CHAPTER 4

FINDINGS AND RESULTS

Introduction

Most of the currently accepted economic shibboleths about VOTE, and education in general, no longer appear to be generally operational. While these maxims, rules-of-thumb, slogans, and catch phrases well served the United States and its VOTE stakeholder groups for many years during the time of the expansion of heavy industry, mass production and independent family agriculture (c. 1880-1970), these now appear to be valid only under very specific circumstances and/or with significant qualifications, exceptions and limitations. These should no longer be used indiscriminately as general guides for policy making, student advisement, economic development, or as economic justification for significant personal investments of time or money. The reviewer is specifically cautioned that while this data indicates that what "Everyone Knows" and "They Say" about education and VOTE is no longer generally valid, these assumptions are projected to becoming increasingly dysfunctional and counter-productive over the next five to ten years.

Subjective quantitative data?

Several data sets which are extensively used in the following analysis are in large part qualitative, even though they are presented in numerical format and appear totally quantitative. The collectors and collators of the data have made every effort to avoid and remove any qualitative components, but factually cannot do so. The Consumer Price Index [CPI] series and Poverty Level series are perhaps the two most subject to this, and the factual basis and validity of much widely accepted governmental data, especially the

Consumer Price Index [CPI], much of the Produce Price Index[1] [PPI] series, and the Poverty Level Income [PLI] issued by the BLS, are disputed by some of the more conservative but recognized economists and socio-political organizations[2]. However a more subtle and basic problem exists in that a determination of the [human] meaning and significance must be made of even the most quantitative data. It is not enough to "prove" that the Humperdink[3] Coefficient has increased at an annualized rate of 7.2% for the last seventeen years. The researcher and reviewers must both understand what the Humperdink Coefficient portends to measure and what the significance of a 7.2% annual increase, in the past, current and likely future contexts is, and to whom, <u>if this study is to be more than an exercise in mathematics</u>.

CPI

The CPI or Consumer Price Index is an attempt to create a way to meaningfully compare costs and prices between and across different periods of time, or to state it differently, a way to measure the "value" of money[4]. It is obvious to most people that the apparent or perceived value of money continually decreases in that the prices for the "same" goods seem to continually increase, albeit at different rates at different times for different items.

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[1] There is also a comparable index maintained for producers. This is the Producer Price Index or PPI. It is interesting to note that over time it appears that one unit of money has developed different values for producers and consumers.

[2] For example the Cato Institute [available: http://www.cato.org/]

[3] To the knowledge of this researcher there is no "Humperdink Coefficient." This name was chosen to represent the multitude of coefficients and indici that are in current use.

[4] This is a wonderful post-modern problematic or de-construct, which is asking in effect, if money is a measure and store of value, then "what is the value of value?"

To attempt to measure or quantify this change The Bureau of Labor Statistics created a standard "market-basket" of typical consumer goods and services such as a loaf of bread, a gallon of milk, a pound of hamburger, a gallon of gasoline, a car, rent on a typical apartment, mortgage rates and points, a sofa, a washing machine, insurance, haircuts, and so on. The BLS then has shoppers price these items every month in a large number of locations across the United States. Through a complex mathematical process, the proportionally weighted prices of the items in the standard "market -basket" are then combined and a "total" calculated. This total is compared to last month's total, and under the assumption that the actual or real value of the goods and services are the same, the change in the value of the money is calculated. A complication is the variation in seasonal demand. For example, the cost of sun tan oil and jumper cables is different in July and January. This requires a seasonally adjusted market-basket.

As complex and subjective as this process is, for example what products / services to include and what weighting factors to use, structural changes in the economy and culture introduce additional complications which increase with time. For example, the introduction of new products (VCRs, Personal Computers, Saranwrap), disappearance of old products (typewriters, LP records, eight track tapes), changes in retail channels (Walmart), the introduction of private or generic products in competition with name brand products, and changes in consumer demand / taste.

Nevertheless, it is obvious that long-term economic analysis requires that the current value of money be restated in constant value dollars if meaningful inquiry is to be done. As the CPI is the most widely recognized data set, even with the above limitations, it was used when conversion to constant value dollars was indicated. Where this was

done, the current dollar (not corrected for inflation) data, if available, was also included and charted.

POVERTY LEVEL INCOMES

If possible, the determination of Poverty Level Incomes, or PLIs is even more subjective (and contentious) than the CPI. Some of the more conservative writers contend that unless a person is starving and naked in the street, they are not poor. To others, a person that is unable to sustain a suburban middle-class life-style including a new "soccer-mom" mini-van or SUV is "poor." Because of United States Income-Tax laws and withholding, the reported cash incomes of all full time wage earners is available. This can be combined with income tax return information such as the number of dependents, to accurately calculate the distribution of incomes for individuals and family units. To this point, this is primarily quantitative data with little subjective input, although even here there is some controversy. Some writers claim that the non-reportable income value of activities such as the production of food in home gardens and medical care obtained at "free" clinics should be included in their "adjusted" gross incomes when calculating poverty statistics. The grossly subjective element is the determination of the income cutoff point for "poverty." The minimum acceptable levels of food, shelter, clothing, medical care, and so forth have been (subjectively) determined by investigators with input from several groups and organizations. For example, how much and what types of food and clothing does a person require. The money necessary to purchase the goods and services required to meet this minimum is calculated for individuals and families, and this determines the "official" poverty level income or when combined with area / state income data, the area / state poverty rate. One complication is that these costs are very different

for separate areas of the country. For example the cost of "adequate" heating and clothing in rural Mississippi or Louisiana is considerably lower than for up-state New York or Minnesota urban areas. Again, from a pragmatic perspective, roughly equal numbers of investigators and organizations are claiming that the poverty levels / rates are too high and too low. The exact poverty numbers are not particularly important for this study. What is significant is that the governmental definition of a severely Spartan life-style[5] as "poverty" has remained reasonably constant (through 1996 when the criteria were revised), and thus provides a useful benchmark, independent of the CPI, for determining changes in economic status / level of the population. A time-line table of the more notable political and economic events from the end of World War Two through 1996 is included at the end of this chapter to assist the reviewer.

Some common but incorrect assumptions

"EVERYBODY KNOWS" AND "THEY SAY": THERE IS A LABOR SHORTAGE

This is possibly the core or heart of this entire study. It appears to be taken as a article of faith by most VOTE practitioners and most members of the VOTE stakeholder groups that a long-standing shortage of competent and qualified employees has existed, exists, and will continue to exist, in the United States. When combined with the basic tenant of free market economics, the law of supply-and-demand, this produces a readily testable hypothesis. Specifically, in a general construction or logical syllogism:

1. The law of supply-and-demand states in a free market that if a shortage of a commodity or service exists, the price for that service or commodity will rise.

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[5] At least from the average middle class perspective.

2. There has been, is, and will be a shortage of labor.
3. Therefore the cost of labor (wages) has, is, and will be increasing.

There are three substantially independent data sets which will allow the validity of this syllogism to be tested. These are:

1. Median employee income in constant value dollars. If there is indeed a labor shortage, the income levels should rise.
2. Percentage of full-time employees at or below poverty level income. If there is indeed a labor shortage, the fraction of people below the poverty line should decrease because of increased wages.
3. Unemployment rates. If there is indeed a shortage of employees, the long-term unemployment trend should be down.

AND THE FACTS ARE...

1. From the median employee income in constant value (1996) dollars data as presented in the following chart medearn.xls (source: U. S. Bureau of Labor Statistics)
   - 1.1. The maximum male median income was $37,184 in 1973. From the trend-line, the peak value was in 1980 at about $36,000. The trend line is steeply down.
   - 1.2. The maximum female median income was $23,795 in 1990. From the trend-line the peak value was about $23,000 in 1992. The trend line is flat.
   - 1.3. The much touted reduction in gender wage disparity appears to be due almost entirely to reduction of male income rather than any increase in

female income, which is projected to be essentially flat to 2010 at about $22,500.

1.4. In approximately 2004, male and female median incomes will be equal at about $23,000, with male median income falling below the female income after this date. Social and cultural problems likely to result from this are discussed in the appendix in the section titled “Changing gender roles in the American Workplace.”

1.5. A very serious anomaly or singularity in the projected male median income is indicated after 2000 because of an increasingly rapid loss of income beyond this point. If the trend lines are followed, the median male income will be below current individual poverty levels in about 2012 and the median male income is projected to fall to zero in about 2020. This is highly unlikely, but does indicate highly unstable and turbulent conditions should be expected. This is discussed in greater detail in chapter five.

2. From the percentage of full-time employees (1973-1996) at or below poverty level income data as presented in the following table and chart 1 povwages.xls source: U. S. Bureau of Labor Statistics

2.1. The minimum fraction of full time employees with incomes at or below the poverty level was in 1973 at 13.7%. The maximum fraction of full time employees with incomes at or below the poverty level was in 1995 at 31.6%.

2.2. There is a consistent increase in the fraction of full time employees with incomes at or below the poverty level of about 0.25% per year over this period.

2.3. The number of full time employees with incomes at or below the poverty level are projected to increase from about 1 in 4 in 1975 to about 1 in 3 in 2004.

2.4. A somewhat arbitrary division was made by setting 75% of the federal poverty guide-lines as a criteria for significant poverty. Furthe r examination of this data as detailed on chart 2 povwages.xls indicates that the fraction of full-time employees with incomes significantly below the federal poverty guide lines has been increasing with time. That is in addition to having an increasing fraction of poor that are working full-time, the poor are getting even poorer. Using this criteria, as indicated in chart 3 povwages.xls the lowest fraction of full time employees with incomes below 75% of the federal poverty guide lines as a fraction of all full time employees with

incomes at or below the poverty level was in 1979 with 18.4%. The highest fraction was in 1992 with 49.8%. The trend line is not favorable in that the fraction at or below 75% of poverty income is increasing at a rate of about 0.22% per year. This data appears to indicate that VOTE efforts specifically targeted at the poorest poor such as displaced homemakers and minorities under a series of Federal programs such as Comprehensive Employment and Training Act [CETA], the Job Training and Partnership Act [JTPA], Worker Adjustment and Retaining Notification [WARN], Business Economic Support Act [BESA], Economic Dislocation and Worker Assistance Act [EDWAA], and Clean Air Employment Transition Assistance [CAETA] have not been effective. Of course, the argument can be made that even though "poverty" has increased things would have been even worse without these programs.

