariate normal distribution. If a null hypothesis of $\gamma_1 = \gamma_2 = 0$ is formed and rejected, then, an F-test can be done to test for asymmetric responses with the following null hypothesis: $H_0: \gamma_1 = \gamma_2$. Also, an augmented version of Equation (4) can be used if μ_t is suspected to be serially correlated.

$$\gamma e_t = I_t \gamma_1 e_{t-1} + (1-I_t) \gamma_2 e_{t-1} + \sum_{j=0}^k \beta_j \gamma e_{t-1} + \mu_t, \quad (5)$$

Briefly, Dibooglu and Enders provide the following steps for carrying out this procedure:

Step One: Regress one of the variables on the other two with a constant and save the residuals.

Step Two: Order the lagged residuals $\{e_{t-1}\}$ by size from smallest to largest and take the middle values of e_{t-1} that are between the fifteenth percentile and eighty-fifth percentile. Run a series of regressions on Equation (4) or Equation (5) (in this study Equation (5) will be used), with each middle value of e_{t-1} representing the threshold. Take the value of t from the regression with the lowest residual sum of squares and use it as the threshold value. Perform an F-test to test for $\gamma_1 = \gamma_2 = 0$.

Step Three: If the F-test from the previous step rejects $\gamma_1 = \gamma_2 = 0$, then, an F-test of $\gamma_1 = \gamma_2$ can be done. Now, if $\gamma_1 = \gamma_2$ is rejected, then, the constraint of symmetric adjustment is removed. Enders and Falk (1998) and Hansen (1997), however, warn that inference concerning the values of γ_1 and γ_2 can cause problems given that the small sample properties of their OLS estimates lead to higher-than-normal standard errors and that the convergence properties of their OLS estimates often is not good.

Step 4: Check the residuals to see if they are correlated. If they are, step two must be performed again with more lags.

III. EMPIRICAL RESULTS¹

Using quarterly data from 1980.01-2001.03, Equation (2) is estimated². The estimated long-run relations for France and the U.K. are respectively:

$$\text{France: } w = 4.040608 + 1.372809q_t + 0.096742u_t + e_t, \quad (6)$$

$$\text{U.K.: } w = 3.4237 + 57.42224q_t + 0.021154u_t + e_t, \quad (7)$$

Testing the residuals $\{e_t\}$ using the threshold adjustment, the values for the coefficients γ_1 and γ_2 , as well as their t-values, are obtained. In addition, cointegration ($H_0: \gamma_1 = \gamma_2 = 0$) and symmetric adjustment ($H_0:$

$\alpha_1 = \alpha_2$) can be tested. Lags which minimize the serial correlation among the residuals of the estimated equations for both models were obtained. In the French model, one lag was appropriate and in the model for the U.K., three lags were needed.

In the French model, the coefficient α_1 has a p-value of 0.0623. It is not significantly different from zero at the five percent significance level. However, the coefficient α_2 is significant at the one percent level. With $\alpha_1 = \alpha_2 = 0$ as the null hypothesis, in the French model the F-statistic is 7.918381 and it is significant at the one percent level. Therefore, the null hypothesis is rejected and cointegration is assumed. Testing for symmetric adjustment (null hypothesis of $\alpha_1 = \alpha_2$) in the French model, the F-statistic is 3.026065 and it is significant at the ten percent level with a p-value of 0.085689. At the ten percent significance level, asymmetric adjustment is assumed.

In the model for the U.K., the coefficient α_1 has a p-value of 0.0295, so it is significant at the five percent level and the coefficient α_2 is significant at the one percent level. With $\alpha_1 = \alpha_2 = 0$ as the null hypothesis, the F-statistic for the U.K. is 16.61203 and it is significant at the one percent level, so the null hypothesis is rejected and cointegration is assumed. In the model for the U.K., testing for symmetric adjustment (null hypothesis of $\alpha_1 = \alpha_2$) the F-statistic is 21.58402 and it is significant at one percent level. Therefore, asymmetric adjustment is assumed.

For the both models, the estimations of Equation (5) are given:

$$\text{France: } \Delta e_t = -0.177847I_t e_{t-1} - 0.439888(1-I_t)e_{t-1} + 0.057894\Delta e_{t-1} ; \quad (8)$$

$$\begin{aligned} \text{U.K.: } \Delta e_t = & -0.164093I_t e_{t-1} - 1.292954(1-I_t)e_{t-1} - 0.395252\Delta e_{t-1} - 0.147032\Delta e_{t-2} \\ & - 0.398906\Delta e_{t-3}, \end{aligned} \quad (9)$$

The coefficient α_1 tells us that nearly 18 percent and about 16.5 percent of the positive deviations from long-run real wage equilibrium are eliminated within one quarter for France and the U.K., respectively. In the French model about 44 percent of the negative deviations are eliminated within a quarter, but surprisingly, in the model for the U.K. 129 percent of the negative deviations are eliminated within a quarter!

