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Educational Trends and Income in El Paso: A Longitudinal Perspective

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THE GREATER EL PASO CHAMBER OF COMMERCE FOUNDATION

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NOTE: This report will be updated upon receipt of the full 2000 Census in mid-year 2002.

Upper Rio Grande Labor and Workforce Research Group

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Executive Summary

Education is clearly linked to income as numerous studies have shown. In El Paso, this link underscores what can only be called a crisis. As the region's education level has declined over the past few decades, income has followed in a parallel fashion. This study strongly points out this linkage over the past 50 years, suggesting that a number of issues related to the education pipeline need to be addressed broadly across the community.

The connections between educational attainment and income for El Paso County, Texas from 1950 through 1990 underscores a variety of policy concerns in the region. Information regarding El Paso County's workforce preparedness and earnings are compared relative to six other urban counties in Texas based on our belief that a comparative analysis provides more insight into our community's relative position. Numerous studies have focused on the linkage between educational attainment and personal income as reflections of a community's position in both state and national economies. In this study we examine the historical trends since the conclusion of World War II, utilizing the decennial census data.

It probably cannot be over-stated that characteristics of the local labor force are important for understanding the structure and future of the local economy. Robert Reich, former Secretary of Labor, notes that: "The industries of the future will not depend on physical 'hardware' which can be duplicated anywhere, but on the human 'software' which can retain a competitive advantage…The skills, knowledge, and capacity for teamwork within a nation's labor force will determine the collective standard of living" (1983, p. 236). Thus, understanding how to respond to future workforce development needs requires a clear understanding of the educational and skill capacity of the local workforce. Frequently the disjuncture between local labor skills and employer needs becomes an obstacle in the economic growth of a community. It follows that metropolitan areas with low educational attainment and low median income are clearly at a competitive disadvantage in today's knowledge-based economy (Council for Urban Economic Development, 1998).

This report brings together a variety of public data in a comparative format to provide a better understanding of El Paso's total education and earnings picture from a 50-year perspective. In so doing, it examines the impact of population and changing demographics, the role of education and female labor force participation in income determination and the education and earnings gap that exists among various racial and ethnic groups.

The following key findings summarize this report:

- Relative to the U.S., the post-WWII years have seen El Paso County's position slide further and further behind U.S. families' economic success, with the most recent data (1990) showing El Paso has 124 percent more families in poverty than the national average.

- Given the press of population growth and the increase in the number of families living in poverty, it should not be surprising to find that El Paso County's median family income has declined from nearly the U.S. average in the 1960s and 70s to one third below by 1990.

- While most major metropolitan areas have a local Consumer Price Index (CPI) calculated, El Paso and other border communities do not have location-specific CPI. The lack of this information means other forms of comparison must be considered and makes cost-of-living differences between communities more difficult to quantify.

- El Paso County not only has had a larger portion of its population under the age of 18 throughout the period 1950 to 2000, but the size of the youth

population continues to grow relative to other areas.

- El Paso County began the postwar period at well above parity with the U.S. for high school graduates, but the downward spiral of lower high school completion rates now has the area 15 percent below the national average, a turn-around of 24 percent. At least at the local level, this impact is demonstrated by the fact that only 63.7 percent of the adult workforce held a high school diploma in El Paso in 1990, as compared to 75.2 percent of persons nationally, which has translated into lower median incomes. With each succeeding year, communities like El Paso fall further and further behind the realization of the American dream. Furthermore, communities that have differentiated completion rates for various diverse categories among their population, particularly minority student populations, face an even greater challenge as they attempt to produce a skilled trained labor force able to compete in the global economy.

- The addition of large numbers of new workers through in-migration whose educational attainment lags behind the local populace causes an educational attainment dilution among the local population.

- Higher education can be more effectively leveraged to raise incomes in very large metropolitan areas, where the large local market can support finer, deeper occupational specialization, to take full advantage of ever-narrower specialization stemming from complex industrial and commercial activities.

- In Texas, high school completion rates still dominate the explanation of median family income variance rather than college graduation rates. As the Texas economy has diversified and moved away from the dominance of extractive natural resources and into a more knowledge-based economy, the implication would seem to be that Texas rates will track the California experience, where high school completion lost importance as an explanation for median income replaced by college completion, in the decades to come. But border areas may lag behind this trend, as attainment of high school completion for the adult workforce remains problematic.

- Attention to graduate and professional degree completion will almost surely become the new leading edge of the education-income-poverty nexus.

- Just as the education variable has moved from high school and college completion rates to graduate education, the overall female labor force participation rate as a significant variable affecting family income has moved to female employment in higher paying professional, technical and managerial work. Growing broad-based occupational opportunities for women, increased educational attainment, which may fuel the desire for external employment and the economic pressure of low income households have all combined such that female labor force participation now matches education as a determinant of median family income.

- Hispanics and non-Hispanic Whites who do not complete high school have virtually equivalent earnings; however once an individual obtains a high school diploma, or its equivalency, an earnings gap of almost $3,000 appears. This earnings gap increases at each additional level of educational attainment.

- While increases in female labor force participation had a positive impact on non-Hispanic White women's earnings, the startling revelation is that Hispanic female's income has essentially been flat at approximately $10,000 (constant dollars) throughout the 27-year period.

- By 1999 the median income for Hispanic males of $18,234 remains $3,477 behind the level of earnings enjoyed in 1972 in real or constant dollars.

- The largest disparities in educational attainment appear at the lowest rung of

the educational ladder. In the past two decades, the adult Hispanic workforce in El Paso County, while still lagging behind all Texas students at the lower rung of the educational ladder, fairs slightly better than Hispanics statewide as regards high school and college completion.

Conclusions and Policy Considerations

A recent working paper from the U.S. Census Population Division focused on educational attainment projections for the U.S. population. Four major influences that may impact future educational levels were identified in *Have we reached the top? Educational attainment projections of the U.S. Population* (Day and Bauman, 2000). In summary they are:

1*) In their analysis of age cohort degree completion, "Overall education levels increased as older, less-educated cohorts were replaced by younger (better educated) ones."* This supports earlier arguments by Thompson that high school completion as a terminal educational goal has been supplanted by college degree acquisition as a norm. The differentiation in labor market hiring a college degree created in the post WWII years is today represented by completion of a graduate degree.

- While the numerous local efforts are promising for the future of El Paso, systemic change takes time and the business leaderships' active engagement in the process is critical to a long-term strategy.

- El Paso does not start this marathon of educational transformation on par with either the State of Texas or the U.S. In El Paso high school dropout and non-completion rates have historically coupled with low college graduation rates creating a vicious cycle. Without a growing pool of college graduates nor an adequate supply of industries to employ them, those who are graduating with 21st century skill sets, have limited options with the net result that El Paso could be one or two decades behind. However as the various players, pre-K-12 educators, parents, the community college, the university, and business and community leadership keep encouraging the process, more educated younger generations will have the potential for greater success in the workforce and increased earning power. In essence, the focus may be largely on the next generation for excellence while providing new opportunities to the current cohort of students in our system.

2) Changing demographics with increases in minority group population, as a proportion of the total U.S. population, is clearly evident. Thus, "*For Hispanics in particular, the growth in numbers is not matched by a growth in education levels…the issue of minority education has been directly tied to concerns about the quality of the American labor force*" (Miller, 1997).

Analysis of state level data reveals an even more pronounced trend. As the State Demographer argues, "If the current relationships between minority status and educational attainment, occupations of employment, and wage and salary income do not change in the future from those existing in 1990, the future work force of Texas would be less well educated, more likely to be employed in lower state occupations, and earning lower wages and salaries than the present workforce of the state…Preparing Texas workers to compete more effectively in the increasingly competitive international work force of the future will require changing current patterns of relationships between minority status and other characteristics by improving the educational and skill levels of Texas minority workers" (Murdock, et al., 1997). El Paso clearly falls into this area. Without an educational system that meets educational needs of employers, then lower level wages will remain. The problem is the chicken and egg…schools are innovative in El Paso, but it would seem at not a fast enough pace and educators are sometimes hampered by teaching tests that get you out of high school but do not prepare you for college.

- In El Paso, efforts at the K-12 level are producing results in increasing graduation rates for Hispanic youth.

- Clearly, continued efforts need to focus on moving Hispanic students into more rigorous degree programs, particularly those that emphasized additional years of math and science and to sustain or

improve all other groups. The Commissioner's report on *The Condition of Education 2001* from the National Center for Education Statistics notes "taking advanced mathematics in high school increases the likelihood of enrollment in a 4-year institution, especially for first-generation students" (p. v).

- Maintaining a strong support system for Hispanic students is critical throughout their educational careers.

- Since achievement of an associate's degree can be the springboard to a baccalaureate, continuing the college's upward trends to increase academic degree completion at EPCC should be strongly supported.

3) *Concerns over the role of immigration include both its dramatic increase over the past 50 years as well as the fact that many immigrants have low levels of formal education.* Separating native and foreign-born populations, especially for Hispanics, is necessary to give a truer picture of educational attainment. The U.S. Census projections for educational attainment show high school completion rates for both men and women are 20 percent higher for native as compared to foreign-born Hispanics in 2003 and 25 percent higher for 2028.

Texas' proximity to Mexico raises the question of educational attainment in that country. The Mexican educational system is broken into three segments, *primaria* (grades 1-6), *secundaria* (grades 7-9) and *preparatoria* (grades 10-12, college preparation). President Salinas (1988-1994) made completion of *secondaria* mandatory for Mexican youth. One of the hallmarks of Mexican education has been very strong development of mathematical skills. Anecdotal evidence suggests that Mexican nationals who have completed *secundaria* and immigrate to the United States have been successful in passing the Spanish language GED. However, if these same immigrants were asked to complete the U.S. decennial census, they would characterize their educational attainment as completing the 9th grade.