2.5. Thus not only is the fraction of full-time workers earning less than poverty wages increasing, the fraction of full-time workers earning significantly less than poverty wages (defined as 75% of federal guide lines) is even more rapidly increasing.

2.6. The recent "improvements" in poverty rates do not appear to be the result of any basic or structural economic changes but rather are due to changes in the definition (1996) of poverty.

3. From the unemployment (1948-1994) rate data as presented in chart 1 unemp.xls

Source: U. S. Bureau of Labor Statistics

3.1. First a caveat for the reviewer. While the best available, this data is not consistent across the time period indicated. The "revisions" to the method and definitions used to calculate this rate uniformly tended to reduce the reported rate, and as the data indicates the trend is up, not down, the only affect of these modifications is to understate the rate of increase. In about[6] 1980, personnel in the armed forces were included for the first time in the number of individuals considered to be gainfully employed full time. In about 1983, civilian prisoners who were employed (most of which are paid at the rate of 10 to 25 cents per hour) were also counted as being gainfully employed full-time. This despite the fact that prisoners are excluded from the total of adults who are looking for work. As far as is known to this researcher, none of the other OECD[7] countries count individuals in these categories as being "full-time gainfully employed," therefore unemployment data from other industrialized countries is not directly comparable. Because the United States has a significant fraction of its adult population of working age in either the armed forces[8] (c. 1,500,000) or in prison[9] (c. 1,200,000) this results in an artificially lower

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[6] Because of the difference between calendar year and fiscal year and the phasing in of the revisions, the exact date of implementation is difficult to pinpoint.

[7] Organization for Economic Cooperation and Development. Major European industrial countries, America, and Japan are members.

[8] The World Almanac and Book of Facts 1999 p207

[9] The World Almanac and Book of Facts 1999 p 891

unemployment rate relative to other industrialized [OECD] countries. Additionally, the definition of "adults who are actively looking for work" has been regularly revised with the effect that this quantity is minimized, compared to the relatively stable OECD definitions. Operationally, the current U. S. definition is that if an individual has exhausted their unemployment benefits and are still unemployed, they are not "actively" looking for work and thus are not counted in the unemployment statistics.

3.2. The unemployment rate is markedly cyclic. The lowest recorded unemployment rate since WW II was 2.9% in 1953. The highest rate was 9.7% in 1982. Thus the current unemployment rate of about 4.5% is not unusual or exceptional. Two observations from chart1 unemp.xls:

3.3. The trend line indicates a continuing increase with the cyclic changes imposed over it. The base increase is about 0.06% per year from a starting point of about 4.25% in 1945. Significant dips below this line appear to coincide with periods of high military activity such as the Korean War, The Vietnam War, and Reagan Military build-up.

3.4. The "swings" or variation in employment between the high and low points of successive major cycles appears to be increasing, although these data covers only a few cycles.

3.5. The time between the high and low points appears to be decreasing, that is the rate of change is becoming faster, although these data covers only a few cycles.

3.6. In summary, the unemployment rate is going up, not down, the magnitude of change between the high and low points of successive major cycles are increasing, and the duration of major cycles has decreased indicating more rapid rates of change or greater instability.

"Everybody Knows," and "They Say": While there might not be a general shortage of labor there was, is and always will be a shortage of skilled employees with post-secondary training and college degrees.

It appears to be an even more firmly held article of faith by most VOTE practitioners and most members of the VOTE stakeholder groups that a long-standing shortage of competent and qualified employees as defined as those with post-secondary training and college degrees has existed, exists, and will continue to exist, in the United States. ***The earnings of employees with post-secondary training / education is of particular interest as this includes the majority of current VOTE participants***. Again, when combined with the basic tenant of free market economics, the law of supply-and-demand, this produces a readily testable hypothesis. Specifically, in a general construction or syllogism:

The basic law of supply-and-demand states in a free market if:

1. A shortage of a commodity or service exists, the price for that service or commodity will rise;
2. A surplus of a commodity or service exists, the price for that service or commodity will fall; and
3. When supply and demand are in balance, the price for that commodity or service will be stable.
4. The claim is there has been, is, and will be a shortage of "good" employees, that is employees with post-secondary training and college degrees.
5. Resulting in the following conclusion: the cost of labor (wages) for employees with these qualifications has, is, and will be increasing.

Another governmental data set is available to test the validity of this syllogism and highly popular assertion. The Bureau of Labor Statistics has collected and issued median earnings by educational attainment for the period 1973 through 1996 although this is in current dollars. Combining this data set with the Bureau of Labor Statistics CPI data generates the same data set in constant value (1996 CPI) dollars. This data is contained in chart 1 / edwages.xls

chart 1 / edwages.xls goes here

And the facts are...

Examination of chart 1/ edwages.xls indicate the following points:

1. The only group with a trend-line with a positive slope indicating an actual shortage and thus increasing wages for this 24 year period are persons with post-baccalaureate degrees. A caveat is that this apparent increase may not be due to increased wages per hour but rather additional work time at the same rate or income from non-employment sources such as investments and stock options.
2. The flat trend line for persons with baccalaureate degrees indicates that the supply of such employees is in balance with the demand, despite any claims to the contrary.
3. The consistent and continual decrease of about 6 cents per hour per year in the inflation adjusted median hourly wage received by individuals with post-secondary but not baccalaureate training / degrees clearly shows that there is an excess, not a shortage of employees with these qualifications over the entire 24 year period examined.
4. An even greater excess of individuals with a high-school education relative to demand is indicated by the greater average loss in their median hourly wage rate of about 8 cents per hour per year from a lower starting point over the entire 24 year period examined.
5. The group with the greatest over-supply relative to demand is that with less than a high-school education. The loss in the median hourly wage rate for this group is about 12 cents per hour per year from a still lower starting point over the entire 24 year period examined.

6. This clearly indicates the problems in attempting to increase wages by only improving educational / training levels without other corresponding changes in the economic infrastructure. For example, if by some magic individuals with less than a baccalaureate degree are transformed into individuals with a baccalaureate degree, the only affect will be to flood the market for employees with a baccalaureate degree, reducing this groups wages, and destroying this group's current stability of income, in effect redistributing, not increasing total income.
7. Other observations:
    7.1. By 1991 the median hourly inflation adjusted wage rate for individuals with a high-school education had fallen to that of a 1973 high-school non-completer or drop out in constant value dollars.
    7.2. In 2014 the median hourly inflation adjusted wage for individual with post-secondary training / education but not a baccalaureate degree is projected to fall to those of a 1973 high-school non-completer or drop out.

Why does this popular misconception persist?

The most general answer is that humans tend to retain comforting and desirable beliefs regardless of their factual basis. Additionally, this particular perception was supported by the apparent correctness or validity of this assumption for many years when:

1. Most of the products, goods, and services consumed in the United States were produced in the United States;
2. A growing manufacturing infrastructure did indeed have a need for expanding numbers of increasingly skilled and more highly qualified employees;

3. Especially when this was combined with the diversion of large numbers of 18 to 25 year old males from the civilian job market into the military;

   3.1. where these males were primarily from the socio-economic classes that traditionally provided the bulk of skilled blue collar workers, and

   3.2. were largely selected for their "employability" traits such as the ability / willingness to follow direction, promptness, neatness, loyalty, manual dexterity, physical condition and intelligence.

A more specific, and for this study more useful, answer is that the phrase "labor shortage" has quite different meanings to the general public and a small group of individuals engaged in an arcane discipline called "Labor Economics." While there is no "smoking gun" it appears that much of the support for a continuing belief in the existence of a general or qualified labor shortage has been produced by researchers in this and other closely related fields. The crucial difference is that "Labor Economics" has introduced the criteria of "Skill(s) Premium" to determine shortage/surplus rather than using the more common test, as used above, of rising/falling prices (wages). Many Labor Economists use a theoretical construct of a base, background or minimum wage in a society, and define "Skill(s)[10] Premium" as that amount of additional wages that the employer must pay to obtain adequate numbers of employees with the particular skill, over and above the base wage. In the United States it appears that most Labor Economists define the base wage as the "minimum wage" established by federal law. By their definition if the "skills premium"

[10] Apparently because skills tend to occur in clusters, the plural seems to be the most common usage.

is non-zero, this indicates a labor shortage for that skill. To complete this analysis it is now necessary to first examine another popular belief:

"Everybody Knows," and "They Say": The U. S. minimum wage just keeps going up.

The Bureau of Labor Statistics and other resources provide data for the United States legal minimum wage from 1954 to 1996. Indeed, the minimum wage has increased in stair-step fashion from $0.75 per hour in 1954 to $5.25 in 1998. However these data is in current year dollars. Combining this data with CPI (inflation) data also from the BLS allows the calculation of the hourly minimum wage in constant value (1996 CPI) dollars which gives a much different impression. These data and a graph of the results is presented in chart 1 - minwage.xls on the following page.

chart 1 - minwage.xls go here

In constant value (1996 CPI) [CV] dollars the highest minimum wage was in 1968 at $7.21 per hour, and the minimum in 1989 at $4.24 per hour. From the CV dollar data there appear to be two distinct phases: (1) from 1954 to 1968 where the minimum hourly wage did indeed rise at the rate of about 19 cents per hour per year; and (2) 1968 to 1996 when the minimum hourly real[11] wage rate fell at the rate of about 10 cents per hour per year. The key point in the following discussion of "Skills Premium" determined labor shortages is the falling real value of the minimum wage, however the reviewer may wish to consider the following points:

- The Least Squares Best Fit [LSBF] linear trend line for the current year dollar minimum wage has a high R^2 of 0.953 indicating a good fit.
- Because of the increase and then decrease in the CV dollar minimum wage it was necessary to use a second degree LSBF trend line to obtain a good fit. This line has a relatively high R^2 of 0.689.
- The current (1996) real minimum wage is about where it was in 1954/55[12] which calls into serious question the often repeated claims that an over-paid American work-force and excessively high minimum wages are retarding economic growth / development and reducing "competitiveness."