While in the French model adjustments occur at a rate nearly three times faster for negative deviations than for positive deviations, in the model for the U.K. the adjustment for negative deviations is over ten times faster than for positive ones. Incredibly, adjustments to changes in real wage equilibrium in the U.K. seem to be more rigid on the downside than in France, just the opposite of what was expected.

As shown in Figure 1 of this paper, unemployment in France began to consistently maintain itself at higher levels than unemployment in the U.K. after the thirty-second quarter (the second quarter of 1987 to be exact). The gap did close at one point in the fourth quarter of 1992 (the 54th quarter), but the gap then began to widen, reaching a maximum difference of 7.4 percentage points exactly five years later. A

closer look at the post-1987 time period shows the likelihood of a more downward rigid labor market in French. Also, the labor market in the U.K. might prove to be more symmetrical.

In the French model using post-1987 data, one lag yields the lowest probability of serial correlation among the residuals and minimizes the chance of β_1 and β_2 being jointly insignificant. In fact, evidence of no serial correlation among the residuals is significant at even the one percent level and evidence of cointegration is significant at the same level. Also, the individual t-tests for the coefficients β_1 and β_2 show that both are individually significant at one and five percent levels, respectively. However, surprisingly, the null hypothesis that $\beta_1 = \beta_2$ is accepted. Furthermore, the p-value is as high as 0.893696. Asymmetric responses after 1987 cannot be assumed for the French labor market.

Estimated results for France from post-1987 data are given:

$$\beta e_t = -0.374768I_t e_{t-1} - 0.405274(1-I_t) e_{t-1} + 0.085129\beta e_{t-1}, \quad (10)$$

In the model for the U.K. using post-1987 data, as in the French model one lag also yields the lowest probability of serial correlation among the residuals and minimizes the chance of β_1 and β_2 being jointly insignificant. As in the French model, evidence of no serial correlation among the residuals is significant at even the one percent level. Evidence of cointegration has a p-value of 0.119522, so it is insignificant at the ten percent level, but barely. The individual t-test for the coefficients β_1 shows that it is individually significant at the five percent. The t-test for the coefficient β_2 gives a p-value of 0.7701, so the coefficient β_2 is not significant. The null hypothesis that $\beta_1 = \beta_2$ is accepted, but the p-value is 0.313073, which is significantly lower than that of the French model. Symmetric responses in the post-1987 labor market in the U.K. are expected.

Estimated results for the U.K. from post-1987 data are given:

$$\beta e_t = -0.203209I_t e_{t-1} - 0.038797(1-I_t) e_{t-1} - 0.330475\beta e_{t-1}, \quad (11)$$

Now, after looking at the shorter time period (1987.02-2001.03) in hopes of verifying that the French labor market adjusts in a more asymmetrical fashion than the labor market of the U.K., the results suggest that not only is the French labor market symmetric over this time period, it possibly adjusts in an even more symmetric way than the labor market in the U.K. Furthermore, over the entire time period (1980.01-2001.02) of this study, the French labor market does indeed respond in an asymmetric fashion, as expected, but unexpectedly the data suggests that labor market in the U.K. might respond in an even more asymmetrical manner.

IV. ERROR CORRECTION MODEL

The results from the previous section give some answers about the responses of changes to real wage equilibrium in both France and the U.K. Contrary to the expectations of this study, these responses seem to be more symmetrical in France than in the U.K. In this section of the paper, the short-term dynamics of these responses will be analyzed using the error correction modeling procedure.

The error correction model shows how each element of the real wage model (real wage growth, labor productivity and the unemployment rate) responds to changes away from equilibrium. This study will use an error correction model similar to the ones suggested by Wooldridge (2006) and Dibooglu and Enders (2001). Changes in production, real wages and unemployment will be looked at. The results for France are as follows:

$$\Delta q_t = -0.228455 \Delta q_{t-1} + 0.102510 \Delta w_{t-1} + 0.036130 \Delta u_{t-1} + 0.002388 z_{t-1}^{over} + 0.540917 z_{t-1}^{under}; \quad (12)$$

$$\Delta w_t = 0.086673 \Delta q_{t-1} - 0.056523 \Delta w_{t-1} - 0.055646 \Delta u_{t-1} + 0.002644 z_{t-1}^{over} - 0.149219 z_{t-1}^{under}; \quad (13)$$

$$\Delta u_t = 0.071307 \Delta q_{t-1} + 0.40224 \Delta w_{t-1} + 0.784796 \Delta u_{t-1} - 0.00075 z_{t-1}^{over} + 0.092625 z_{t-1}^{under}, \quad (14)$$

where $z_{t-1}^{over} = I_t(w - 4.040608 - 1.372809q_t - 0.096742u_t)$, $z_{t-1}^{under} = (1 - I_t)(w - 4.040608 - 1.372809q_t - 0.096742u_t)$, and I_t represents the threshold.