- Without too much effort standards and measures to determine equivalence between U.S. and Mexican educational preparation, combined with opportunities for residents who completed *secundaria* or above to obtain GEDs may be a quick fix.

4) *The timing of school completion is changing*. "Educational attainment has ceased to be fixed in early adulthood, especially among members of ethnic and racial minorities…age at completion of schooling is higher for Blacks and Hispanics than it is for Whites (U.S. Census Bureau, 1997). The enrollment rate of Blacks and Hispanics in their 30s is more than half again as high as the rate among whites when compared to the enrollment rate of each group in their 20s. The delayed completion of education may be reflected in lower education levels in younger groups," according to the U.S. Census Bureau.

In El Paso, the average undergraduate student at UTEP is 24 years old while the median age for graduate students is 31 years of age. In cohort group research that the university is conducting that follows entering freshmen through graduation, between 12 to 15 percent of students who entered college from 1993 through 1995 graduated after five years and that increases to 24 percent after six years. Length of completion is sometimes offset with more cooperative internship programs. Demands of parenting and families, the economic necessity of working, either full or part-time, and issues of finances and transportation, often influence longer completion times.

- UTEP accepts a high percentage of provisional students, who do not meet basic entrance requirements but are allowed to attempt college-level coursework while taking developmental classes in areas like math and writing. Completing their college education is extended for provisional students when they receive their unconditional admittance to the university because of the "catch-up" time; however, they are included in the official statistics the university must report on graduation rates. The National Center for Education Statistics (2001, p. v) finds that "taking rigorous coursework in high school increases the likelihood of persistence toward a bachelor's degree, especially for first-generation students."

- Flexibility clearly needs to be a pivotal practice in higher education, which should embrace with more vigor teaching at the workplace, on weekends, and offering expanded evening and intensive classes.

El Paso Community College has been pursuing flexible course offerings, which include "power packs," three-week sessions of full time attendance for one class and weekend classes that may offer an appealing option to working adults. Distance learning by both higher education institutions is another important option, expansion of which will make off-site offerings available to more students.

5*) The role of citizenship.* In another study conducted for the Immigration and Naturalization Service of the U.S. Department of Justice, the U.S. Census Bureau finds that citizenship status also influences educational attainment. At the low end of the educational ladder 27.3 percent of non-U.S. citizens have less than a 9th grade education as compared to 15.6 percent for naturalized citizens and 4.7 percent native born persons. Interestingly, college degree completion at the bachelor and master's level is higher for naturalized citizens than for native born. One possible explanation may be that the desire for citizenship and pursuit of the American dream may fuel the pursuit of higher education by naturalized citizens, while others arrive in this country with academic credentials in hand and may eventually seek American citizenship.

- Lowell (2001) finds that the adjustment of students with foreign F visas, as much as one quarter of all holders, to employment-based long-term permanent residency (LPR) status and H-1B specialty worker status coupled with the H-1B temporary visa holders who adjust to LPR form a highly educated core group of workers.

In El Paso, the prevalence of students who are the first generation to go to college is apparent. Efforts by community-based groups like El Paso Inter-religious Sponsoring Organization (EPISO) who work in partnership with parents and the public schools to raise educational expectations, especially regarding post-secondary education, are important models that need to be replicated. The Collaborative for Academic Excellence is currently working with twelve Alliance Schools to identify and sustain key relationships with service organizations, parent groups, community-based organizations and outreach programs (El Paso Urban Systemic Initiative Program Effectiveness Review Report, 1998).

- Local colleges and universities need to maintain and expand relationships with local public school guidance counselors to make the higher education application including financial aid, an easy seamless process for students and their parents. In particular immigrant parents need access to information. Efforts by local districts and higher education to reach out to parents and provide dual language informational sessions and materials are important. The National Center for Education Statistics (2001; p. v) finds that, "high school graduates whose parents did not attend college remain at a disadvantage with respect to postsecondary access even after taking into account other important factors such as educational expectations, academic preparation, support from parents and schools and family income. Also according to these studies, among those who overcome the barriers to access and do enroll in postsecondary education, students whose parents did not attend college remain at a disadvantage with respect to staying enrolled and attaining a degree, again controlling for other related factors."

Efforts by Texas Governor Rick Perry and the Texas legislature will lead to expanded Texas tuition grants for economically disadvantaged students. In its third year of operation, the Toward Excellence, Access and Success (TEXAS) Grant scholarship program goal is to increase postsecondary education in the State by making college more financially accessible. The University of Texas at El Paso will receive $4.1 million for the 2001-2 school year; triple the amount available during the past academic year. This will remove a major financial barrier for many students.

- In order to qualify for the TEXAS Grant scholarship high school students must complete the recommended or advanced high-school curriculum, which

adds another financial incentive for more rigorous course work and underscores the importance of parental and community support for this additional academic effort by students.

Another piece of legislation authorizes post-secondary educational access and financial aid for undocumented students. The State of Texas offers K through 12 educational services to all students, regardless of citizenship. Previously bright, academically talented young people without legal residency status would graduate from Texas public schools and find themselves facing an educational dead end. Unable to enter higher education because of lack of official residency status, these students were shuttled into the low skill-low wage job market.

- Recognizing the changing demographics of the state and the importance of all residents, regardless of citizenship status, to engage in the labor force, the passage of this legislation opens the doors for students. Texas' progressive pursuit of this initiative stands in contrast to the closed-door approach taken by other states.

Additionally the Mexican government, under the *Secretaría De Educación Pública (SEP*), the Mexican Department of Education, has expanded academic instruction to include foreign nationals living abroad. The Mexican consulate in El Paso, through *Instituto Nacional de Educación para los Adultos (INEA),* sponsors twelve educational sites offering *primaria* and *secundaria* certifications as well as classes for *alfabetización*, basic literacy classes. Through a partnership agreement with the Center for Civic Engagement, UTEP students are teaching at many of the sites. Since the capacity to learn a foreign language, in this case English, is predicted on literacy and numeracy skills in one's native language, these classes, which are taught in Spanish, offer Mexican nationals a way to gain a broader educational base.

- Local business leadership should pursue cooperation with the Mexican consulate to expand these class offerings in El Paso, possibly even offering worksite locations. Completion of Mexican educational certification could subsequently lead into English literacy and workplace literacy training.

6) *The influence of adult education.* A recent report from the Educational Testing Service and the Hispanic Association of Colleges and Universities notes that, "In the United States we invest more than twice as much in the elementary/secondary education system as we do in the education and training of adults, especially adult immigrants…Despite the growing need for lifelong learning, this imbalance in our human capital investment has not changed significantly since World War II. It is especially significant to Hispanics and related directly to the low levels of educational attainment of adult Hispanics, particularly adult immigrants" (Carnevale and Jacobson, 1998).

- In El Paso there is a need for workplace preparation for GED, expanded on-the-job training (OJT) and certification opportunities for all skill levels of workers, as well as opportunities to prepare and reward students who take the SAT and ACT as a precursor to college admissions.

Lifelong learning is not fully in place, as evidenced by the recent experiences of the displaced garment workers. Local industries may need to monitor the state and national trends regarding OJT, certification and literacy efforts and consider offering more on-site training, such as literacy classes taught at lunchtime, or after hours.

- The present educational system is built on an old industrial model rather than the 21st century demand for just-in-time knowledge-based skills, which demand continuous improvement and upgrades in skills. As the pre-K through 16 educational institutions are in transition to meet the needs of the workforce of the future, business and industry may need to look at what training and certification opportunities they can offer in the workplace to raise the human capacity of their employees.

The loss of the garment industry in El Paso and subsequent efforts providing literacy and workforce training uncovered many deficiencies in local adult education efforts. In spite of the lack of success of many initial efforts, training

programs are improving. Involvement of local worker groups in program re-design was critical in that process.

- Serious program monitoring and accountability in terms of job placement and retention must serve as the underpinning of all future efforts. The newly created Upper Rio Grande Workforce Development Board is pursuing local contracts to provide this monitoring.

Benchmarking other successful programs like the information technology-training program designed by the Texas State Comptroller to improve skills of current State of Texas employees with the caveat that they remain employed with their base agency for a requisite time period, or, for example, the local Eureka manufacturer who offers GED classes on site, offer new perspectives to local employers. Furthermore, the State of Ohio recently enacted legislation that offers free GED examinations to students who pass the official practice test as an incentive for pursuit of high school equivalency certification.

Education demands access. With access employers and employees will reap the benefits of increased education and subsequent increased income, both in terms of firm and personal earnings.

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EDUCATIONAL TRENDS AND INCOME IN EL PASO: A Longitudinal Perspective

Christine Thurlow Brenner, Ph.D.[1]

The connections between educational attainment and income for El Paso County, Texas from 1950 through 1990 underscores a variety of policy concerns in the region. Information regarding El Paso County's workforce preparedness and earnings are compared relative to six other urban counties in Texas. Numerous studies have focused on the linkage between educational attainment and personal income as reflections of a community's position in both state and national economies. In this study we examine the historical trends since the conclusion of World War II, utilizing the decennial census data.

Regions and large metropolitan areas function as a part of an open sub-system of larger systems, which includes state, national and international communities. Traditional economic development has focused on understanding how local areas fit into these larger systems and how they can better compete at each level – local-regional-national and international. In doing so they are benchmarking to other areas, allowing a metropolitan area to see how they are doing within the context of a larger economy.