By combining the CV dollar minimum wage data (minwage.xls) with the median hourly CV wage by educational data (edwages.xls) it was possible to create a new data set

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[11] Because of increased taxes and reduced benefits the decrease is greater than indicated from the "raw" hourly wage rate.

[12] Because of grossly higher taxes and reduced benefits such as medical insurance between 1954/55 and the late 1990s the decrease as perceived by the individual is also understated. If "net disposable income" is considered, the drop to 1964/55 levels occurred several years before, and the rate of decrease in the minimum "net disposable income" is even more rapid than this graph indicates.

edwage2.xls. Two graphs were generated from this data. The first (chart 1 - edwage2.xls) presents the actual (1974-1996) and projected (1997-2018) earnings by educational attainment and the minimum wage using LSBF 1st degree trend lines. The second graph (chart 2 - edwage2.xls) presents the "skills premium" by educational attainment as a percentage of the minimum wage above the minimum wage for the same time periods. An example will make the calculation clearer. The minimum wage in 1974 was $6.37 in CV 1996 CPI dollars. The median hourly wage for high-school non-completers in 1974 was $10.96 in CV 1996 CPI dollars. Subtracting the minimum wage from the median wage leaves a "skills premium" of $4.59. Dividing $4.59 by the minimum wage of $6.37 indicates a "skills premium" of 72% of the minimum wage. This procedure was repeated for all entries in the combined data set. The reviewer should note that by this procedure the CPI index values are "divided out" and thus do not affect the final results.

chart 1 - edwage2.xls goes here

chart 2 - edwage2.xls goes here

The following points are cogent.

1. Because the median wages of all groups were above the minimum wage in the reporting period, all groups had a non-zero “skills premium,” thus indicating a “labor shortage” for all groups when using the “Labor Economists” definition.
2. Because the CPI “value” of the minimum wage is falling more rapidly that the “value” of the median wage of all groups, all groups have a rising “skills premium,” thus indicating an increasing “labor shortage” when this is used as the criteria.
3. It should be noted that by this definition, the slight rise in the trend line indicates an existing and increasing shortage, although only a minimal one, even for high-school non-completers.

Employment in the Goods and Service Sectors of the United States Economy

A contributing factor to the trends presented above is the change in the composition types of employment available in the United States. The BLS has maintained records of the number of people employed in both the goods producing and service producing sectors. These date are presented in tabular and graphical format in Chart 1 - SECTOR.XLS on the following page.

Chart 1 - SECTOR.XLS goes here

The following points are important:

1. By number or head-count, the number of manufacturing jobs have remained relatively constant at about 22 million.
2. Almost all job growth since 1946 has been in the service sector, from about 42 million in 1946 to about 119 million in 1996.
3. Because of the increasing population and resulting workforce, the percentage of people employed in the production of goods has fallen from a high of 41.4% to a current (1996) 20.3% while the fraction of the full time workforce employed in the service sector has increased from 58.9% in 1946 to a high of 79.7% in 1996.
4. The trend lines of the fraction employed in these sectors has a very high R^2 (coefficient of correlation) of 0.9879.
5. While the service sector does have many high paying jobs such as medical doctors, lawyers, accountants and stock brokers, the bulk of new service employment appears to be in low wage / low benefit jobs such as fast food, medical / elder care, and discount / convenience market retail sales which require minimal skills and training.

As the next fall-back position -- "Everybody Knows," and "They Say": Education is <u>the</u> way to increase the Quality-of-Life

The generation of valid testable hypotheses for this common belief are possible, but are also more subjective, as the meaning of "Quality-of-Life" tends to have very personal meanings. The challenge then is to select some criteria that can be both quantitatively and unambiguously measured and that most people will agree represents at least a significant factor in the indeterminate and vague construct "Quality-of-Life."

As before, the syllogism used to generate the testable hypothesis is:

- "Education" improves the "Quality-of-Life."
- Some states have higher levels of education.
- States with higher levels of education therefore have higher "Qualities-of-Life."

As indicated above, educational attainment as measured by the fraction of the population which completed high-school and college by state is available from the Department of Education. While somewhat simplistic, one easily determined factor in the "Quality-of-Life" factor is "life." That is if a person dies, that tends to be very quantitative, and the death rates for various age groups by proximate cause are available from the U. S. Bureau of the Census. The last available data was for 1995. The age group chosen was young adults which are defined to be 17-23 years of age, and the proximate causes were (1) total death rate per 100K, (2) accidental death rate per 100K, (3) homicide death rate per 100K, and (4) suicide death rate per 100K. The total death rate also includes a category described as "other" which only a few states used (which was omitted) so the total death rate is very slightly higher in some cases than the sum of categories 2-4. This data is presented in graphical format in the following pages.

Chart 1 here

chart 2 here

chart 3 here

chart 4 here

The District of Columbia was included in this data even though it is not a state. On all of the charts this was the "outlier" data point. The District was included for several reasons:

1. The District of Columbia contains about 600 thousand people, and thus has about the same number of people as North or South Dakota, and about twice the people of Wyoming.
2. The inclusion or exclusion of the District changed the R^2 and F-ratio test results by only minuscule amounts.
3. The large and growing disparity (of income) within the District provides an example of the affects that such growing disparity can be expected to have on the aggregate social, economic and political structure. This point is discussed in greater detail in the following section on the Gini coefficient.

As would be expected from the very small R^2 values, the F ratios between the young adult death rates and the educational levels as indicated below show no correlation. These F-ratios were calculated from the data (in tabular form in the appendix) using the MicroSoft Excel spread sheet program and are summarized below. As all of these values are less than one there is no significant correlation.

Per Cent of Population w/	YA Accidental death rate	YA Homicide death rate	YA Suicide death rate	YA Total death rate
HS diploma	5.94E-55	3.4E-52	2.65E-21	4.21E-67
College Degree	2.5E-56	1.43E-53	1.41E-22	1.76E-68

One of the most basic "Quality-of-Life" measurers would appear to be the death rate, particularly for young adults. As indicated above there is no statistically significant positive [favorable] correlation between a state's educational attainment measured as the fraction of its population with either a high-school diploma or college degree and its death rate for young adults from accidents, homicides, suicides, and total from all causes. While there may be may be some "Quality-of-Life" measure positively correlated with the fraction of the population with either high school or college degrees, it appears that this would be an example of "data-mining" to locate or discover a rationale or justification for a cause-and-effect correlation that has been assumed *apriori* because of ideological or political considerations. Some plausible rationales can be offered for the observed trend lines, although as indicted by the R^2 and F-ratio values, these are not statistically significant.

- The total young adult death rate may decrease with increasing educational attainment because the educational attainment tends to be higher in urban areas. It is known that one of the most hazardous occupations is farming, and rural young adults, from an area with lower educational attainment, are logically more likely to engage in this activity.
- The apparent young adult suicide rate may increase with increasing educational attainment for several reasons. Authorities in rural areas may be more reluctant to report a death as a suicide or disturbed young adults may be prone to migrate to urban areas with higher educational attainment.
- The young adult homicide rate may decrease with increasing educational attainment, again because higher educational attainment is concentrated in the

more urban areas with stricter control of and more limited access to fire arms. The apparent increase with higher college attainment is an anomaly caused by the combination of an exceptionally high young adult homicide rate and an exceptionally high proportion of college graduates in the District of Columbia. This should emphasize the need for exceedingly careful analysis.

If the only operational factor in improved "Quality-of-Life" was the "average" level of educational attainment, the District of Columbia, with 38.2% of the adult population holding baccalaureate or higher degrees, would be the most livable city in America. The problem is, of course, the aberrant disparity of almost every measure of social and economic attainment. This point is elaborated in the following sections.

I'M BUSTED...

Because the indications of the immediately preceding section are so directly contrary to common sense and conventional wisdom, a second quantitative evaluation was made using a different independent data set. The Federal Reserve Board, an independent but quasi-governmental agency, maintains records of the number of bankruptcy cases filed in the United States. These data are available by year, by state, and by chapter or type of bankruptcy. When combined with other governmental data such as the state and total populations of the United States (Bureau of Census data) and individual states and educational attainment levels (U. S. Department of Education data) a new data set identified as BKRP3.XLS was created which allowed the following plausible statements to be verified or disproved:

(1) Improving educational levels have resulted in increased incomes, therefore more people are able to pay their bills and thus the bankruptcy rate[13] has fallen.

(2) Increased educational attainment improves an individual's ability to function in society, and the level and growth of their area economy, independent of income[14], therefore the higher the educational attainment level, the lower the bankruptcy rate.

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[13] Because of the change in U. S. And state populations from 1980 to 1996, the raw numbers need to be converted to a rate for meaningful comparison.

[14] In the sense of being able to do more with less.

Chart 1 of BKRP3.XLS goes here

Chart 1 of BKRPT1.XLS goes here

Chart 2 of BKRPT1.XLS goes here

AND THE FACTS ARE:

Examination of chart 1 of BKRP3.XLS indicates overall or nationally that rather than falling, the bankruptcy rate has increase at an annualized rate of about 175 filings per million (c. 11.6% of base) between 1980 and 1996. Between 1980 and 1985 the filing rate was stable at about 1,500 per million. By 1996 this had almost tripled to about 4,000 filings per million. This rate is projected to quadruple to about 6,000 per million in about 2007.