For France, Equation (12) indicates that within one quarter productivity increases by less than one percent for a one-unit positive deviation from long-run equilibrium and that productivity increases by over 50 percent for a one-unit negative deviation from long-run equilibrium. The t-statistic for z^{over} shows that it is not significant at the 10 percent level. However, the t-statistic for z^{under} is significant at the one percent level. In Equation (13), real wage growth barely changes in the face of positive deviations, whereas a one-unit negative deviation causes real wage growth to adjust by nearly 15 percent. Both t-statistics for the error correction coefficients are significant at the 5 percent level (z^{under} at the one percent level). In Equation (14), the coefficients for the error-correction terms for the unemployment rate are both insignificant. Therefore, the unemployment rate may be outside the influence of changes in long-run equilibrium.

The results for the U.K. are given below:

$$\Delta q_t = -0.454768 \Delta q_{t-1} - 0.004411 \Delta w_{t-1} + 0.000049 \Delta u_{t-1} + 0.003307 z_{t-1}^{over} + 0.002961 z_{t-1}^{under}; \quad (15)$$

$$\Delta w_t = 5.82887 \Delta q_{t-1} + 0.012526 \Delta w_{t-1} - 0.006795 \Delta u_{t-1} - 0.033171 z_{t-1}^{over} - 0.1822 z_{t-1}^{under}; \quad (16)$$

$$\Delta u_t = -16.64013 \Delta q_{t-1} - 0.421233 \Delta w_{t-1} + 0.846065 \Delta u_{t-1} - 0.016956 z_{t-1}^{over} + 0.081756 z_{t-1}^{under}, \quad (17)$$

where $z_{t-1}^{over} = I_t(w - 3.4237 - 57.42224q_t - 0.021154u_t)$ and $z_{t-1}^{under} = (1 - I_t)(w - 3.4237 - 57.42224q_t - 0.021154u_t)$ and I_t represents the threshold.

For the U.K., Equation (15) indicates that within one quarter productivity barely changes for a one-unit positive deviation from long-run equilibrium; the t-statistic indicates that the coefficient for z^{over} is

significant at the 5 percent level. For a one-unit negative deviation from long-run equilibrium, the t-test shows that the coefficient for z^{under} is not significant at even the 10 percent level. In the case of real wage growth, the coefficient for z^{ver} is insignificant at the 10 percent level, but the coefficient for z^{under} is significant at the one percent level. In response to negative deviations from long-run equilibrium, real wage growth adjusts by 18 percent. For the unemployment rate, neither coefficient is significant at even the 10 percent level, so as in the case with France, the unemployment rate could be considered exogenous to changes from long-run equilibrium.

For the post-1987 period, the error correction results for France are as follows:

$$\dot{q}_t = 0.101211\dot{q}_{t-1} - 0.175278\dot{w}_{t-1} - 0.123462u_{t-1} + 0.426167z_{t-1}^{\text{over}} + 0.221459z_{t-1}^{\text{under}}; \quad (18)$$

$$\dot{w}_t = 0.207019\dot{q}_{t-1} + 0.094\dot{w}_{t-1} - 0.061365u_{t-1} + 0.054029z_{t-1}^{\text{over}} - 0.118476z_{t-1}^{\text{under}}; \quad (19)$$

$$u_t = 0.301949\dot{q}_{t-1} - 0.362729\dot{w}_{t-1} + 0.696631u_{t-1} - 0.223747z_{t-1}^{\text{over}} + 0.171012z_{t-1}^{\text{under}}, \quad (20)$$

And for the U.K. the results are as such:

$$\dot{q}_t = -0.771141\dot{q}_{t-1} - 0.016723\dot{w}_{t-1} + 0.001588u_{t-1} + 0.000433z_{t-1}^{\text{over}} + 0.012174z_{t-1}^{\text{under}}; \quad (21)$$

$$\dot{w}_t = 7.851804\dot{q}_{t-1} - 0.017154\dot{w}_{t-1} + 0.0029246u_{t-1} + 0.002458z_{t-1}^{\text{over}} - 0.03458z_{t-1}^{\text{under}}; \quad (22)$$

$$u_t = -19.1761\dot{q}_{t-1} - 0.66639\dot{w}_{t-1} + 0.759226u_{t-1} - 0.000819z_{t-1}^{\text{over}} + 0.002336z_{t-1}^{\text{under}}, \quad (23)$$

The coefficient z^{over} for French labor productivity was significant at the one percent level, but the coefficient z^{under} was insignificant at the 10 percent level. For real wage growth, both coefficients were insignificant at the 10 percent level, while both coefficients were insignificant at the 10 percent level for the unemployment rate.

For the U.K. both coefficients for labor productivity were significant at the 5 percent level, but the coefficients for real wage growth were insignificant at the 10 percent level. For the unemployment rate, neither coefficient was significant at practically any significance level (p-values of 0.8907 and 0.9903 for z^{over} and z^{under} , respectively).

V. DISCUSSION OF RESULTS

Based on the results of this study, from the second quarter of 1980 until the third quarter of 2001 real wage growth and the unemployment rate in France were cointegrated. In addition, real wage response to decreased demand for labor was asymmetrical. As indicates Equation (8) of this study, negative adjustments were corrected for at a rate over two times faster than positive adjustments. This would suggest that the responses are asymmetric. Equation (13) indicates the rate at which labor productivity, real wage growth and the unemployment rate respond to deviations away from long-run equilibrium. From Equation (13), it can be seen that again, the real wage response appears to be asymmetrical and

downwardly rigid. Positive deviations from long-run equilibrium barely evoke a change in real wage growth, whereas negative deviations cause about a 14 percent adjustment in real wage growth.