While these linkages to state, national or international environments are important, one important factor, which realistic local planning must address are the consequences for and actions taken by the local community based on the information obtained by comparisons and interactions to other communities and larger systems. In this regard, exploring the linkage between educational attainment and median family income provides El Paso community decision makers an opportunity to target potential areas of intervention that may maximize the benefits of their efforts to improve education, incomes, including life-long earnings, and attract industries that will match skills levels or to improve skill levels to attract new industries (Bendavid-Val, 1991; Thompson, 1999).

It probably cannot be over-stated that characteristics of the local labor force are important for understanding the structure and future of the local economy. Robert Reich, former Secretary of Labor, notes that: "The industries of the future will not depend on physical 'hardware' which can be duplicated anywhere, but on the human 'software' which can retain a competitive advantage…The skills, knowledge, and capacity for teamwork within a nation's labor force will determine the collective standard of living" (1983, p. 236). Thus, understanding how to respond to future workforce development needs requires a clear understanding of the educational and skill capacity of the local workforce. Frequently the disjuncture between local labor skills and employer needs becomes an obstacle in the economic growth of a community. It follows that metropolitan areas with low educational attainment and low median income are clearly at a competitive disadvantage in today's knowledge-based economy (Council for Urban Economic Development, 1998).

Recent research by the Policy Information Center of the Educational Testing Service (1999) has focused on the literacy, education and training requirements of the workforce noting, that "Who employers decide to actually hire is sometimes different than suggested by job analysis, and over the past 25 years, employer demand has shifted toward higher educational requirements, as revealed by falling relative incomes of those with less than a four year college degree (p. 38.)." Wilbur Thompson, considered by many to be the dean of urban economics in the United States, adds, "While education is still the primary index and lead variable in determining the local level of income, the high school completion rate has eroded as a broad-base index with its secular rise and decreasing variation. Armed with a 50-year perspective, we have seen the high school completion rate first dominate our median income analyses and then, bumping up against a ceiling, give way to the proportion

[1] Special thanks for research assistance goes to Elizabeth Dalton, David Nichols, David Cleveland and Mathew McElroy. Editorial thanks is extended to Janet Conary, Irasema Coronado and Dennis Soden.

who have completed four or more years of college" (1999).

Methodology

In order to provide a comparison of El Paso to other areas of the State of Texas, six counties were chosen at the suggestion of the Texas State Demographer. The comparison counties are:

Bexar,
Harris,
Hidalgo,
Tarrant,
Travis, and
Webb.

Inasmuch as El Paso is a border county, it was deemed important to make comparisons with other border communities. Thus, Webb County includes the City of Laredo and Hidalgo County includes the communities of Edinburg, McAllen and Pharr, a set of communities situated at the midpoint and terminus of the Rio Grande River, respectively, while El Paso marks the upper most reach of the river in Texas. Since the passage of NAFTA in 1994, these border counties have seen dramatic changes in economic development, transportation and population growth, growth, which has strained both the fiscal and physical resources of these communities. Both Hidalgo and Webb Counties, along with Bexar County and its principal city, San Antonio, also represent urban centers with Hispanic-majority communities, similar to El Paso County.

Tarrant County, with the City of Fort Worth, Travis County with the State Capitol, Austin, and Harris County, including Houston, the nation's fourth largest city that *The Economist* just suggested Houston may be one of the next great "global cities," represent major urban counties in the north, central and gulf coast areas of Texas. Although these counties are larger and more prosperous than the border region, they serve as benchmark communities. For El Paso County, and for that matter any border community, to move forward economically, they must understand not only what improvements are being made locally, but how those improvements stack up against "the competition." Located on major transportation corridors with diversified, dynamic local economies, Tarrant, Travis and Harris Counties provide typical examples of urban Texas prosperity.

Data reported comes from the U.S. decennial census of 1950 through 1990. Initial information released to date from the 2000 census only covers population, age distribution and race/ethnicity,[2] but this information has been incorporated into the study wherever appropriate. In this regard, an update of the study will be completed when the 2000 Census data becomes fully available.

Location-based quotient analysis will be used to compare the local El Paso conditions with the peer counties, the State of Texas, and the United States. The location quotient demonstrates the relative position of an area, whether that is educational output (graduation rates) or income determinants. This location quotient establishes a ratio that compares the percentage of education attainment, income and female labor force participation and other key indicators in El Paso with the same factors in identified peer counties, Texas and the United States (McLean and Voytek, 1992).

POPULATION CHANGE AND INCOME

Population

Following the post-World War II birth of the "baby boom" generation and the Sunbelt migration of the 1970's, Texas' population

[2] Notes on Limitation of Racial/Ethnic Analysis of U.S. Census Data: Although the decennial census data provides the most accurate information available to researchers undertaking historical analysis, disaggregating the data by race and ethnicity presents some unique challenges. While racial data is available for all years, information on persons of Hispanic origin does not appear until the 1970 census, when persons of Spanish surname were identified. Because persons of Hispanic origin may be of any race, individuals were categorized by their race in earlier census (1950 – 1960). Furthermore, the definition of this item has been refined in both the 1980 and 1990 census.

grew from 7.7 million (1950) to 20.9 million by 2000, as shown in Table 1. The urban counties included in this study represented 29 percent of all Texans in 1950, while 40.7 percent of the state's population resides in these 7 counties as of 2000.

El Paso County experienced steady growth throughout the 50-year period; however the 2000 census reveals that the county has slipped from being the 5th most populous in the state to 6th place behind Travis County, as reflected in Chart 1. Today's county population is 3.5 times larger than it was in the period immediately following World War II, with slightly over 3 percent of Texans, 679,622 people, calling the "Sun City" home.

All the comparison counties benefited from the 50 years of population growth, but the largest impact can be seen in Travis County, which is 5 times larger than it was in 1950, even after the closing of a major military base (Bergstrom Air Force Base) in the 1990s. Fueled by the recent growth of high tech industries, the Silicon Hill Country of Austin eclipsed El Paso County with a 2000 population of 812,280 persons compared to El Paso's 679,622. Harris and Tarrant Counties have seen their population quadruple in the same time period. Even the oil bust of the 1980's, which wreaked havoc on the Houston economy did not interrupt the population growth. At the same time, Bexar County grew from half a million people to 1.4 million by 2000.

The border counties have parallel growth patterns when the 50-year perspective is taken. Webb, Hidalgo and El Paso are each 3.5 times larger today than they were in 1950. When viewed in the historical context of the changes that have occurred during each decade, the picture of population growth in border counties is quite different. El Paso County experienced its most significant growth in the ten-year period from 1950 to 1960 when the number of residents increased by 61 percent, as shown in Table 2. Throughout the 50-year period, the lowest rate of growth during any decade was 14 percent, which was recorded for both the 1960s and the 1990s. El Paso's rate of growth has been decreasing each decade since 1970. Tight U.S. immigration policies undoubtedly influenced the slower growth rates in the 1970 decennial census; however out migration of the garment industry, more limited employment opportunities for low skill workers, changing community demographics and lack of perceived future career growth for young college educated professionals are some factors that influence subsequent decades.

Hidalgo and Webb Counties have had very different experiences. Both counties grew by a modest 13-15 percent in the post WWII decade. That pattern continued through 1970 for Webb County; however, Hidalgo County had a zero growth rate at the same time, in part attributable to changes in immigration policy and the conclusion of the *bracero* program, which, although it was a temporary guest worker program for Mexican nationals, may have decreased visa overstays and other attempts to establish U.S. residency. Hidalgo County's population had a 56 percent change in population between 1970 and 1980, posted a 35 percent change from 1980-1990 and a 48 percent change in residents by the 2000 Census. Beginning in 1970 there has been a steady increase in the rate of growth for Webb County. Between 1970-1980 and 1980 to 1990 the percentage change in population was 34-36 percent; however, by the 2000 Census the percentage change from the most recent decade had increased to 45 percent. In terms of the patterns in the border counties, both Hidalgo and Webb are experiencing far greater pressure from population increases than El Paso County. The post-NAFTA population impact, as reflected in the 2000 Census, has been far less in El Paso than the other border counties. Indeed El Paso more closely resembles the growth patterns of Bexar County for the past two decades than its border cohorts. However, the issue of growth must also consider cities in Northern Mexico. Ciudad Juarez and Nuevo Laredo, among others have had sky-rocketing growth in the last decade, a growth which may be largely attributable to NAFTA. While this study does not address the growth in these border cities, it is an important issue worthy of future consideration.