Chart 1 of BKRPT1.XLS plots the bankruptcy rates vs. percent of population with a college degree by state for 1995 (latest available data) This chart indicates the expected decrease in bankruptcy rate with increased education, but the correlation coefficient R^2 is 0.0185, thus while these results may be indicative and highly desirable, no statistically significant correlation exists.

Chart 2 of BKRPT1.XLS which plots the rate of non -business bankruptcies vs. per cent of state population with at least a high school diploma by state for 1995 (latest available data) does indeed indicate the expected trend of decrease in rates of bankruptcy with increasing education attainment, however the R^2 correlation coefficient is 0.0515 which does not indicate a statistically significant correlation.

"EVERYBODY KNOWS," AND "THEY SAY": EDUCATION IS THE KEY TO ECONOMIC GROWTH AND DEVELOPMENT.

Construction of a logical syllogism to produce a testable hypothesis from this belief or perception is certainly possible , however the selection of and mutual agreement on evaluation criteria and input data to test the validity is more difficult, because it is subjective. One of many possible constructs is:

1. Education is the key to economic growth / development.
2. Some states have higher proportions of high school and college graduates than do other states.
3. Therefore states with higher proportions of high school and college graduates will have higher economic growth rates.

Three data sets were located that could be used to test the validity of this syllogism. "Educational attainment by state as percent of high-school and college graduates" was downloaded from the U. S. Department of Education, and the Gross Domestic Product by state for the period 1977-1994 was download from the Bureau of the Census. These were combined in the dataset GSPV4 and the annual change in GSP was calculated. A third dataset was download from the Fortune magazine website and saved as edstat01.xls. This data set contains the average state manufacturing wage and the current rate of high-school completion for 1991. This data allows two inter-related statements directly relate to the above "conclusion" to be tested:

(1) Increasing state high school completion rates [15] will help increase state (manufacturing) wages; and

(2) Increasing the proportion of the population which have completed high-school and/or college will improve a state's growth rates.

[15] Reviewer Note: The numbers between these charts are not directly comparable. "The Nations Report Card" data understates the number of functional graduates in that it excludes GED and students that returned. Also the relationship may be the reverse of what is commonly assumed, that is higher industrial wage rates may "cause" higher high-school completion because the student income available by dropping out is not required by their family and/or the student does not have to work two jobs and so has time to complete their GED.

Chart 1 / GSPV.XLS goes here

Chart 2 / GSPV.XLS goes here

Chart3 / GSPV.XLS goes here

Anova: Single Factor Avg state mfg wage and % pop w / HS

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
% HS grad	51	37.743	0.740059	0.006314
Mfg Wage	51	619.84	12.15373	1.822528

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between	3321.931	1	3321.931	3632.824	2.02E-80	3.936151
Within	91.44209	100	0.914421			
Total	3413.373	101				

Anova: Single Factor State growth rate and fraction adults with baccalaureate

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Growth Rate	51	134	2.627451	1.733631
% Col grad	51	1170.3	22.94706	27.09174

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between	10528.6	1	10528.6	730.5095	9.14E-48	3.936151
Within	1441.269	100	14.41269			
Total	11969.87	101				

Anova: Single Factor State growth rate and fraction adults with HS diploma

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
Growth Rate	51	134	2.627451	1.733631
% HS grad	51	4224.8	82.83922	23.85563

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between	164065.1	1	164065.1	12822.97	2.2E-107	3.936151
Within	1279.463	100	12.79463			
Total	165344.6	101				

AND THE FACTS ARE ...

The combined data set of educational attainment and annualized change in state GDP is included in the appendix as GSPV4. Examination of this data indicates:

- As indicated by the preceding ANOVA summary table there is a significant correlation between the fraction of a state's population with a HS diploma and the average hourly manufacturing wage. Unfortunately the affect is weak, with an increase of one percent in the fraction of adults with a HS or greater diploma expected to result in increase on only 2.38 cents per hour. It is not at all clear if a causal relationship exists, and if so which is the independent and which is the dependent variable. It seems just as likely that the levels of education in a state are higher because of the higher wage rates as it does that the wage rates are higher because of a greater fraction with a high school diploma. (Chart 1 / GSPV.XLS)
- While the preceding ANOVA summary table does indicate a statistically significant relationship between the fraction of a states adult population and its annualized rate of growth, as indicated by a R^2 value of 0.0004, there is only a minimal affect in that a one percent increase in the fraction of the population with at least a High-School diploma will not result in any detectable change in the states growth rate. (Chart 2 / GSPV.XLS)
- Both the ANOVA summary table and a R^2 value of 0.1052, indicates there is significant relationship between the annualized change in GSP and the fraction of the population with a baccalaureate or higher degree. Unfortunately the indicated relation is *negative*. That is for every one percent increase in the

fraction of a state's adult population with a baccalaureate degree the growth rate is expected to decrease by 0.8% (Chart 3 / GSPV4.XLS)

- While not isolated and identified in this data, because VOTE in one sense is "between" a high-school diploma and a 4 year baccalaureate degree, this data appears to strongly indicated that <u>there is currently a minimal relationship between the fraction of the population with VOTE education / training and changes in the state GDP</u>.

ONLY 2% OF AMERICANS MAY CURRENTLY FARM, BUT 100% OF AMERICANS CURRENTLY EAT....

As the other surviving entity of the triad on which VOTE under Smith-Hughes was founded, Farming / Agricultural Education [AgEd] warrants at least a short discussion in a study of this type. A significant segment of AgEd at the university level has transformed itself into a type of "industry[16]" which differs only in that its primary inputs are biologically produced grains, fruits, meats, fibers, et cetera, rather than the commonly perceived commodity industrial inputs of metals, plastics and chemicals. Employees in this sector are almost totally wage labor with no or minimal entrepreneural or ownership stake in their employing organization. Because this segment of AgEd is operationally identical to that of the more traditional (industrial) VOTE it will not be considered separately.

Excluding the "industrial" category of AgEd, a major difference between AgEd and most other segments of VOTE is that AgEd appears to assume that its graduates, especially at the secondary and community / junior college level, will in the long term

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[16] See http://www.wheatworld.org/forum11.htm, http://www.econ.ag.gov/AboutERS/aaea.htm, http://ekolserv.vo.slu.se/(sv)/Docs/www/Periodicals/Leopold/leo9404_1

largely be self-employed entrepreneurs in that they will own or lease the means of production, that is land and equipment and will largely be self directed. Currently this is not totally correct. For example, most farmers rely on banks for operating capital, and bankers will not lend money for totally speculative or impractical activities, for example establishing a banana plantation or raising guáraná as a field crop in Oklahoma. Additionally, the practice of "contract production" whereby the farmer or rancher contracts in advance with the buyer for delivery of their products, for example chickens[17], in exchange for price stability, advice, and access to technology and credit, is increasing[18] which further limits their freedom of action. Never-the-less the presumption by both the teacher and the learner that the typical AgEd graduate anticipates in the long-term being an independent self-directed contractor, a small scale capitalist / businessperson and a self-employed entrepreneur appears to be substantially correct.

The three major legal[19] American field crops are: Wheat, Corn and Soya Beans. The following crop information was obtained from the National Agricultural Statistical Service and Economic Research Service of the United States Department of Agriculture and the CPI / inflation data was obtained from the United States Bureau of Labor Statistics. The following points are common to all three of the following discussions:

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[17] A good example of this is the Tyson Corporation.

[18] As this practice becomes more common so do reports of abuse and exploitation of the farmer by the contracting company. For examples see http://www.rafiusa.org/poultry/june97.html, http://migration.ucdavis.edu/rmn/Horwitz2.html, http://migration.ucdavis.edu/Rural-Migration-News/JanRMN98.html, http://www.animalpepl.org/97/5/farm.html, http://members.aol.com/IowaLegal/corpfarm.htm,

[19] Cannabis Sativa or Marijuana is now widely reported to be the major cash crop in a number of states including Arkansas and Missouri and a major income source in depressed agricultural areas such as Appalachia in many other states . This appears to be primarily due to a highly effective, albeit highly expensive, "price support program" operated primarily by the United States Drug Enforcement Agency and effective governmental actions to limit cheap imports from third world countries.

1. There are three types of costs commonly used in the Department of Agriculture and NASS management studies: (1) Total cash cost, (2) Total cash cost with replacement, and (3) Economic costs. It was determined that across time small but continual alterations have been made in the definitions of and the line-items included in each of these categories. The overall affect of this has be to subtly distort the data over time by reducing these costs similarly to the way the United States unemployment rate has been reduced by including the members of the armed forces and employed prisoners[20] in the working population contrary to the accepted practice of almost all other countries. Very simplified and condensed definitions of these three "costs" are:

    1.1. Total Cash Cost -- what the farmer spent out of pocket for seed, fuel, fertilizer, pesticides, taxes, insurance, and so forth. Note that the value of the farmer's labor is considered to be zero.

    1.2. As above, but includes the estimated pro-rated costs to replace worn machinery and equipment necessary to remain in business.

    1.3. As above, but also includes opportunity cost of computed value of the investment in land, buildings, equipment, and so forth. Roughly this adds the amount of money the farmer could have earned if he had invested in T bills or money market funds rather than owning farm land and equipment to the total cash cost plus replacement.

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[20] Typically paid $0.10 to $0.25 per hour with deductions for previously "free" items such as medical care and soap.

1.4. Any "profit" that the farmer earns is the difference between these costs and what he can sell the crop for. His per hour earnings is this amount divided by the total numbers of hours worked to produce and harvest the crop.

2. In all cases, a continual overall decline in prices has occurred from 1946.

3. Examination of charts and tables located in the following pages indicates substantial problems in the very near future for wheat (wheat1.xls) and corn (corn01.xls) in that their price is projected to reach zero in about 2010, while soy beans (soyb1.xls) will require another 10 years to reach zero price. Of course, a zero value will never be reached, but the data indicates prices for all three crops have been at or below the economic cost for some time, wheat and corn are at or below the total cost plus replacement value, and corn is currently very close to the total cash cost.