Focusing on the post-1987 period, responses to changes away from the real wage equilibrium now seem to be symmetric for France. Equation (10) shows that positive and negative deviations are adjusted for at about the same rate. Looking at Equation (19), both error correction coefficients are insignificant at the 10 percent level, so over this period the real wage response to deviations away from long-run equilibrium cannot be discussed in terms of the unemployment rate.

For the U.K. over the period from the second quarter of 1980 until the third quarter of 2001 real wage growth and the unemployment rate also appear to be cointegrated. In addition, real wage response to decreased demand for labor was also asymmetrical. As illustrated in Equation (9), negative adjustments were corrected for over ten times as fast as positive adjustments were. This would suggest that the responses are asymmetric. Equation (16) shows the rate at which each element responds. From Equation (16), the real wage response is asymmetrical and downwardly rigid, as in the French model. Positive deviations from long-run equilibrium adjust at about 3 percent within one quarter, but negative deviations cause around a 30 percent adjustment in real wage growth.

Focusing on the post-1987 period in the U.K., responses to changes away from the real wage equilibrium appear to be symmetric. Equation (11) shows that negative deviations are adjusted for at around four percent. Adjustments to positive deviations for this period cannot be discussed, since the coefficient for responses to positive deviations is not significant at the 10 percent level. Symmetry must be assumed since the null hypothesis $\alpha_1 = \alpha_2$ cannot be rejected. Looking at Equation (22), neither error correction coefficient is significant at the 10 percent level, so again over this period the real wage response to deviations away from long-run equilibrium cannot be discussed in terms of the unemployment rate.

VI. CONCLUSION

In an effort to discover why unemployment rates have been consistently higher in France than in the U.K. over the last 20 years, responses in the labor market in France and the U.K. were examined. The expectation was for the real wage responses in France to be more asymmetrical and downwardly rigid than in the U.K. If this were the case, then, the higher levels of unemployment in France might be explained.

This study suggests that the real wage responses in France are indeed downwardly rigid and asymmetrical, but the results for the U.K. showed that the real wage response there was even more downwardly rigid and asymmetrical. Unlike studies done on the labor markets of Canada and the U.S., downwardly rigid and asymmetrical real wage response does not appear to be the cause of the higher unemployment rates of France when compared to the U.K.

Then, why have the unemployment rates in France been higher? Other possible reasons could be changes in the labor supply, changes in worker productivity and changes in rate of job creation. An increase in the labor supply could cause an excess supply of labor which if not met by an increase in the number of jobs, unemployment would rise. Conversely, a decrease in the labor supply should have the opposite effect on unemployment levels. Also, if worker productivity increases and overall demand in the economy does not, then fewer workers would be needed to produce the same number of goods as before, so demand for labor would fall. And conversely, a fall in worker productivity could have the opposite effect. Also, if jobs are being created, then, demand for labor should rise and in the case of jobs being eliminated, demand for labor would be expected to fall. Maybe over this period in the U.K., more jobs were being created, or the labor supply shrank (e.g., disgruntled job seekers abandoning their search for employment), or worker productivity fell. In the case of France, maybe fewer jobs were being created, or the labor supply grew (e.g., more young workers entering labor force), or worker productivity rose. These are only some of the possible explanations as to why France has sustained a greater level of unemployment than the U.K. over the last two decades. Further studies would be needed to verify the cause. Based on this study, a downwardly rigid real wage response does not seem to be a factor for explaining this difference between the unemployment rates of France and the U.K.

FOOTNOTES

1. All econometric models and hypothesis tests were done using *EViews 3.1*. (2000). All equations were estimated using the Ordinary Least Squares procedure. Hypothesis tests performed were the Serial Correlation LM Test on residuals and the Wald Test for coefficient restrictions.
2. Data from this study for real wages, productivity and unemployment rates in France and the U.K. was collected from the journal *Main Economic Indicators/Principaux Indicateurs Économiques*. Real wages were calculated by dividing the nominal wage rates by the corresponding price level of all goods for that time period. Productivity was calculated by dividing the number of workers of each country into the GDP of that country for each time period.

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LESSONS IN SUSTAINABLE ECONOMIC DEVELOPMENT AND SERVICE ON THE DINE (NAVAJO) NATION

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ABSTRACT

A LESSON IS OFFERED IN THIS PAPER REGARDING SUSTAINABLE ECONOMIC DEVELOPMENT IN THE CONTEXT OF AN APPRECIATION FOR DISTINCT CULTURAL VALUE SYSTEMS AS WELL AS THE LARGER ECOLOGICAL SYSTEM IN WHICH DEVELOPMENT TAKES PLACE. ECONOMISTS FREQUENTLY WRESTLE WITH QUESTIONS OF VALUATION IN REGARD TO BOTH CULTURAL TRADITIONS AND THE NATURAL WORLD. SUSTAINABLE DEVELOPMENT PLANS CAN BE CALLED INTO QUESTION WHEN NATURE AND CULTURAL TRADITIONS ARE NOT GIVEN SUFFICIENT CONSIDERATION. IN SPENDING SOME TIME WITH THE DINE, WORKING ON DEVELOPMENT PLANS, AS WELL AS LISTENING TO STORIES, THIS AUTHOR LEARNED A VALUABLE LESSON CONCERNING SUSTAINABLE ECONOMIC DEVELOPMENT. IT IS A LESSON WHICH IS TRANSMITTED IN THE CONTEXT OF A STORY.