Persistence of Poverty

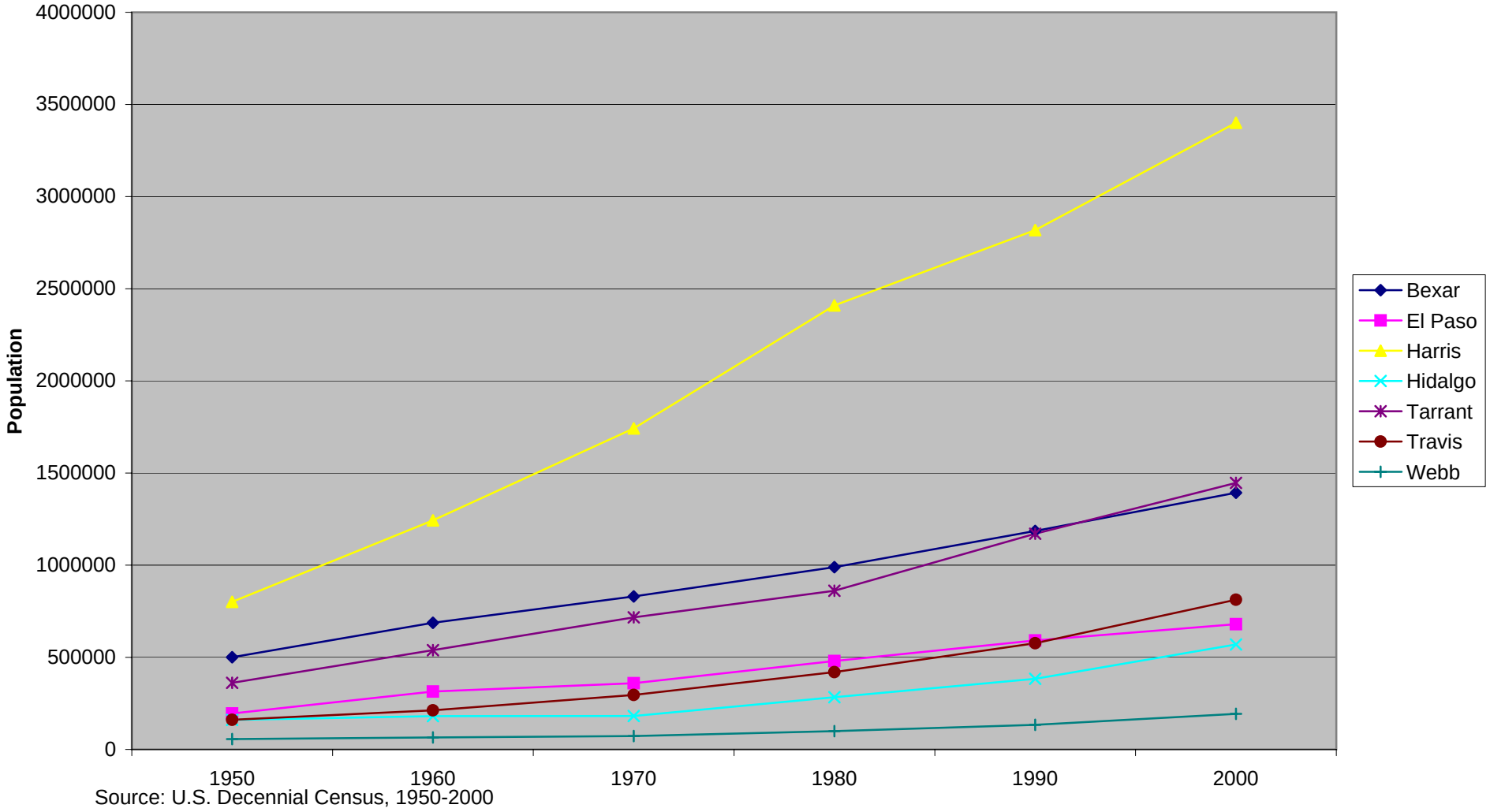
The linkages between poverty and low

Table 1
Total population for selected counties in Texas, 1950-2000

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas
1950	500460	194968	800701	160446	361253	160980	56141	7711194
1960	687151	314070	1243158	180904	538495	212136	64791	9581512
1970	830460	359291	1741912	181535	716317	295516	72859	11196730
1980	988800	479899	2409547	283229	860880	419573	99258	14229191
1990	1185394	591610	2818199	383545	1170103	576407	133239	16986510
2000	1392931	679622	3400578	569463	1446219	812280	193117	20851820
change	892471	484654	2599877	409017	1084966	651300	136976	13140626
% change	1.783301	2.485813	3.247001	2.54925	3.003341	4.045844	2.439857	1.704097

Source: U.S. Decennial Census, 1950-2000

Chart 1
Total Population for Selected Counties in Texas, 1950-2000



Source: U.S. Decennial Census, 1950-2000

Table 2
Percentage Change in Total Population for Selected Counties in Texas, 1950-2000

	1950	1960	% change 1950-60	1970	% change 1960-70	1980	% change 1970-80	1990	% change 1980-90	2000	% change 1990-2000
Bexar	500460	687151	37.30%	830460	20.86%	988800	19.07%	1185394	19.88%	1392931	17.51%
El Paso	194968	314070	61.09%	359291	14.40%	479899	33.57%	591610	23.28%	679622	14.88%
Harris	800701	1243158	55.26%	1741912	40.12%	2409547	38.33%	2818199	16.96%	3400578	20.66%
Hidalgo	160446	180904	12.75%	181535	0.35%	283229	56.02%	383545	35.42%	569463	48.47%
Tarrant	361253	538495	49.06%	716317	33.02%	860880	20.18%	1170103	35.92%	1446219	23.60%
Travis	160980	212136	31.78%	295516	39.30%	419573	41.98%	576407	37.38%	812280	40.92%
Webb	56141	64791	15.41%	72859	12.45%	99258	36.23%	133239	34.24%	193117	44.94%
Texas	7711194	9581512	24.25%	11196730	16.86%	14229191	27.08%	16986510	19.38%	20851820	22.76%

Source: U.S. Decennial Census, 1950-2000

educational attainment are well documented. Indeed, most of the federal funding of K-12 education related to increasing educational attainment is targeted to school districts with high percentages of students who are categorized as economically disadvantaged. Beginning in 1965 the Elementary and Secondary Education Act (ESEA) focused on providing compensatory academic enhancements for students performing two or more grade levels behind their peers. Bi-lingual educational funding as well as grants to assist immigrant children and youth transitioning into U.S. society is also covered by the act. Under the recent re-authorization of ESEA, programs have expanded to support local family literacy projects aimed at integrating early childhood education and adult basic literacy. As the Act notes, "Federal funds are currently allocated through statutory formulas that are primarily based on census poverty measures adjusted for the cost of education in each state... [*In turn*] Local educational agencies target funds to schools with the highest percentages of children from low-income families" (Elementary and Secondary Education Act (ESEA) of 1965, Title I). Based on a 1997 Supreme Court decision in *Agostini vs. Felton*, these same services may be provided by public school employees in religiously affiliated schools, in effect making compensatory education available for all school age children in America.

In addition to ESEA, the McKinney-Vento Homeless Assistance Act of 1987 provides funds to ensure that homeless children, including preschool and youth, have equal access to free and appropriate public education. In addition, the School-to-Work Opportunities Act of 1994 was designed to provide students residing in high-poverty areas "access to services designed to prepare them for a first job in high-skill, high-wage careers" through the development of comprehensive state school-to-work systems.

The other major related pieces of federal legislation focusing on services to economically disadvantaged youths have their tradition in workforce development. Beginning with the Comprehensive Employment Training Act in the 1970s, its successor the Job Partnership Training Act enacted in 1982 and most recently the Workforce Investment Act of 1998, federal job training and employment strategies have all included services for low income youth, ages 14-21, who face any of a number of employment barriers (i.e., school drop-out, literacy deficiencies).

It is, therefore, important to consider the historical presence of poverty in the counties included in this research. Table 3 presents the percent of families living in poverty[3] from 1960-1990. (Poverty rates were not calculated for the 1950 census.) In all of the counties, except El Paso, the highest incidence of poverty recorded was in 1960, a period of "perceived" affluence in the rest of the nation. The percentage of impoverished families in El Paso County decreased from 22.1 percent in 1960 to 17.4 percent in 1970 after which a steady increase in familial poverty was recorded such that in 1990 the poverty rate actually returned to the that of the 1960s (22.4 percent), fueled by changes in immigration policy and the amnesty program which legalized residency status of many previously undocumented persons.

Understanding El Paso's poverty in the context of both Texas and the United States is important to gage the relative socioeconomic status of the community. Tables 4 and 5 reveal this position. Both the national recession of 1984 and Texas oil bust influenced the growth of poverty in the 7 study counties, as depicted in Chart 2, while the shift to offshore manufacturing (i.e., garment industry) began and the end of the Vietnam War reduced defense-related employment opportunities.

[3] The poverty line represents the low-income level at which individuals and families begin to experience serious difficulties when attempting to meet, or pay for, their basic needs. The poverty line varies according to family size. For example, for a family of 4, the poverty line for 2000 (based on annual income) was $17,050, while for a family of 3 the corresponding figure was $14,150 based on Department of Health and Human Services Poverty Guidelines.

Table 3
Percent of Families in Poverty for Selected Counties in Texas, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	US
1950									
1960	27.2	22.1	18.1	53.9	18.7	24.8	50.7	28.8	21.4
1970	15.9	17.4	9.3	42	7.8	10.8	38.4	14.6	10.7
1980	14.8	18.0	8.1	29	6.9	8.9	29	11.1	9.6
1990	16.2	22.4	12.5	36.3	8.2	10.2	33.1	14.1	10

Table 4
County Values as a Percentage of Texas Values for Percent of Families in Poverty, 1950 - 1990