4. Neglecting the skewing effect of the very large number of small (low income) farmers, the use of averages indicates that one-half of the farmers are above and one-half are below these numbers. The use of a measure of central tendency less susceptible to skewing such as the median would simply indicate that the numbers "below average" would even be higher. This indicated that very large numbers of farmers would be much better off economically[21] selling the farm and equipment,

[21] If prices for which the crops can be sold are at the three costs as defined this indicates that the farmer is working for nothing as no profit was generated. Indeed, if the prices is below the economic cost, the farmer is subsidizing food costs for the consumer even if there is a positive cash flow under the other two definitions.

investing this money in T bills and getting a job with benefits[22], even at minimum wage.

5. The current low[23] interest rates have a very significant impact on the three cost values. Even if a farmer is one of the small minority that has sufficient capital and no need to borrow money, any significant increase in interest rates will cause a corresponding increase in the total economic cost because of the increased income possible by alternative investment, and will result in a decreased demand and lower prices because of the resulting economic contraction.

6. Exactly the same conditions exist in animal husbandry. Currently the sector most at risk is swine production. A very poignant anecdote indicates the da ngers inherent in this sector. Roughly a decade ago, a corn farmer carefully analyzed his operation and the status of agriculture with the help of his banker and county extension agent. It was determined, using b-school "buzz words" that basic commodity crop production was not expected to be profitable and that he should convert to a "value-added" agricultural operation. After considerable additional study, it was determined that large scale swine production using the cheap corn produced by the other farmers would be the best option. Therefore the farmer borrowed large sums of money and converted his corn farm. The actual results are indicated in the chart hogs1.xls which shows the consistent decline in hog prices

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[22] Of course, if large numbers of farmers do this, the resulting gross oversupply of labor will further reduce the already low and falling real wages and the resulting influx of capital will drive down the interest rates. This is another example of the Case/Generic dichotomy.

[23] See historical interest rate data under T-Bills in the following pages. The current interest rates (1999) are actually at about the historical average and are low only in comparison to the usurious prime / treasury rates (c. 15%) of the late Carter and early Reagan administrations.

from 1980. Indeed, even when not adjusted for inflation, current prices (February 1999) of less than $7.00 per cwt. are lower than those paid during the Great Depression. For completeness, a comparable chart for cattle prices is included. While these prices have not yet reached the crisis levels that the swine prices have, it is clear that a consistent decline is also taking place in this sector. Indeed, as more of the swine producers switch to cattle production because of abysmal swine prices, cattle prices will drop even faster than projected because of the increased production relative to demand.

In summary, while a few individuals possessing exceptional talents, an abundance of luck, large amounts of capital and who specialize in niche markets such as tulip bulbs or Belgian endive may make a great success in agriculture in the coming years, the typical individual attempting to operate in general or commodity agriculture as self-directed independent entrepreneur, owning or controlling their means of production, is highly unlikely to survive and prosper.

EQUITY AND DECENCY?

The foregoing material should cause the knowledgeable and attentive reviewer to question not only how this applies to the goals and expectations of VOTE participants, but also how and what this implies for the culture and society which has these trends and existing conditions. This question could easily be not only a dissertation in itself, but could be an entire doctoral program, nevertheless certain correlations and trends in general cultural / social behavior with the above economic material can be summarized in a few pages. These correlations, given the existing trends, are ominous and are developed

specifically to alert the reviewer to some of the more fundamental and innate social problems that should be expected to intensify if existing economic trends continue.

The economic trend of greatest concern to this researcher is the rapidly increasing mal-distribution of income. Particularly as this is not primarily due to increases in individual income of the highest income groups, although this is a significant factor, but rather because this is largely the result of significant reductions in individual income for the lower 80% of the population. This has many economic consequences, such as the concentration of ownership and control of productive assets into fewer and fewer hands, which in turn appear to produce highly undesirable social, political and cultural changes. Data on the distribution of income in the form of quintile income distribution for the years 1947 through 1994 were obtained from the U. S. Census Bureau as part of their p60 series of current population reports. This data was in current year dollars and when combined with CPI data from the U. S. Bureau of Labor Statistics allowed easy comparison across this period and extrapolation to 2020. This data is presented in income.xls. Please note the following points: (1) this is gross, before tax income and does not factor in the greatly increased income, sales, and other taxes / fees, and loss of employer paid benefits such as health insurance and (2) because this is family income, the increase in the number of working family members is not apparent. The quintile income data is how much income did 20%, 40%, 60%, 80% and 95% of American *families* earn in each of the years. For example, using the data from INCOME.XLS, in 1970, 20% of American families had a combined before-tax income of $5,400 or less in constant value 1994CPI dollars, 40% had an income of $12,000 or less, 60% had a aggregate income of $17,600 or less, 80% had an income of $23,800 or less, and 95% of all American families had a family income

of $40,900 or less. This data is presented in a graphical format on chart income.xls. The following points are important:

1. ***In spite of the immense amounts of money, time and effort expended at all levels on education, training and VOTE from 1947 to 1977, the income levels and distribution for the bottom 80% of the American families remained essentially static.*** This is consistent with Tussing's dichotomy of the individual / case vs. the aggregate / generic models of economic improvement. In other words, in the aggregate improvements made in the income level of one family were offset by income reductions in another family, and family income was being redistributed, not increased. A contributing factor could have been the rise in single parent families and displaced home-makers as a result of social / cultural changes such as implementation of "no fault" divorce laws in this period. Of course, the argument can be made that without the massive investments of time, money and effort in traditional academic education and VOTE, conditions would have been much worse.

2. **Beginning in 1977, the 60th and lower percentiles began an increasingly rapid loss in aggregate family income.**

3. It appears that up to about 1985 the decreasing individual median wage indicated in other sections of this chapter was being offset by the employment of additional family members and/or increases in the number of hours / jobs that the family members were working. (See hours.xls) From about 1985, compensations or adjustments of this type were no longer practicable and total family incomes began to fall. This is consistent with the increase in non-business bankruptcy rates which

began in 1985 (See chart 1 / bnkrpt3.xls) although this is complicated by a concurrent revision of the federal bankruptcy laws in 1985.

4. From 1947 to 1957, the 95th percentile family income fell from $43,000 to $40,400 per year, from 1957 to 1977 the 95th percentile family income was static at about $41,000 per year, beginning in 1977 the 95th percentile limit began an accelerating increase to about $47,000 in 1994, and is projected to increase to $50,000 in 2003.

While informative, data in this format is somewhat cumbersome. In 1905 Conrad Lorenz, an American statistician, developed a method to consolidate this type of distribution data into a single index or coefficient. [Todaro 184] This curve or function is now called a Lorenz curve and the value is the Gini coefficient. Using a slightly different data set, the distribution of individual adult income, the United States Census Bureau has calculated the Gini coefficient and makes this data available in their p60 Current Population Reports series. This is presented in both tabular and graphical format in gini.xls.

gini graph and tables goes here

The reviewer's attention is directed to the following points:

1. A Gini coefficient of zero indicates perfect equality of income, a coefficient of 1.00 indicates one individual has 100% of all income or perfect inequality.
2. While there are a few variations about the trend line, the U. S. Gini coefficient decreased from a 1947 value of about .37 to a low .35 in 1966 (19 years) where it remained for 3 more years. In 1970 it began to rise at an increasing rate. By 1981 (11 years) it was back to where it had been in 1947 and in 1994 the Gini coefficient was .43 (latest available data).
3. Because of the decrease followed by an increase in the Gini coefficient, a 2nd degree polynomial LSBF trend-line was indicated. The calculated trend line has a high R^2 value of 0.8999 indicating a high degree of correlation between the predicted and actual values. This trend line was extrapolated to 2020.
4. Because the Gini coefficient is a recognized economic measure and is currently consistent across many studies, national Gini coefficients can be compared. It should be remembered that what is being compared is the equality of income distribution and neither the relative or absolute levels of income. The reviewer's attention is directed to the following points:
    4.1. Of all major industrialized [OECD] countries, the United States has the highest current Gini index, 0.426 in 1994. This indicates that the despite common American self-perceptions of equality and a classless society, American income is more unequally distributed than in countries we perceive to be highly élitist such as the United Kingdom, France or Italy

and much more unequally distributed than the more socialist countries such as Norway and Sweden.

4.2. Data indicates that except for the United States, the Gini coefficients for all other OECD countries are tending to fall, indicating more uniform distribution of income. The more socialist countries, with very low initial Ginis, have had small rises in their Gini coefficients, but this seems to have been the result of increased income for the higher income groups, not falling income for the lower income groups.

4.3. The countries indicated on the GINI.XLS graph have Gini coefficients as indicated. For example, the Gini coefficient for Singapore in 1994 was .39 or what the U. S. Gini coefficient was in 1990. In 1993, the United States had a Gini coefficient of 0.429 which is the same as Equador. In 2000 the U. S. Is projected to have the same Gini coefficient as the Philippines currently does, in 2012 the U. S. Gini is projected to match that of Venezuela, and in 2019 the U. S. Gini is projected to pass that of Brazil and match that of Guatemala.

4.4. The appears to be significant correlations between the Gini coefficient and many “Quality-of-Life” factors such as the crime rates when measured by country. The much higher crime rates in urban areas with high disparity of incomes (that is a high local Gini coefficient) such as New York City and the District of Columbia in comparison to the country as a whole reinforces this perception.

4.5. While it is simplistic to suggest that there is an exact correlation or "cause and effect" between the Gini coefficient and social conditions, that is when the U. S. Gini coefficient reaches .513 which was that for Columbia in 1991, the social, economic and political conditions will be the same, it is clear that as the Gini coefficient increases, perceived "Quality-of-Life" by most measures decreases. Crime can be contained or even reduced with an increasing Gini coefficient as shown over the last few years in the United States, but only at the cost of massive increases in the number of people incarcerated, additional law enforcement personnel, increasing governmental intrusion and monitoring, and personal security costs such as home and auto burglar alarms.