INTRODUCTION

The venue of a story, to transmit a lesson in sustainable economic development, was chosen for a reason. Economists and other professional academics who wish to work with indigenous peoples and other non-mainstream cultures must learn to listen intently to stories if they are to have any hope of success. It is through stories that many indigenous people frequently and richly communicate their values and sense of self. In order to reach beyond Environmental Economics to Ecological Economics, in order to incorporate the values of the very people who are to be benefited by economic development, economists must go beyond the standard models, perhaps beyond any models at all. A lesson is offered in this paper, in the context of a story rather than in the standard academic form, as a metaphor for what must be transcended in order to discover a sustainable economic development in harmony with indigenous cultural values both on Indian nations in the United States, as well as across the globe.

The Story

When traveling the interstate highways which transverse the arid American Southwest, one is hardly aware of the patterns of life which permeate the dry arroyos and desert canyons, beyond the distant mesas and buttes. Along the interstate, one is still ensconced in the plethora of goods and services of the preeminent consumer economy in the world today. Beyond the distant mesas and buttes that adorn the landscape with magnificence along Interstate 40, a different world emerges. It is not a world of difference, in terms of the lay of the land, the vegetation, the surrounding mountains, or the climate. It is a world of difference in terms of culture, of tradition, and in terms of Economic Development.

Spanning the Northwestern corner of New Mexico, the Northeastern corner of Arizona, and a small section of Southeastern Utah, is the largest Indian Nation in the United States. It is called the Dinétah or the land of the Dine. The Dine are more commonly known as the Navajo. The Dinétah is referred to on maps as the Navajo Nation. It is a different nation with a different culture, with different goals, and with a different level and type of economic development from the United States as a whole. The unemployment rate is roughly 44% for the entire Dinétah. Half of households or better fall below the poverty level. One third or more of all households have no indoor plumbing. The Dinétah has many economic statistics more reflective of a third world nation, than of a typical city or region of the United States of America.

The Dinétah is divided into 110 local chapters. The individual chapters are responsible for local economic development. In the far eastern reaches of the Dinétah, bordered by Cabezon peak (the monster's head) to the South, the San Pedro Mountains to the East, Chaco canyon to the North, and the San Mateo Mountains to the West, is the Torreón-Starlake Chapter; also known as the Na Neelzhiin. There are almost 2000 Dine who live on this chapter. The unemployment rate is slightly higher on this chapter than for the Navajo Nation as a whole.

Ponies and horses wander freely on the open range of the Na Neelzhiin, as do sheep and goats. These domesticated animals are owned by various families on the chapter, and provide a small measure of supplemental income. They wander and graze close to the roads, crossing at their pleasure. The stretch of paved and earthen two and one lane roads that cross the chapter allow the few travelers who happen by, an introduction to a world far removed from the typical sites one would encounter along I-40. In the center of the chapter is Torreón, the site of the chapter house, which provides offices for tribal officials, a

meeting place for tribal government and community groups as well as a service center for seniors. Also located at Torreon are a clinic, a thrift shop, and a grade school.

As I write, I am sitting with the Land Use Plan of the Torreon-Starlake Chapter of the Navajo Nation. My students, in my Economic Growth and Development class are using this land use plan as a case study in sustainable economic development. The plan contains a list of possible economic and business projects which students will analyze using benefit-cost analysis. In the land use plan of the chapter many benefits and costs are considered important. The preservation of cultural and communitarian traditions and sacred sites, as well as the protection of endangered species and wild indigenous foods are explicitly listed as goals along with business and commercial development. Ultimately the results of the analysis will be provided to the tribal council of the Na Neelzhiin. The results of the analysis are as yet, a work in progress. How I came upon the land use plan of the Chapter, and how I came to use it in my class, is a story worth telling, for it contains significant lessons in the problems and issues associated with sustainable economic development.

Several years ago, one of my colleagues at Wilmington College began a series of contacts with the Torreon-Starlake chapter. This was part of the mission of the College to foster and shape values and concerns for social justice, community activism, and humanitarian service in our faculty and students. In the fall of 2003, I and several members of my department were asked to go to the chapter in the summer of 2004, to conduct classes and workshops in management, entrepreneurship, basic finance, and economic principles for those members of the chapter who had some interest in starting a business or other commercial endeavor. At one point nearly every member of my department was committed to making the journey. Then, around February of 2004, we received word that we were no longer needed to do workshops, that workshops had already been arranged with and through the Small Business Administration. We were also told, that we were actually needed to help repair roofs and that our service would be appreciated.