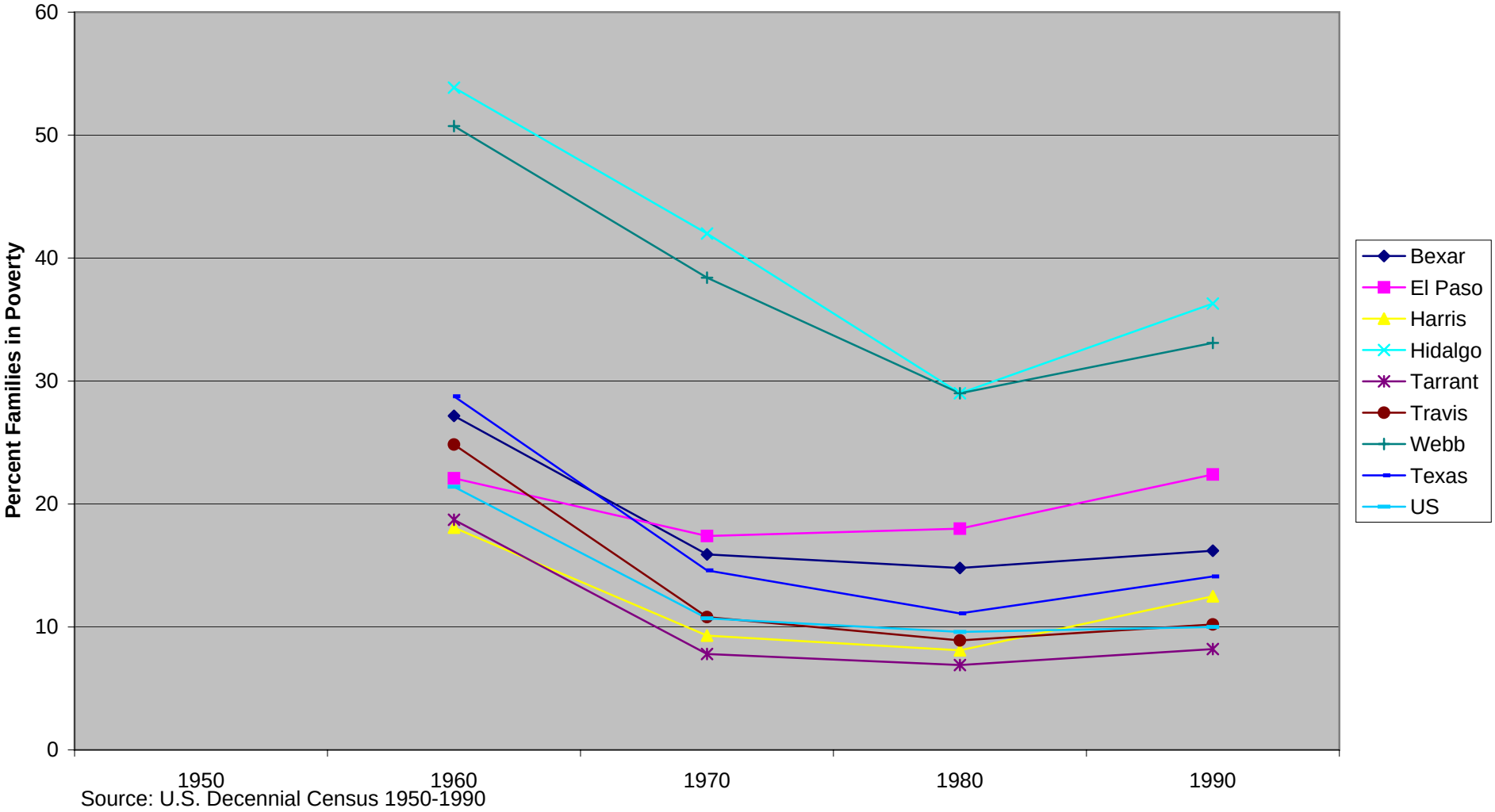
	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	US
1950	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1960	94.3	76.7	62.8	187.0	65.0	86.2	176.2	99.8	74.3
1970	108.9	119.2	63.7	287.7	53.4	74.0	263.0	100.0	73.3
1980	133.3	162.2	73.0	261.3	62.2	80.2	261.3	100.0	86.5
1990	114.9	158.9	88.7	257.4	58.2	72.3	234.8	100.0	70.9

Table 5
County Values as a Percentage of U.S. Values for Percent of Families in Poverty, 1950 - 1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	US
1950	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1960	126.9	103.2	84.5	251.7	87.4	116.1	237.1	134.4	100.0
1970	148.6	162.6	86.9	392.5	72.9	100.9	358.9	136.4	100.0
1980	154.2	187.5	84.4	302.1	71.9	92.7	302.1	115.6	100.0
1990	162.0	224.0	125.0	363.0	82.0	102.0	331.0	141.0	100.0

Source: U.S. Decennial Census, 1950-1990

Chart 2
Percent of Families in Poverty for Selected Counties in Texas, 1950-1990



Source: U.S. Decennial Census 1950-1990

In 1960 El Paso County had one fourth fewer persons in poverty than the rate in the State of Texas as a whole, yet was already 3 percent above the national poverty level. *Relative to the U.S., the intervening 40 years have seen El Paso County's position slide further and further behind U.S.'s families economic success, with the most recent data (1990) showing El Paso has 124 percent more families in poverty than the national average.* Taking the statewide perspective, El Paso County surpassed the Texas average in 1970, grew dramatically in 1980 to 62.2 percent above the state average and decreased slightly to 58.9 percent above in 1990. *El Paso does, however fair better than the other border counties, which suffer from over three times the national poverty level.* Of the counties included in the study only Tarrant County remained consistently below the national average of numbers of families in poverty. Travis County's rate fell from slightly above to 8 percent below the U.S. average from 1960 to 1980 and by 1990 was virtually equal to the national average. Undoubtedly the oil bust in the 1980's pushed Harris County's stable rate of approximately 15 percent below the U.S. average (1960-1980) to 25 percent above in 1990. While the poverty level in Bexar County has increased throughout the 40-year period, the rates of increase have been slower than other counties with high minority populations to 62 percent above the U.S. rate in 1990.

Median Family Income

Given the press of population growth and the increase in the number of families living in poverty, it should not be surprising to find that El Paso County's median family income has declined from nearly the U.S. average in the 1960's and 70's to one third below by 1990, as shown in Table 6. Thompson argues that "this strongly suggests – almost fully establishes – that this has been a case of supply-push growth (in-migration ahead of employment growth) rather than demand-pull growth (jobs attracting people.) And this interpretation is corroborated by the steady rise in poverty from a near-national-average rate in 1950 (98.3 percent) to well over twice the average rate in 1990 (224.0 percent)." The $24,057 median income is also 25 percent below the state average as seen in Tables 7 and 8.

Only the border counties of Hidalgo and Webb fare worse than El Paso, which is depicted in Chart 3. Bexar County's relative wealth has been stable at between 12-17 percent below the U.S. average throughout the 50-year period. Harris, with the exception of 1980's when its average was almost one-fourth above the U.S. median, Tarrant and Travis Counties each maintained median income levels that are essentially equal to the U.S. average.

As the State Demographer has suggested "Difficulties in the Texas economy in the 1980's took a toll on the economic resources of its residents. From 1980 to 1990, both median family income and per capita income fell to approximately the same relationships to those for the nation as had existed in 1970" (Murdock, 1997). When making the comparison within the State of Texas, the economic picture is not as bleak for El Paso County as it is when compared nationally. El Paso began the post-WWII decade with its families enjoying 13 percent higher median income than the state and by 1960 it was still 5 percent above. Median family income fell below the state average in 1970 (91.8 percent of Texas median) and continued to decrease until 1990 when El Paso's median was recorded as 25 percent below the state average.

Per Capita Income

Per capita income is an alternative way to consider a measure of community affluence. Unlike median income, which calculates the middle range of income per household, per capita income distributes earnings across the total population of an area. Chart 4 depicts the growth in per capita income from 1969 through 1999. While all the counties show an upward trend during the 30-year time period, the border counties' rate of increase is clearly below the other counties, as well as Texas and the U.S. A partial explanation for this phenomenon is the larger percentage of youth, which are non-wage earners in border counties. Another factor is the traditionally larger size of Hispanic families and, historically, many non-working mothers.

Table 6
Median Family Income for Selected Counties in Texas, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	US
1950	$ 2,724	$ 3,048	$ 3,476	$ 1,455	$ 3,256	$ 2,933	$ 1,617	$ 2,680	$ 3,073
1960	$ 4,766	$ 5,157	$ 6,040	$ 2,780	$ 5,697	$ 5,058	$ 2,952	$ 4,884	$ 5,657
1970	$ 8,045	$ 7,792	$ 10,348	$ 4,776	$ 10,218	$ 9,288	$ 4,978	$ 8,490	$ 9,590
1980	$ 17,158	$ 15,366	$ 24,323	$ 12,083	$ 21,577	$ 20,514	$ 12,181	$ 19,619	$ 19,917
1990	$ 29,717	$ 24,057	$ 36,404	$ 17,619	$ 38,279	$ 35,931	$ 19,527	$ 31,553	$ 35,225

Table 7
County Values as a Percentage of Texas Values for Median Family Income, 1950-1990