4.6. As indicated on chart 4 / taxtime1.xls, the individual tax rate as per cent of income has a significant positive correlation ($R^2 = 0.351$) to the Gini coefficient in the United States. That is as the Gini coefficient increases, so do the individual tax rates. To paraphrase Rousseau's observation in his essay "Political Economy" *The poor cannot pay [taxes], the rich will not pay [taxes], so the entire cost of the state must be borne by those who are neither rich nor poor*.

The distribution of taxes and the distribution of income

As indicated in the previous section, increasing individual tax rates as a fraction of income appear to be significantly and positively correlated with the Gini coefficient. Because the U. S. Gini coefficient has consistently increased from 1968 it should be possible to examine the apparent correctness of this assertion as well as Rousseau's

aphorism. The Internal Revenue Service maintains data on the amount and sources of federal government income which is presented in 96cro4ps.xls in graphical and tabular format in the following pages. A private group has calculated the individual total tax rate as a fraction of income which is presented in taxtime1.xls

taxtime1.xls goes here

The following points are important:

1. Despite the falling real median wages, which by trend-line peaked in 1982, individual tax rates continue to climb from about 32% in 1982 to about 36% in 1997. The LSBF trend or regression line has an R^2 of 0.882 and individual tax rates are projected to continue to rise into the next century, even as the base wage declines. (That is increasingly regressive tax rates)
2. On Chart 4 / 96crop4.xls, in current year dollars, the amount of individual taxes collected has increased, and is projected to increase much more rapidly that the amount of corporate taxes collected. The increase would be less steep in inflation adjusted CV dollars, but the relative rates of increase would be the same.
3. To avoid the use of the CPI index to calculate constant value dollars, to which some researchers object as being overstated, the ratio of corporate taxes to individual taxes was calculated and plotted on chart 1 / 96cro4ps.xls. Note the following points:
    - 3.1. At the highest point (1966) for every one dollar collected in individual federal income taxes, corporations paid $0.50. The lowest ratio was in 1983 when corporations paid only about $0.18 for every $1.00 paid by the individual tax payer. While this increased to about $0.25 per $1.00 in 1996, the LSBF trend line, with an R2 of 0.567, is clearly down at a rate of about $0.006 per year. While it is unlikely that a ratio of zero will ever be reached, it is clear that corporations (employers) contribute less to the operation of government with every passing year, compared to the individual.

3.2. The Federal government collects a verity of taxes in addition to income taxes. When corporate income and profit taxes are examined as the fraction of total federal government revenues[24] (chart 2 / 96cro4ps.xls) a similar pattern emerges. From the tabular data, the largest fraction was in 1966 when corporate income and profit taxes provided 23.5% of all federal revenue. The lowest point was in 1983 when only 9.8% of all federal revenue was provided from this source. This has rebounded to about 12.7% in 1996 (last available data) but the LSBF trend / regression line is clearly down at the rate of 0.3% per year with a R^2 value of 0.687

3.3. Duties and Tariffs provided a substantial amount of revenue to the federal government, and this was largely paid by the importing corporations. Ratification of NAFTA and GATT are gradually eliminating this revenue, which must be provided by the other tax payers. There does not generally appear to be an offsetting reduction in price on the imported consumer goods such as clothing. A local anecdotal example of this is the maintenance of the same prices for Dickey brand shirts and pants even though manufacture has shifted from the United States to Guatemala as indicated by the garment labels, first as "US made parts assembled in Guatemala," then *Hecho en Guatemala* (Made in Guatemala).

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[24] This eliminates the use of the CPI index to allow comparison across time.

What is the value of value?

The use of the Consumer Price Index [CPI] to convert variable value dollars to constant value dollars to allow meaningful comparisons across time has been discussed. The Bureau of Labor Statistics also maintains a Producer Price Index or PPI, which tracks the change in the relative value of the dollar to the producer or manufacturer using a somewhat similar process. The PPI, as has the CPI, has been updated and improved over time. The original PPI had 3 components, this was increased to 10 in 1947, 12 in 1962, 13 in 1969, 17 in 1974 and 18 in 1978 where it remains is today. The PPI and CPI data was combined into one dataset ppiaco.xls. The BLS category "PPIACO" is a weighted combination of the component PPI indici and corresponds to the overall CPI index. The year end (December) values were extracted for the period 1947-1998 (1998 November data) and plotted on chart 1 /ppiaco.xls.

Note the following points:

1. Up to about 1980, there was very close agreement between the PPI and CPI, that is the consumers (employees) and the producers (employers) were using money that while it decreased in value, it was substantially the same decrease for both groups.

2. Beginning in about 1980, the CPI and PPI values began to diverge, with the result that the consumer (employee) and employer (producer) began to perceive money as having different "value," and these "perceived" differences are increasing with time.

3. Far from being a esoteric bit of data, this appears to provide a plausible and qualitative reason for the increasing perceptions of "unfairness" by many employees. The ratio between the composite CPI and PPI indici are presented on chart 2 / PPIACO. Note the following:

    3.1. Up to 1963, the CPI was below the PPI with the affect that the employee / consumer tended to perceived the value of the dollar they received to be greater than the employer / producer perceived it to be.

    3.2. Between 1963 and 1973, the CPI was greater than the PPI, with the result that the employee / consumer tended to perceive the value of the dollar they received to be less than the employer / producer perceived it to be.

    3.3. Between 1973 and 1982, the PPI was again greater than the CPI, with the employee tending to perceive the dollar to be worth more than their employer.

3.4. From 1983 to the present the employee's perception of the value of a dollar has steadily fallen below the employers perception at an increasing rate. Currently (1998) one dollar as perceived and paid by the producer / employer is perceived to be worth 74 cents by the employee.

3.5. Using the LSBF trend- or correlation- line ($R^2 = 0.7632$) the tendency of the employee to under-value (or the employer to over-value) the wages paid is projected to continue and increase into the future.

3.6. This tendency to under-value will exist when ever the observer has mainly CPI perception of the value of money. Specifically, in the case of taxes paid by the producer / employer, even if the collector (government) does not have this perception, the average citizen in the community is likely to so perceive.

4. Because the entire BLS PPI data set was downloaded, the internal "consistency" of the component PPI indici could be investigated. This data is presented in a series of charts.

4.1. Chart 1 / PPIALL charts the minimum and maximum PPI values. Note that some economic segments and their corresponding PPI have fell steeply to about 60 in 1986 have recovered to only about 70 (Crude Energy Materials - Oil) indicating that their products are less highly valued (less money per unit) compared to past or historical relationships to other products, while other segments have consistently increased PPI and are currently above 140 (finished goods less energy), indicating that their products are over-

valued (more money per unit) when compared to past or historical relationships to other products.

4.2. Chart 2 / PPIALL plots the range from the minimum to the maximum PPI year-end value. As would be expected, there was some variation year to year between economic sectors and their particular PPI, but from 1945 through 1965, there was a consistent range of 20 points, from minimum to maximum PPI indici. The divergence slowly increased from 1965 to 1972 to about 30, when it took an abrupt jump to about 70. This then fell to about 40 in 1979. The PPI indici were "renormalized" and reset to 100 in 1982[25]. Four years later in 1986 the range again spiked to 58 and has closely followed the trend line to the current range of 80. (1998)

4.3. This phenomena, despite its apparent obscurity, has considerable importance for VOTE. Most of the highly publicized productivity "problems" and "gains" appear to be due to the affects of the industry specific PPI rather than any actions or activities of the employees or VOTE. For example, assume that in 1982 the Crude Energy Materials [CEM] sector had implemented a 5 year program to increase productivity by an average of 5% compounded for all employees, and had met this goal. Assuming the same number of employees, the total output in units would have increased to 127.6% of that in 1982. However because the CEMPPI fell from 100 in 1982 to 60 in 1987, the gross expected income based on

[25] The chart plots year end (December) values, When PPIs were "renormalized" the average" year was used, so min/max values are not the same on the chart.

127.6% of 1982 production in terms of current dollars would have fallen to 76.6% of 1982. So was there a 27.6% increase or a 23.4% decrease in average individual productivity? **If there was a decrease, how much and what types of VOTE or other employee (worker) actions / activities could have prevented it?**

Employer (private sector) data

1. As a measure of "profit," stock prices as measured by the Dow-Jones Industrial Average in current year dollars indicates an essentially continuous increase. This increase is particularly rapid after 1983, which perhaps coincidentally was the year when the CPI adjusted median income began to fall. As indicated on chart 1 / DJ1900M.XLS, the LSBF curve for the period 1900-1997, was exponential (R^2 = 0.9285) indicating a compound growth pattern with an annual increase of about 4.5%. The index from about 1982 was far above this curve indicating a far greater than historical rate of growth.
2. The CPI inflation adjusted DJ index, as presented on chart 4 / DJ1900M.XLS, indicates a very different picture. From the end of WW II to about 1962, the index showed a consistent increase from about 700 to about 2900. From the peak of 2900 in 1962, the index showed a consistent decrease to about 900 in 1982. From this low, it rapidly and consistently increased to an inflation adjusted high of 4600 in 1997. Again this rapid increase coincides with the decrease in the inflation adjusted median wage.

3. Charts 3 and 5 /DJ1900M.XLS present the above current and CV DJ ind ex data using a logarithmic Y axis to emphasize the rate of change. It can be seen that there are three distinct periods. 1945-1965, 1966-1982, and 1983-present. This provides support for the accretion model introduced in chapter 5. The period 1945-1965 would appear to correspond to the dominion of heavy industry and mass production, 1966-1982 to the ascendancy of "cannibalistic" or "value extractive" capitalism, and 1983 to present the position of trans- or multi- national capitalism at the top of the food chain.