Doing the workshops, essentially would have involved academics merely performing in their accustomed roles. Repairing roofs on the other hand would require stepping outside of accustomed academic roles. Almost immediately, everyone who had been willing to make the journey was no longer interested. Still, one other colleague and I were still interested in making the trip. By the time May came, the need was no longer for us to repair roofs but rather to work on a road crew. Part of me, and a fairly significant part at

that, was now in revolt against the whole idea of going. As a Ph.D. economist with so many years of teaching experience, I thought I had a higher value than working on a road crew. Internally, I was snarling, “I didn’t get a Ph.D. in Economics so I could do that.” Nonetheless I still felt drawn to go.

Much earlier in my life, I had had an intense interest in labor conditions for migratory farm workers in the United States. I had spent some time working with the United Farm Workers in their boycott of first grapes and later lettuce. I chose to spend a summer harvesting tomatoes in southern California, in order to have a first hand experience with the issues of concern to me, to really see what the work was like. The reality of working with the earth enhanced my understanding of the struggle of the farm-workers and why that struggle was important. As I waited to undertake my journey to the Dinétah, I began to recall all that I had gained from the practical experience of doing field work when I was young. I also recalled the many news reports from the 1960’s and 1970’s of American professors working in rice paddies in China, or cutting sugar cane in Cuba. Gradually the thought of working on a road crew, or repairing roofs, began to seem, at least partially appealing. If nothing else, I thought it would provide a respite from the complexities and abstractions of the academy. It began to feel refreshing.

The need for flexibility, I began to realize, was crucial if I was really going to be of service. “I can help, but I can only help in this way,” began to appear to me to be nothing more than an exercise in self-indulgence. Being of service means being willing to step outside of accustomed roles, in order to do what is needed at the time. In addition, stepping outside of accustomed roles, frequently provides an opportunity for seeing realities and circumstances that might remain hidden when not venturing forth beyond them. I began to contemplate the advantages of working on a road crew, having everyday conversations with the Dine workers and so getting to know their values and what they hold dear and sacred. Stepping outside of the academic role was starting to seem as though it would provide a great deal of insights.

I had had a research interest in American Indians, for a variety of reasons for quite some time. My specialization in graduate school had been Economic Development. At the time I was writing my dissertation I remember desiring to go for a visit to some of the countries which I had been researching for my dissertation, in order to obtain first hand information, to really touch and feel the place I was about to write about. I remember broaching the subject with my committee chairman. He said, “Why would you want to go to those places, you could get killed, you have all the data you need right here.” So I forgot

about going and actually experiencing the people and the places that I was to write about in my dissertation. At least to some extent, I have always regretted not going.

As an economist, I was trained to look at theories, and models, and data. There was no need to actually go to a place myself. There was no need to touch the earth and her people in a place, in order to understand what is needed. This is how I was taught as a graduate student. Becoming personally familiar with a place and her people was relegated to sentimentality. Only later did I become convinced that in order to understand a people, in order to understand what they value, what they derive benefit from, what they experience as a cost, one has to understand and touch the earth they walk upon. I am even more convinced of this now, after spending some time this summer on the Dinetah. I do not think this is mere sentimentality. It is absolutely essential to garner intrinsic understanding, to foster authentic connections, and to gain an appreciation and insight into how to truly be of service.

If academics are to be of service to others, whether in community activism involving social justice or just for the sake of humanitarian service, bridges have to be built between the academy and the community. Touching the earth in a place is essential to touching and understanding a people in that place. It is precisely how the gap is bridged between the academic and the community.

Nonetheless, when I finally arrived at the Chapter house, I had no idea what to expect. At first there was no one to talk to. The one colleague from my department, who had still been willing to make the journey with me, had to cancel. I was alone. I felt uncertain. I was there at the chapter house, waiting for something to happen, waiting for someone to speak with, and thoroughly doubting the wisdom of the whole journey to this place. As it turned out, there was no road crew to work on and no roofs needing repair. Here I had come all this way from Ohio and for what? First I was going to do workshops, then it was roofs, then it was a road crew, and now it looked as if I had come all of this way for nothing. Yet, ever so gradually there were opportunities to speak with various individuals in tribal government, as well as many of the people who were at the chapter house for a variety of reasons. I asked questions and I had questions asked of me. I still did not know what if anything I was going to do at the chapter that was going to be of any value.

I asked Leo Charlie, a member of the chapter, how to pronounce Na Neelzhin. Rather than answering me right away, he took me outside the chapter house. He eventually told me that Na Neelzhin meant 'marked

in dark'. It was the name for a dark fence line erected between two nearby buttes where deer and antelope were trapped and shot with bow and arrow. But first he told me a long story of how each butte got its name. He spoke of many of the high places in all of the four directions from the chapter house. It seemed that each one had its name, its story, and was in some way connected with the sacred and the spirit world. The high places where the earth and sky meet are special places for the Dine. He told me how the grass used to grow tall and lush in the river valleys and in the canyons.