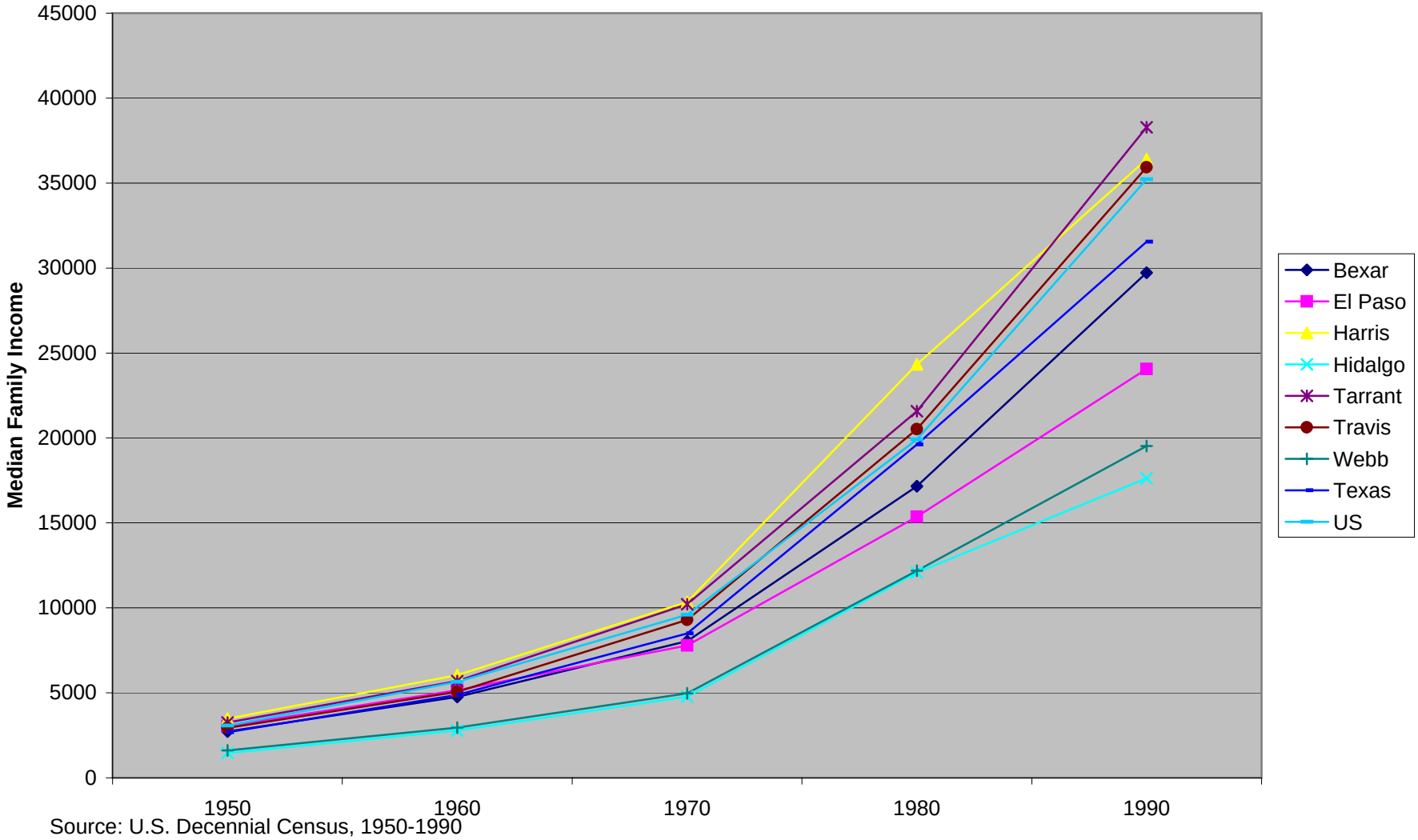
	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	US
1950	101.6	113.7	129.7	54.3	121.5	109.4	60.3	100.0	114.7
1960	97.6	105.6	123.7	56.9	116.6	103.6	60.4	100.0	115.8
1970	94.8	91.8	121.9	56.3	120.4	109.4	58.6	100.0	113.0
1980	87.5	78.3	124.0	61.6	110.0	104.6	62.1	100.0	101.5
1990	94.2	76.2	115.4	55.8	121.3	113.9	61.9	100.0	111.6

Table 8
County Values as a Percentage of U.S. Values for Median Family Income, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	US
1950	88.6	99.2	113.1	47.3	106.0	95.4	52.6	87.2	100.0
1960	84.2	91.2	106.8	49.1	100.7	89.4	52.2	86.3	100.0
1970	83.9	81.3	107.9	49.8	106.5	96.9	51.9	88.5	100.0
1980	86.1	77.2	122.1	60.7	108.3	103.0	61.2	98.5	100.0
1990	84.4	68.3	103.3	50.0	108.7	102.0	55.4	89.6	100.0

Source: U.S. Decennial Census, 1950-1990

Chart 3
Median Family Income for Selected Texas Counties, 1950-1990



Source: U.S. Decennial Census, 1950-1990

Chart 4
Per Capita Income in U.S., Texas and Selected Counties, 1969-1999

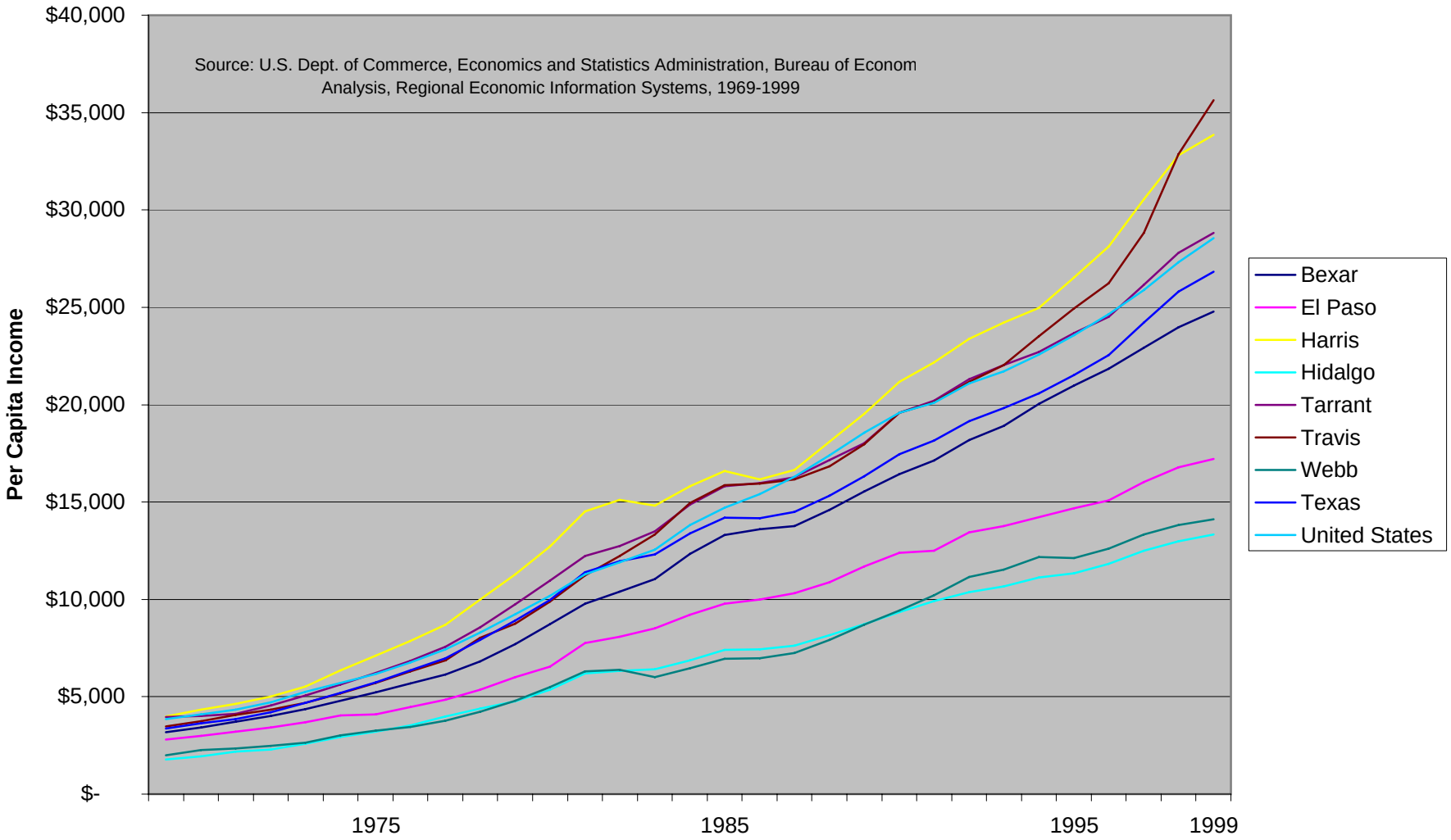
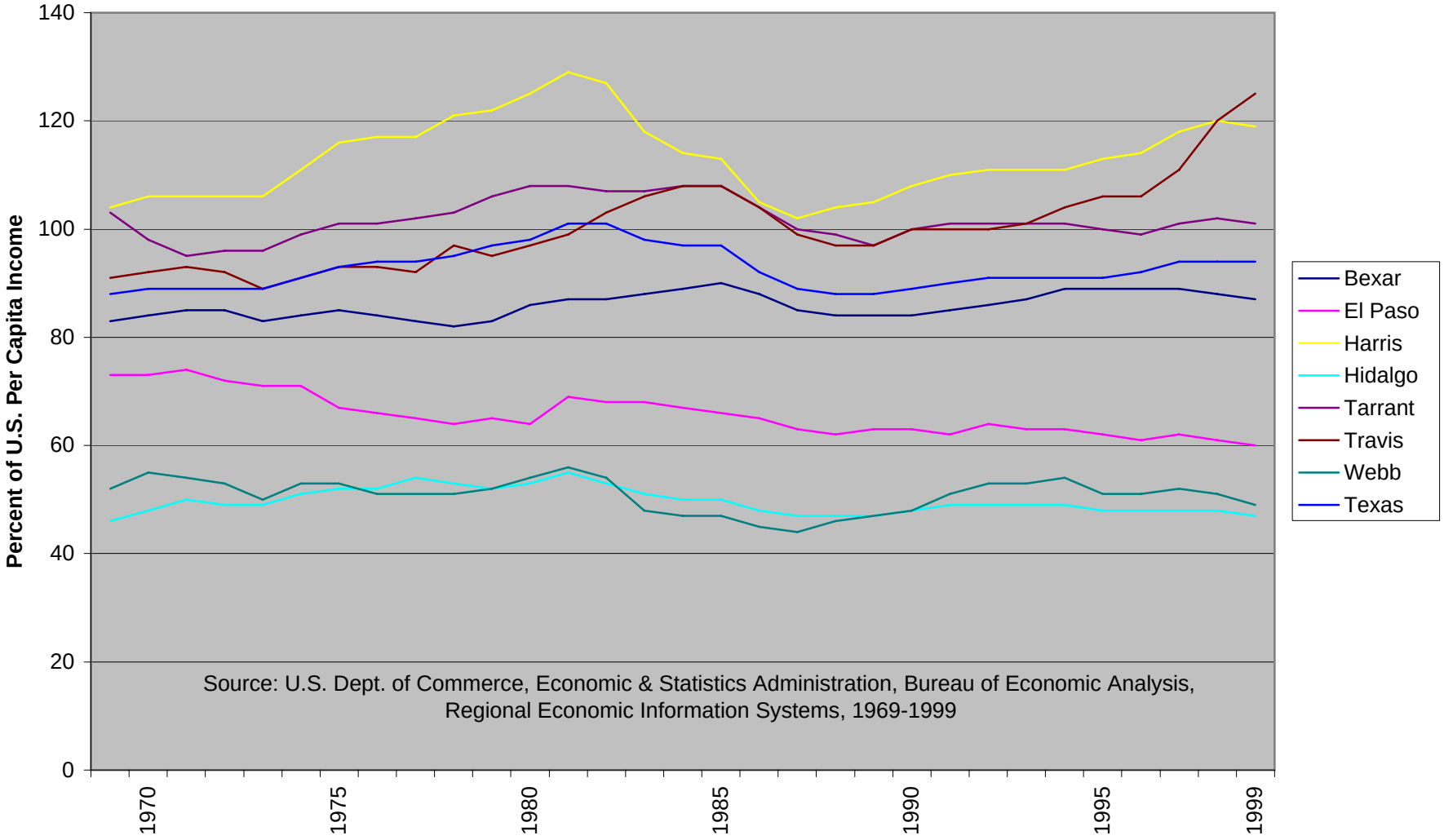