4. While not directly part of VOTE, corporate bond yield data is also included as this not only provides additional data to evaluate the employers' circumstance but also examines another "they say" and "everyone knows," specifically that interest rates are at historic lows. Chart 1 of corpbond.xls presents the historic corporate average nominal bond yields from 1857 to the present. Examination of this data indicates that the lowest corporate bond interest rates were actually during WW II at about 2.5%. The current rates of about 5% are about the average bond rate for this period. Chart 1 / INFCBND.XLS presents the inflation adjusted corporate bond rate plotted for the period 1913-present (using available BLS CPI data). At the end of WW II (1946) the inflation adjusted interest rate without tax affect was about 2.5 %. This increased steadily to about 1978 when it reached 8%, or a increase of about 0.17% per year. This abruptly jumped from 8% in 1978 to 13% in 1981 or about 1.67% per year. The inflation adjusted yield has since decreased from 13% in 1981 to the current 6% or about a -0.4% per year. To emphasize

this rate change and to support the accretion model, corporate bond yields are also plotted with a logarithmic Y axis.

ADAM SMITH IN THE THIRD MILLENNIUM ...

After the initial shock, surprise and disbelief of the discovery that so much of what "everybody knows" and "they say," about VOTE in particular and education, economics and government in general, is at best non - and to a considerable degree counter-productive dissipated, a further review of the literature indicated that persistent and continual work has been done in these areas. The problem was that these researchers did not look at the situation as a whole, and apparently because their conclusions were contrary to popular knowledge and desires they were (and are) largely ignored. One of the earliest critical analysis was Railroad Transportation, Its History and Its Laws by Yale political science instructor Arthur Twining Hadley published in 1885, detailed the inapplicability of the 1817 Ricardian theory of free enterprise as applied to industries having large permanent investments, either in the sense of not being easily liquidated or easily used for the production of a alternative good or service. Not only was Hadley's book widely read, but he also testified before a Senate committee drafting an interstate commerce bill in 1887. Hadley's key points were:

1. The 1817 Theory of Free Enterprise as developed by Recardo, requires that capital be free to shift from less profitable to more profitable investments.
2. While this was largely true in Recardo's time, the newer technologies such as railroads and steel making both require huge capital investments in comparison to anything in Recardo's time and lock this capital into assets which:
    2.1. can not easily be used for anything else;

2.2. can not easily be liquidated; and

2.3. which cost (almost) as much in upkeep when not operating as operating.

Hadley's 1885 insights into not only domestic but international trade and commerce are remarkable. Some of the more useful passages, which apply to today's problems are:

> If it becomes possible for me to sell my goods in markets five thousand miles distant, it becomes possible for a hundred other producers in a dozen different parts of the world to do the same thing, and compete with me at almost every point. Of the conditions under which my competitors are working I can judge but imperfectly; of mistakes which they are likely to make, I can hardly judge at all. No one producer can judge of the aggregate supply and demand of the world. If a few reckless producers make a mistake, it means not merely local over-supply, but over-supply in every market, a fall of prices everywhere. The ruin of a few drags down all the rest into cutthroat competition. In this over-production, real or apparent, railroads are not merely the instruments but the sufferers. The causes which lead to increased prices and increased production. lead to the multiplication of railroads beyond all reason. When prices fall, railroad charges have to be reduced to unremunerative figures in order to retain any business at all. And railroads have not the refuge, available in most other lines of business, either of contracting their capital or of driving their competitors of business. A railroad once built is come to stay. It can neither retire from business voluntarily, nor be forced to do so by any other competitor. Drive it into bankruptcy, and it only fights the more strongly and recklessly. [P20]

This excerpt seems to provide powerful arguments against allowing "unregulated international commerce" or "free trade."

> Until about 1850, it was assumed that railroad business was subject to the same laws as any other business, and in particular to the so-called laws of competition, by whose free action rates would be brought down to cost of service. It was gradually seen that this assumption was not strictly true ; that in many instances it was very far from the truth. A railroad differs from many other business enterprises, in the existence of a large permanent investment, which can be used for one narrowly defined purpose, and for no other. The capital once invested, must remain. It is worth little for any other purpose than the one in question. A railroad cannot contract its capital merely because it does not pay ; nor can it be paralleled at short notice when it happens to pay remarkably well. In these respects it differs quire sharply

> from a bank or a store ; and, to a certain extent from a factory. The different lines of business -- bank, store, factory, railroad -- for a series, at one end of which we have an elastic business capital, which can be readily expanded or contracted, while at the other end we have a large permanent investment of "fixed" capital, which cannot thus adapt itself to the wants of trade. ... The early political economists were for the most part men who had made a special study of banking business. David Recardo, the man who did more that any one else to give English political economy its present shape, was himself by profession a banker. *He was thus led to treat capital as something not fixed, but freely circulating, which could be at once withdrawn from a business when it became unprofitable.* In the case of a factory this is by no means true ; in the case of a railroad it is absolutely untrue. [P40-41]

This observation would seem to have applicability to much of today's business and industry, from the manufacture of wide body aircraft, computer chips and automobiles to fiber optics, the Internet and cell phone communications.

> Ricardo's theory was based upon the assumption that when payment fell below the cost of service active competition would cease. His theory fails, because far below the point where it pays to do your own business, it pays to steal business from another man. The influx of new capital will cease ; but the fight will go on, either until the old investment and machinery are worn out, or until a pool of some sort is arranged. [P72]

This appears to be an excellent argument for strictly limiting the length of time an organization can operate under the bankruptcy laws. The airline industry (Eastern, Texas Air, Continental and Braniff) shows how this can be abused, and even economic sectors such as the savings and loans are also vulnerable. One year may be appropriate for the largest organizations with less time provided for smaller organizations or organizations with grossly disparate asset : liability projections. One useful requirement would be the immediate liquidation for any business that entered into a new bankruptcy within 5 years of the last one.

> Labor is in the market like any commodity ; its price is largely determined by competition and this too often takes the form of cut-throat competition. A workman working for starvation wages is like a factory or a railroad

> running for operating expenses. In flush times the workman get comparatively good wages; he marries, and is able to support a family in reasonable comfort. The family becomes a fixed charge upon him ; and it is of the utmost importance to society that he should be able to meet his fixed charges in this respect. But a commercial crisis comes, and the demand for labor diminishes. Men who have no family to support come into direct competition with him. He can better afford to work for what will keep body and soul together that not to work at all, even though his wages are brought so low that his children parish for lack of food which should give them strength to resist disease. And so wages are brought down to the starvation minimum, only to rise above it after long years of waiting and misery. The workman seeks relief in combination ; but combination is far harder for him that for the capitalist. Where there are ten factories to combine, there may be ten thousand workman to be held together, -- not to speak of the almost unlimited floating labor supply which may be brought in at any point. The law will not help him. If the law regards the pool with disfavor, it regards most of the manifestations of trades-unionism with absolute hostility. No wonder that our workman try to change the law ; no wonder that they call for special statutes against labor importation ; no wonder that they seek to limit the supply in the market by a universal eight -hour law. [P78]

Considering that this was written in 1885, it is remarkable that we still have the same problems of: (1) a livable minimum wage; (2) striker replacement; (3) uncontrolled immigration; and (3) hostility to and restrictions on unionization.

HOW DOES THIS RELATE TO THE VOTE STAKEHOLDERS' EXPECTATIONS AND OBJECTIVES LISTED IN CHAPTER TWO?

Summary

To a large extent, it appears that much of what "Everybody's Knows," and "They Say" are now not only castles in the air, but are castles constructed of bricks made of Jell-O, laid out using rubber rulers. The basic utility and soundness of post-modern deconstruction is clearly demonstrated in the preceding sections where the basic definitions of words were examined and the assumed principal of cause and effect examined, in the sense that the difficulty in determining which was the cause and which was the effect was explored.

Implicit and explicit VOTE stakeholder goals versus current reality

THE LEARNERS AND (PROSPECTIVE) EMPLOYEES GOALS AND EXPECTATIONS (FROM CHAPTER 2)

- *Improved incomes, improved working conditions, and decreased work loads as a result of their improved knowledge, skills, and methods. (Working smarter not harder in the modern idiom.)*

  The Current Reality: As indicated the male median income is falling and the female median income is flat. The reduction of the wage differential between male and female employees seems to be more the result of falling male wages than increasing female wages. Hours of work are increasing, and benefits are being reduced. Employment security also falling. Reported reductions in poverty and unemployment levels appear to be more the result of re-definition than actual improvement.

- *Increased employment opportunities because of new industries made possible by the existence of adequately skilled and educated labor.*

  The Current Reality: Employment opportunities in other than low-skill low-pay service jobs is decreasing. (See chart sector.xls) Manufacturing and industry jobs continue to be eliminated or exported even as the population increases.

- *Improved social and economic status by changing from "unskilled" to "skilled" labor status.*

  The Current Reality: As indicated in the "Skills Premium" section,

every effort is being made to "de-skill" jobs to minimize cost and reduce product / output variation.

- *Pride in making American products better than, or at least as good as, any produced in the world.*

  The Current Reality: High-tech and commodity manufacturing and production facilities continues to leave the United States.

- *Pride in (appropriate) participative citizenship by more effectively taking part in activities to improve their community by improving their communications and organizational skills and knowledge of the world.*

  The Current Reality: Increased working hours and decreased leisure time has reduced participation in service clubs and other volunteer activities. Feelings of alienation continue to increase as indicated by reduced voter turnout. Newspaper polls indicate citizen belief that government will act in their best interests is at an all time low.

As indicated, the major objective of the employees or workers for participating in VOTE, indeed education in general, was to improve their economic and thus social status. In this context, both the wage level and the stability of employment are important. When the inflation adjusted median wages and other indicators such as poverty and bankruptcy filing rates are considered, in the aggregate, it does not appear that these objectives are being met. While it is true that there is considerable incremental change in income between levels of educational attainment, it appears that those changes result from the redistribution of income rather than any actual increase in overall earnings. Despite their

falling real median income, the bottom 80% of the population as measured by income are absorbing an ever increasing fraction of the cost of government.