Leo Charlie told me of how his Great Grandmother was forced to walk by Kit Carson, on the Long Walk of the Navajo where they were eventually interned at Fort Sumner. He pointed on the horizon from where the people were forced to walk from. He traced their path to where they were made to walk. He told me how his Great Grandmother was carrying his Grandmother who was a baby at the time. Eventually the Great Grandmother could no longer carry the baby and placed her in the arms of a Juniper tree for protection. Later, a mountain man found the baby, his grandmother, and took her to a settlement. "It took her many years to be reunited with her people, but if it wasn't for that mountain man, I wouldn't be here," said Leo Charlie. Leo Charlie took me outside to help me connect with the earth, so I could touch it. I didn't know why he took me outside until much later. At the time, I just thought he was an old man, with a gift of gab, telling long winded stories. What he did was connect me to the earth. In his words, I could touch the earth, and in touching, feel and sense the history of this place, which was his home, and the home of his ancestors. Every Dine with whom I spoke, had a family story to tell which involved harm or hurt done to them in a personal way by the dominant culture. Every Dine I spoke with related their story back to the earth.

I heard a lot of stories from a lot of people at the Chapter House about a wide variety of things. Sometimes it was in response to a question I had. Sometimes, the stories just sort of came on their own. I heard all of these stories long before I knew why I was there or what if anything they were going to put me to work on. I began to wonder what all this story telling was about. I began to devise several theories. Maybe, I thought they were just trying to entertain me, giving me what they thought I wanted to hear. No, the stories were too filled with energy, too much passion for that. The stories did contain their everyday concerns, their issues. Their stories contained worries about economic sustenance and provision of basic necessities. Their stories contained a lot of concern about the depletion of the water table and other harm done to the earth. There was too much energy and authenticity and passionate concern for today's issues, for the stories to just be entertainment for me.

Then I thought that perhaps some people were deliberately telling me such long stories as a form of revenge, to afflict me for asking a question, or to avoid an answer. Or perhaps it was some sort of test of my patience, like yes we will tell you eventually but only if you first have the patience to listen to the story. No, that couldn't be either, because I realized after the story was over, that it did answer my question. It answered my question in a whole and complete way. Maybe they were thinking that a little knowledge is a dangerous thing. In order to give an answer to a question about something today, much has to be said about yesterday, and what had been, because the past is still present and is alive in the moment. Time is vertical or cyclical. All events whether they occurred last week or many years ago are layered upon each other and exist in the present moment. In order to explain the present, much has to be said about the past as well as the present. My questions were answered not in a way to which I was accustomed, but in a way that is better and complete.

As an economist I have been trained to build models. I have been trained to isolate key variables and ignore everything else. One of the things, which I learned from my experience on the Dinétah, was that nothing should be ignored. Every person I met, every story told to me, every question answered, every place visited was woven into the fabric of my understanding of what life is like on the Reservation. It was all essential. Nothing was unimportant. Nothing could be ignored.

Much of what I heard and saw and experienced at the time did not strike me as important, but amazingly I remembered it all. Every little morsel of information, of contact, every thread of connection, is part of the tapestry of my understanding. All of it has given profound insight into how the people in this place value the earth, the landscape, the community, the Dine, the traditions, the animals, the vegetation, as well as their hopes for economic and business development. Without that insight I would have no idea what they really value and how much, because in the end it has to be their plan, their benefits, and their costs. Values are subjective. A host of non-pecuniary benefits and costs are enormously important to the Dine. Touching the earth and her people in a community is absolutely essential in order to have even an inkling of understanding of what is valued and how dear it is, for that community.

Over the course of several days, I met with many of the people who lived and worked on the Na Neelzhiin, as well as a few from Indian communities nearby. Most had stories to tell me. All had issues to raise about life on the reservation, about hopes and dreams and frustrations. All of them played an

important role in shaping and forming my understanding of life in the northwestern corner of New Mexico. Alvin, Alberta, Sal, Hope, Wally, Joe Lee, Lucy, and Laverna were a few of those I was privileged to meet and speak with. Still, at the time, I had no real idea how my understanding was being shaped or how the stories and issues the people spoke of would become etched in my memory. I had no idea whether or not I was going to be able to do some work, or to serve in some capacity.

Finally one of the tribal officials brought me into the main office and handed me the Land Use Plan, as well as several other documents and reports prepared by the tribal government. I was requested to do an analysis of the economic development plans and projects contained in the report, and more specifically to look at ways to reduce unemployment on the chapter. I spent several days looking through these reports. My expertise, as an economist, was to be used after all. I went home with the Chapter's Land Use Plan to use as a case study in my Economic Development Class. I was able to walk away with the Land Use Plan precisely because I was willing to be flexible, to do what was needed. Since I was willing to touch the land and soak up the various aspects of life on the Na Neelzhiin, as they were presented to me, I was trusted to review the plans and reports. Since I was trusted and because I made a connection and forged a relationship with the land and the people, I have some appreciation for what the people of the chapter truly value and how they value it.