Chart 5
Per Capita Income as Percentage of U.S. for Texas and Selected Counties, 1969-1999



The more discouraging picture of El Paso and the other border counties can be seen when per capita income is compared with the U.S. average. Chart 5 shows the level of per capita income eroding in El Paso County when compared as a percentage of the U.S. since 1980.

Average Earnings Per Job

The cost of living in the U.S. is usually compared using the Consumer Price Index (CPI). This index calculates a cost specific bundle of goods and services within a community. The CPI focuses on the expenditure side of the family budget equation. *While most major metropolitan areas have a local CPI calculated, El Paso and other border communities do not have location specific CPI. The lack of this information means other forms of comparison must be considered.*

An alternative way to look at the cost of living or relative affluence in a community is to consider the average earnings per job. Earnings reflect a significant component of the amount of wealth available in a community for the purchase of goods and services. Indeed, McLean and Voytek (1992) argue that "earnings per worker may also provide insight on equilibrating forces at work in the local economy since earning levels, like population migration, are one way that labor supply and demand are brought into balance."

Chart 6 shows the 30-year increase in average earnings per job for the U.S., Texas and the seven study counties. As with the median and per capita income levels, El Paso and the other border counties, while showing increases over time lag behind the U.S., Texas and the urban non-border counties. Bexar, Tarrant and Travis Counties have all tracked closely with the state and national averages, although in the later 90's Travis' earnings rose dramatically. Harris County has outpaced all comparison counties, Texas and the U.S. throughout the 30-year period. Even the 80's oil bust only slowed the rate of increase, but never brought it below state or national levels. Houston has effectively diversified its energy-independent sectors broadening its economic base, which helped decrease its dependence on oil and gas exploration and production, oilfield equipment manufacturing and pipeline transportation. The presence of numerous corporate headquarters, including Fortune 500 firms, have also assisted in a job growth rate that is currently six times the national average. Unlike the national trends seen in other communities, Houston's manufacturing employment is growing at about three-quarters of the rate of overall employment with a net gain of 14,3000 jobs in the past five years (Greater Houston Partnership, 2001).

Influence of Population Age – Youth

While much of America is "graying" as the baby-boom generation enters middle age, El Paso and other border counties remain younger than both the state and the nation. The number of pre-school and school age children in El Paso, Hidalgo and Webb Counties has consistently been above Texas and U.S. averages. *Upon incorporating the 2000 decennial Census population data in this study, Tables 9 through 11 show that El Paso County not only has had a larger portion of its population under the age of 18 throughout the 60-year period, but the size of the youth population continues to grow relative to other areas.* The 2000 Census data reveal that El Paso has 13.5 percent more young people than Texas and nearly one-quarter more than in the United Sates. Both Hidalgo and Webb Counties have even greater percentages of their population under the age of 18.

The youth population of Bexar, Tarrant and Harris Counties are similar, hovering right at around the state average for most of the time period as depicted in Chart 7. Travis County has the smallest youth population, consistently below both the state and national average.

THE ROLE OF EDUCATION IN INCOME DETERMINATION

High School Completion

Without much debate, it is agreed that the most highly sought commodity in economic development today is the availability of a skilled, trained workforce. The foundation of

Chart 6
Average Earnings Per Job in U.S., Texas and Selected Counties, 1969-1999

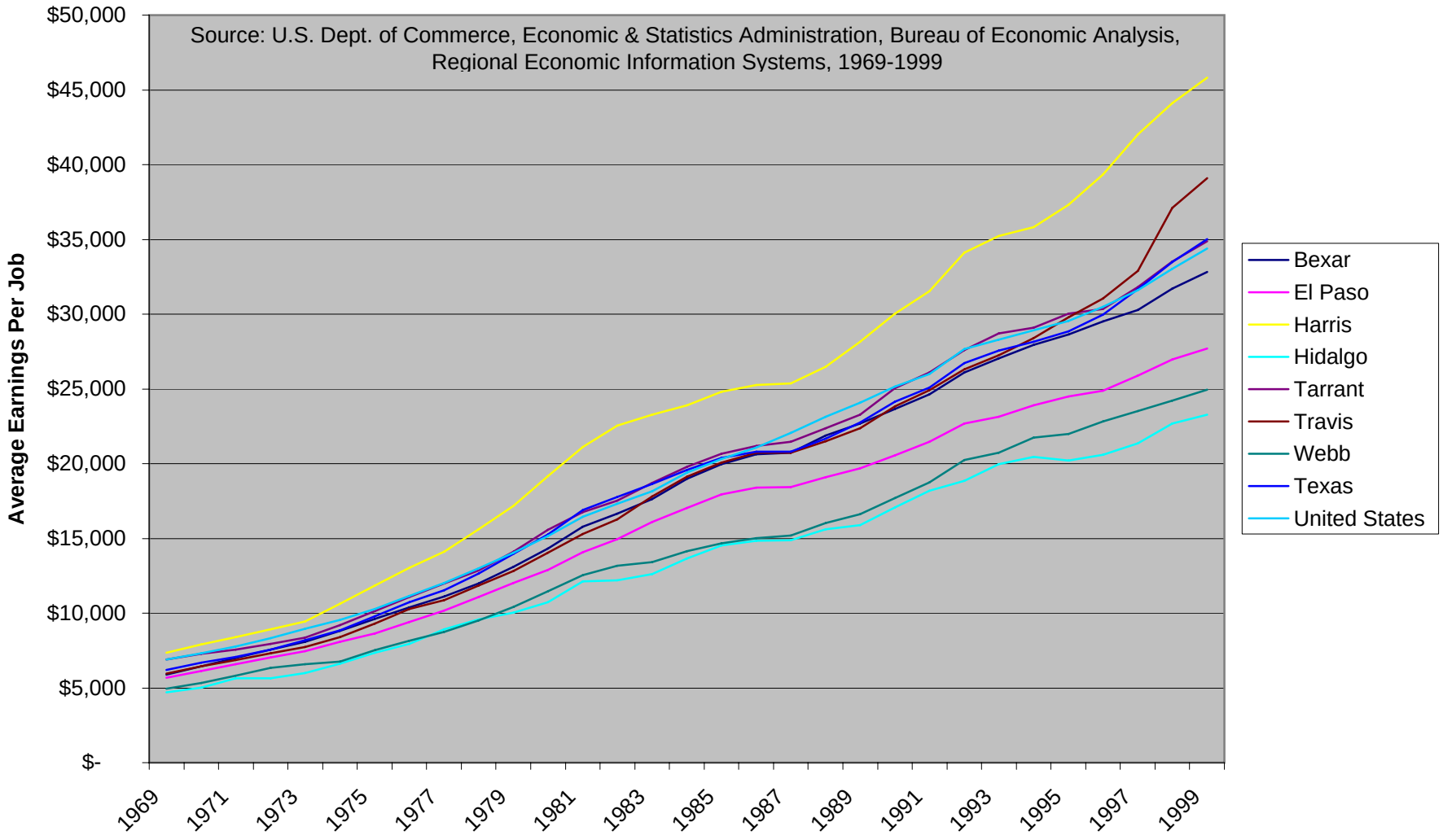


Table 9
Percent of Population Less Than 18 Years Old for Selected Counties in Texas, 1950-2000

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950	33.0	35.9	31.0	42.8	29.4	29.1	40.9	33.7	
1960	39.8	42.3	38.3	47.5	36.8	34.6	44.6	38.1	35.8
1970	37.8	40.7	37.0	43.9	35.4	32.0	42.8	35.7	34.3
1980	32.0	35.2	30.1	39.3	28.7	25.5	39.5	30.3	28.1
1990	29.2	32.6	28.6	36.6	27.1	24.0	36.7	28.5	25.6
2000	28.5	32.0	29.0	35.3	28.1	24.0	36.2	28.2	25.7

Table 10
County Values as a Percentage of Texas Values for Percent of Population Less Than 18 Years Old, 1950-2000