The employers Goals and Expectations (from Chapter 2)

- *Adequate or at least an increased supply of trained labor*
- *Increased profits by maximizing production and minimizing waste using existing plant and equipment because of improved employee qualifications and competence.*
- *Increased profits through the introduction of new or improved technology and products made possible because of the availability of trained and educated employees*
- *A workforce that "understood" the realities of industrial life and would support (or at least accept) it, thus minimizing labor unrest, sabotage and work stoppages.*
- *A desire resulting from both self-interest and patriotism to have the American economy as independent as possible, and to produce goods better than, or at least as good as those produced anywhere. The intent was to minimize the need to import and maximize exports.*

The employers now have a very short agenda. <u>They wish to maximize profit.</u>

In the following analysis it is assumed that the employer is a corporation, which is largely correct. The above data indicates:

1. The supply of qualified employees with high-school diplomas, post-secondary education / training, and baccalaureate / advanced degrees, as measured both in

absolute numbers and as proportion of the population is at an all-time high and continues to increase.

2. The CPI adjusted minimum wage has fallen since 1966, despite periodic increases in the current (nominal) dollar minimum wage.

3. From 1973 the CPI adjusted median wages for employees in all categories below the baccalaureate degree fell indicating an increasing surplus of such candidates.

4. The CPI adjusted median wage for employees with a baccalaureate degree has remained constant from 1973 to the present indicating an adequate supply of such candidates, in that supply and demand are about equal, and there is no shortage.

5. Only in the category of employees with advanced degrees, masters and above, does the inflation adjusted median wage show an increase in wages indicating a "shortage." *Even the broadest definition of VOTE does not include this category.*

6. Complaints and concerns about the low rates of increase, and in some cases reductions in employee productivity, appears to be largely the result of changes in the prices of the commodities as measured by the PPI index, rather than any real changes in unit productivity per employee.

7. The share of the cost of government paid by corporate income and profit taxes continues to decrease and is projected (although it is unlikely) to reach zero in 2020.

8. Because of the reduction and elimination of import tariffs and duties under NAFTA / GATT, both the absolute amount and relative proportion of these taxes have decreased, further reducing the share of the cost of government paid by corporations.

9. As a measure of "profit," the Dow-Jones Industrial Average in current year dollars indicates an essentially continuous increase. This increase is particularly rapid after 1983, which perhaps coincidentally was the year when the CPI adjusted median income began to fall. As indicated on chart 1 / DJ1900M.XLS, the LSBF curve for the period 1900-1997 was exponential ($R^2 = 0.9285$) indicating a compound growth pattern with an annual increase of about 4.5%. The actual index from about 1982 on was far above this curve indicating a far greater than historical rate of growth.

10. The CPI inflation adjusted DJ index, as presented on chart 4 / DJ1900M.XLS, indicates a very different picture. From the end of WW II to about 1962, the index showed a consistent increase from about 700 to about 2900. From the peak of 2900 in 1962, the index showed a consistent decrease to about 900 in 1982. From this low, it rapidly and consistently increased to an inflation adjusted high of 4600 in 1997. Again this rapid increase coincides with the decrease in the inflation adjusted median wage.

11. Charts 3 and 5 /DJ1900M.XLS present the above current and CV DJ index data using a logarithmic Y axis to emphasize the rate of change. It can be seen that there are three distinct periods. 1945-1965, 1966-1982, and 1983-present. This provides support for the accretion model introduced in chapter 5. The period 1945-1965 would appear to coincide with the dominance of domestic heavy industry and mass production capitalism , 1966-1982 with the dominance of "cannibalistic" or value extraction capitalism, and 1983 to the present with trans-national capitalism.

12. While not directly part of VOTE, corporate bond yield data is also included as this not only provides additional data to evaluate the employers' circumstance but also examines another "they say" and "everyone knows," specifically that interest rates are at historic lows. Chart 1 of corpbond.xls presents the historic corporate average nominal bond yields from 1857 to the present. Examination of this data indicates that the lowest corporate bond interest rates were actually during WW II at about 2.5%. The current rates of c. 5% are about the average bond rate for the period 1857-1998. Chart 1 / INFCBND.XLS presents the inflation adjusted corporate bond rate plotted for the period 1913-1998 (using available BLS CPI data). At the end of WW II (1946) the inflation adjusted interest rate without tax affect was about 2.5 %. This increased steadily to about 1978 when it reached 8%, or an increase of about 0.17% per year. This abruptly jumped from 8% in 1978 to 13% in 1981 or about 1.67% per year. The inflation adjusted yield has since decreased from 13% in 1981 to the current 6% or about a -0.4% per year. To emphasize this rate change and to support the accretion model, corporate bond yields are also plotted with a logarithmic Y axis on the following chart.

13. To sum up for the (corporate) employer, since 1982:

    13.1. Median male wage rates are falling, female wage rates are static

    13.2. Their share of the cost of government (taxes) is falling

    13.3. The value of their company, which implies profits, as measured by the Dow-Jones Index of stock prices has never been higher

    13.4. The cost of equity capital is low because of the high IPO share prices

13.5. The current cost (1998) of borrowed capital is about the average that it has been since 1857.

The Goals and Expectations of the public at large as government (from Chapter 2)

- *National Defense considerations specifically armament production*
- *Other National Defense material considerations such as food, communications, transportation, and clothing*

  The Current Reality: For the above two items, VOTE no longer has significant affect because much of the materials and machines required to utilize the skills, education and training are no longer domestically produced. Based on the tremendous numbers of layoffs at aero-space and other defense contractors, even those with backorders such as Boeing, the availability of trained man-power far exceeds the current demand or capacity. Steel as a basic commodity is now largely imported and specialty alloys such as René41, Inconel, Hastaloy and special steels such as HY110 and HY150 are now being dumped by foreign producers such that even this niche capability is being destroyed. The required machine tools to process this material in general are also no longer domestically manufactured, and the electronics required to operate the newer CNC equipment is largely produced abroad. Other critical components such as RAM chips, computer hard disk drives, LCD displays, and electro-optical components are also not domestically produced. Indeed, even such

basic commodities as uniforms and boots are becoming a concern as domestic production capacity continues to fall. A recent example is the transfer of most production of Levi's[26] to off-shore factories and sub-contractors.

- *Economic independence by domestic production rather than import*
- *Increased domestic economic activity by domestic production*

  The Current Reality: The ever increasing trade deficit indicates that these goals are not being attained. The de-industrialization of America and the ability to obtain services such as data entry and computer programming from foreign sources at far lower prices indicates that VOTE, at best, can have only a limited (delaying) affect. Recent increases in economic "activity" seem to be driven more by financial speculation by upper income groups than by any actual increase in the production and consumption of beneficial goods or services by the majority.

- *Increased revenue by broadening the tax base, not increasing rates*

  The Current Reality: Because of the reduction in the number of individual with higher paying industrial and manufacturing jobs, proliferation of "not-for-profit" organizations such as the National Football League that are largely exempt from taxes, elimination of tariff and duty revenues because of NAFTA and GATT, and the export or

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[26] Jones, D. (1999, February 23) What caused Levi's blues? USA Today B1-2.

liquidation of American factories, the total tax base has shrunk, not grown. Governmental expenditures at all levels have tended to increase even though the tax base has contracted, therefore when all taxes, governmental fees and charges are included, the individual tax rate has increased both as a fraction of income and as a total amount, even with declining (male) or static (female) individual median incomes.

- *Increasing citizen support for (or at least acceptance of) existing economic and social order.*

  The Current Reality: Citizen participation in government is at record lows as measured by voter turn-out. Media polls indicate growing distrust of government at all levels with a majority of respondents expressing the belief that government now generally acts, not in the best interests of the citizens, but on behalf of special interest groups.

- *Meeting the employers' needs for trained labor from domestic sources rather than through immigration*

  The Current Reality: As indicated by the continuously falling or static wage rates, there is no lack of domestic trained labor in the normal sense of the word, and employers are increasingly turning to foreign production, either through outright ownership of foreign facilities or through sub-contracting.

VOTE professionals and practitioners

The U. S. Department of Education and its predecessor agencies has maintained a index of public support for post secondary and primary-secondary education from 1930

through 1993 with extrapolation. These data were combined with BLS data for median income by year to form dataset ed.xls and two graphs were generated.

1. Chart 4 ED.XLS presents the National Education Support Index versus time (year). Note the following:
   - 1.1. Support for post-secondary education peaked in 1965 and in 1993 was roughly the same, although slightly below, were it was in 1930.
   - 1.2. Based on the LSBF trend-line ($R^2 = 0.7952$) support for post-secondary education is projected to continue to decrease into the foreseeable future.
   - 1.3. Public support for primary and secondary education will continue to increase, based on the LSBF trend-line (R2 = 0.9391).
   - 1.4. From about 1986 public support for primary and secondary education has exceeded that for post-secondary education.
2. Chart 3 / ed.xls presents the National Education Support Index for Primary-High-school and post-secondary education vs. Median per capita income in CV$ (1995 CPI). Note the following:
   - 2.1. Because of the strong correlation of inflation-adjusted median income with time, this is not entirely separate data but effectively is an alternative way of presenting the above data.
   - 2.2. Support for primary and secondary education rises with rising income with a correlation of $R^2 = 0.9255$.
   - 2.3. Support for post-secondary education follows a more complicated pattern. From $6,000 to $13,000 inflation adjusted median income, support

increases. Beyond $13,000 support for post-secondary education decreases. The correlation for this trend is $R^2 = 0.7329$.

3. There is an almost perfect correlation between median individual income and the combined per capita costs for primary and secondary education ($R^2 = 0.9825$) when measured in constant value CPI dollars. This is presented in graphical format on chart 2 / ed.xls.