Yet, I remained troubled after I left the reservation. Economic development in this location is a daunting challenge. When I thought of the incidence of poverty, the remote location, and the ways in which the Dine are at a strategic disadvantage vis a vis corporations who might have an interest in leasing land on the chapter to do business or increase employment, the challenge of economic development seemed formidable if not impossible. As I looked at the list of projects contained in the land use plan, they seemed so marginal and so modest. How could any of these projects significantly reduce the unemployment rate or raise living standards? The answer is that they can not. If economic development were so easy to do, it would have already been accomplished long ago.

So I became content with the thought that my students and I would not come up with any sort of project or solution that would dramatically alter living standards or reduce unemployment. Yet, we could be of modest help. If nothing else, connections would be made and relationships would be forged. That, in and of itself, would be our success. Yet I remained haunted by the specter of failure. I had hoped to be able to find some solution, to more significantly raise material betterment for the people of the chapter.

I was still disappointed, even while clinging to the idea that building relationships is in itself a success. I attended a Symposium on Environmental Justice in Mid-September in Tucson, Arizona. While there I presented a paper on my experience on the Na Neelzhiin chapter. I spent a good deal of time at the conference in conversation with Indians from many southwest tribes. We spoke of many things, but I did not share my feelings of lingering disappointment. The morning after the conference was finished, I awoke surprisingly freed of my lingering feeling of disappointment.

I recalled the lay of the land on the Na Neelzhiin, how the buttes are bathed in light at the brink of morning, how the desert smells with the fragrance of sage, while the cadence of birds and cicada carries on the wind. I recalled the horses with their tails fluttering and striking at the air as they graze. Actually, the reservation is quite beautiful just as it is. In the Economic development plan, sacred places and cultural traditions are to be preserved. The Dine are not looking for transformation. They are looking for modest improvements in education, in health care, and in senior services. They are hoping to preserve a communitarian spirit, while providing greater marketing opportunities for the arts and crafts of individual artists on the chapter. They are hoping to extend water lines and electricity lines so that more homes can have electricity and water. In addition, the plan calls for specific possible sites on the chapter to be developed with specific possible alternative enterprises in mind. All of the projects on the list work towards modest economic development.

The goal is to make modest improvements on the chapter. The goal is not to transform the chapter into the typical All-American suburb. The goal of the Plan is not to sacrifice traditional cultural values or compromise sacred sites, but rather to identify and preserve tradition and sacred sites. Any improvements which do not preserve tradition and sacred sites; any developments that do not recognize the web of life would not be genuine improvements or authentic developments according to the values of the Dine.

The Dine traditionally believed the earth should be left alone, unless there is an extremely good reason to disturb it. This does not preclude use of the earth, for raising crops, grazing or even mining. It does suggest that the ability to use the earth in some manner does not automatically justify such use. The earth, like animals and like people, exists for its own reasons. The earth is a living being and should be

respected. Humans can legitimately use the earth for sustenance and for making a living. Use should always involve reciprocal relationships.

In contradistinction to the Judeo-Christian tradition of exploiting and dominating nature, Dine approach the earth with respect, as people who belong to the earth. The earth is Mother or sometimes Sister. Instead of seeing the primary or sole purpose of nature in its use by humans, in the traditional belief system of the Dine, all of the elements of nature have their own reasons for being. All the elements of nature are alive and have being. All the elements of nature have and are spirit. Humans have a web of kinship with all of the elements of nature interconnecting as brother and sister. The Dine would never say when contemplating a possible use of a mountain, a river, a forest, or an animal, "Well, what else is it there for?" All that is, the earth, the mountains, the rivers and forest, has value in and of itself. It has value in its own being and spirit. In touching and respecting this spirit and being, Dine develop reciprocal relationships with all that is.

Economic Development which does not take into consideration all of the things that the people, of a place, value and derive benefit from is not authentic indigenous economic development. Deepening the appreciation of cultural tradition, the Dine language, arts and crafts, and sacred sites is in and of itself, positive economic development. In addition, deepening respect for these things can easily be shown to reduce alcoholism, suicide, and infant mortality by heightening self-esteem and self-worth. There are also spillover effects, which positively impact economic development in the more narrow or pecuniary sense. The projects on the list will yield only modest material improvements precisely because these are the material improvements, which are possible when the full range of benefits and costs are considered. They are the types of things, which would minimally affect the earth and traditional culture in an adverse manner.

CONCLUSION

The people of the Na Neelzhiin knew what they were doing in coming up with their list of projects. The projects in their plan balance the wide array of things that the people derive benefits from. Economics broadly defined considers everything that people value. Economics narrowly defined concerns itself with only goods and services traded in a market. Economic development must concern itself with the broad

definition and consider everything that people value or it is be incomplete analysis at best and hopelessly false at worst.

The Dine chose for themselves a set of projects that have a chance to modestly raise material living standards. The task of my students and I, is even more modest. It is to identify which projects have the potential for higher pecuniary rates of return, and which have a higher or lower potential to positively or adversely affect the quality of reservation life in terms of preserving culture, sacred sites, and other things of value.

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