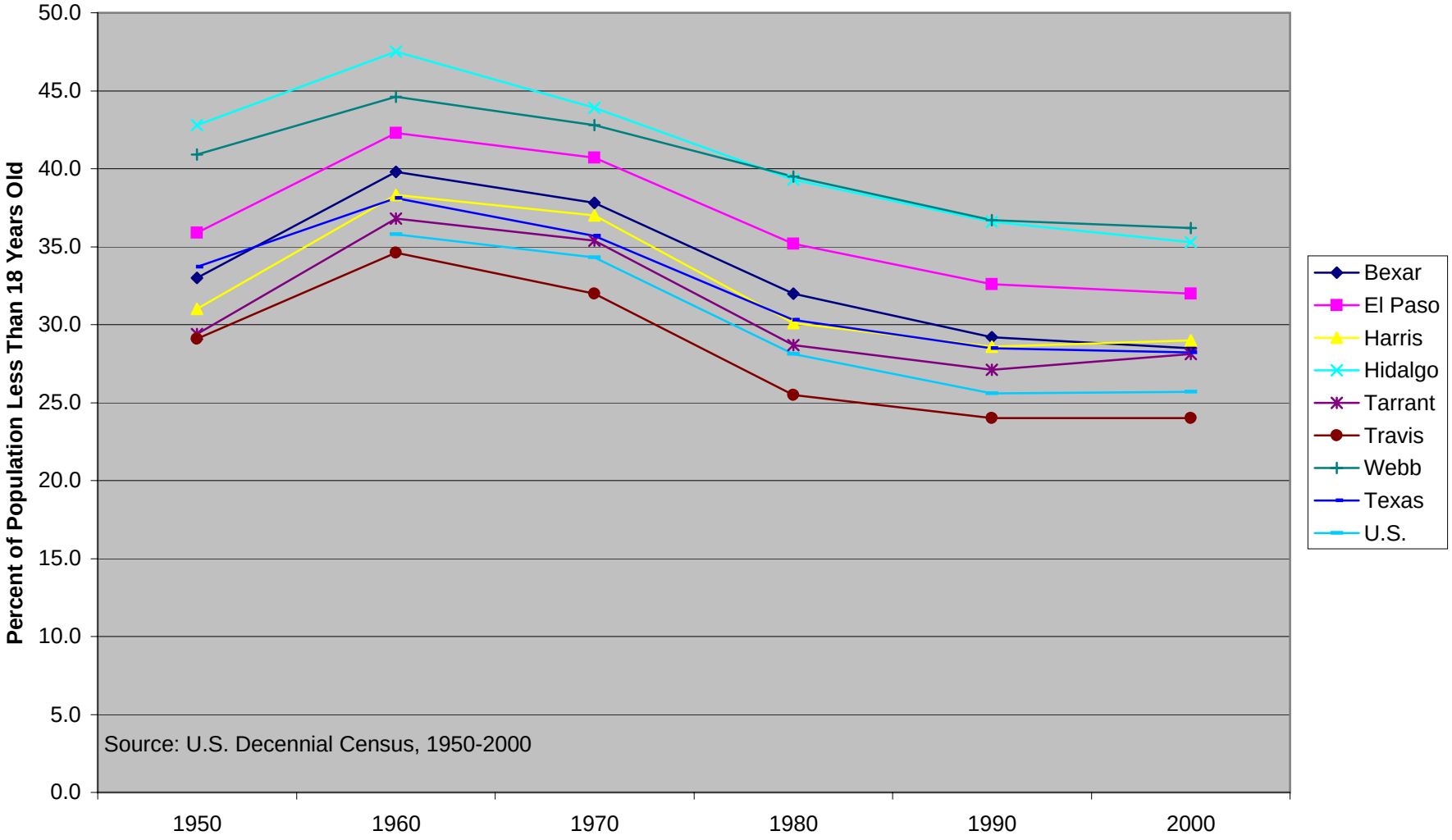
	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950	97.9	106.5	92.0	127.0	87.2	86.4	121.4	100.0	
1960	104.5	111.0	100.5	124.7	96.6	90.8	117.1	100.0	94.0
1970	105.9	114.0	103.6	123.0	99.2	89.6	119.9	100.0	96.1
1980	105.6	116.2	99.3	129.7	94.7	84.2	130.4	100.0	92.7
1990	102.5	114.4	100.4	128.4	95.1	84.2	128.8	100.0	89.8
2000	101.1	113.5	102.8	125.2	99.6	85.1	128.4	100.0	91.1

Table 11
County Values as a Percentage of U.S. Values for Percent of Population Less Than 18 Years Old, 1950-2000

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950									
1960	111.2	118.2	107.0	132.7	102.8	96.6	124.6	106.4	100.0
1970	110.2	118.7	107.9	128.0	103.2	93.3	124.8	104.1	100.0
1980	113.9	125.3	107.1	139.9	102.1	90.7	140.6	107.8	100.0
1990	114.1	127.3	111.7	143.0	105.9	93.8	143.4	111.3	100.0
2000	110.9	124.5	112.8	137.4	109.3	93.4	140.9	109.7	100.0

Source: U.S. Decennial Census, 1950-2000

Chart 7
Percent of Population Less Than 18 Years Old for Selected Counties in Texas, 1950-2000



community's ability to provide a diversified and talented local labor pool rests on the educational background of residents and the capacity of local educational institutions to provide the necessary training.

State and National high school completion rates have risen steadily since World War II, as shown by Table 12. *El Paso County began the postwar period at well above parity, but the downward spiral of lower high school completion rates now has the area 15 percent below the national average, a turn-around of 24 percent.* The most noticeable drop occurred between 1970 and 1980, when El Paso's completion rate dropped by 10 percent relative to national rates. The attainment of basic skills necessary for workforce preparedness that is associated with high school completion is a serious problem not only for El Paso, but also the Hidalgo and Webb Counties both of which have spent almost the entire 50-year period at 60 percent of national levels, as shown in Chart 8.

Educational completion is higher and more stable in the other comparison counties as seen in Tables 13 and 14. Although Travis has experienced declines in completion relative to national levels, they were still 10.9 percent above the U.S. average in 1990. While consistently above U.S. graduation rates, Tarrant County's relative position decreased in the decades following WWII with the lowest level in 1970; however, since that time the county has seen gradual increases in high school completion rates to 6.3 percent above the U.S. in 1990. Bexar County follows a similar pattern, culminating in 1990 with 96.7 percent of the U.S. high school completion rates. Harris County's completion rates have fluctuated more than the other urban counties; however, they have maintained a positive position relative to U.S. rates.

Obtaining a high school degree is only the beginning of the story when considering the knowledge, skills and abilities necessary for successful competition in today's workforce. The following section will explore the linkage between high school education and income generation.

The Linkage between High School Education and Income Generation

The traditional key to understanding individual and family economic success is the general level of education. The linkage between higher educational levels and higher incomes is well established in the extant literature (e.g., Day and Curry, 1996.) The importance of the local educational level as an income determinant is not just that it is an index of the productivity of the current local labor force and household income, but that it is also a critical long-range factor that manifests itself in a variety of ways, through the family expectations of and examples for children vary based on the educational level of parents such as the case of early reading to young children.

Overall, Thompson (1999) contends that the high school completion rate has eroded as a good, broad-based index of income prediction sufficient to sustain a family. While in the early post-WWII year's high school matriculation showed a steep upward trend relative to income, subsequently it flattened out and became less valuable as an explanation for income. As an educational variable, the proportion of adults 25 years and over who have completed high school first dominated the national median income equation in the 1950's and 60's. It then gave way to another, the proportion of the workforce who has completed four years or more of college. As high school completion became more widespread in the later years of the twentieth century, the association between high school completion rates and median family income has declined slowly but steadily across the states through the fifty-year post-World War II period. In 1950, 60 percent of the variation in median family income between the states was statistically explained by high school completion rates, as shown in Table 15. This strong association declined steadily to only 21 percent by 1990. Put another way, high school education is fading as a determinant of income, simply because almost everyone has finished high school at the national level.

More surprising is the fact that the correlation between high school completion rates and income level was almost constant

Table 12
Percent of Persons 25 Years and Over Who Have Completed High School for Selected Counties in Texas, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950	33.5	36.4	36.2	20.9	40.8	42.1	16.8	29.9	33.4
1960	41.2	45.6	45.3	25.8	46.7	48.0	25.6	39.5	41.1
1970	47.5	51.3	52.7	30.3	52.7	61.0	32.5	47.4	52.3
1980	63.1	59.5	70.5	41.1	69.6	75.4	41.5	62.6	66.5
1990	72.7	63.7	74.9	46.6	79.9	83.4	47.8	72.1	75.2

Table 13
County Values as Percent of Texas Values for Percent of Persons 25 Years and Over Who Have Completed High School, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950	112.0	121.7	121.1	69.9	136.5	140.8	56.2	100.0	111.7
1960	104.3	115.4	114.7	65.3	118.2	121.5	64.8	100.0	104.1
1970	100.2	108.2	111.2	63.9	111.2	128.7	68.6	100.0	110.3
1980	100.8	95.0	112.6	65.7	111.2	120.4	66.3	100.0	106.2
1990	100.8	88.3	103.9	64.6	110.8	115.7	66.3	100.0	104.3

Table 14
County Values as Percent of U.S. Values for Percent of Persons 25 Years and Over Who Have Completed High School, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950	100.3	109.0	108.4	62.6	122.2	126.0	50.3	89.5	100.00
1960	100.2	110.9	110.2	62.8	113.6	116.8	62.3	96.1	100.0
1970	90.8	98.1	100.8	57.9	100.8	116.6	62.1	90.6	100.0
1980	94.9	89.5	106.0	61.8	104.7	113.4	62.4	94.1	100.0
1990	96.7	84.7	99.6	62.0	106.3	110.9	63.6	95.9	100.0

Source: U.S. Decennial Census, 1950-1990

Chart 8
County Values as Percent of U.S. Values for Percent of Persons 25 Years and Over Who Have Completed High School, 1950-1990

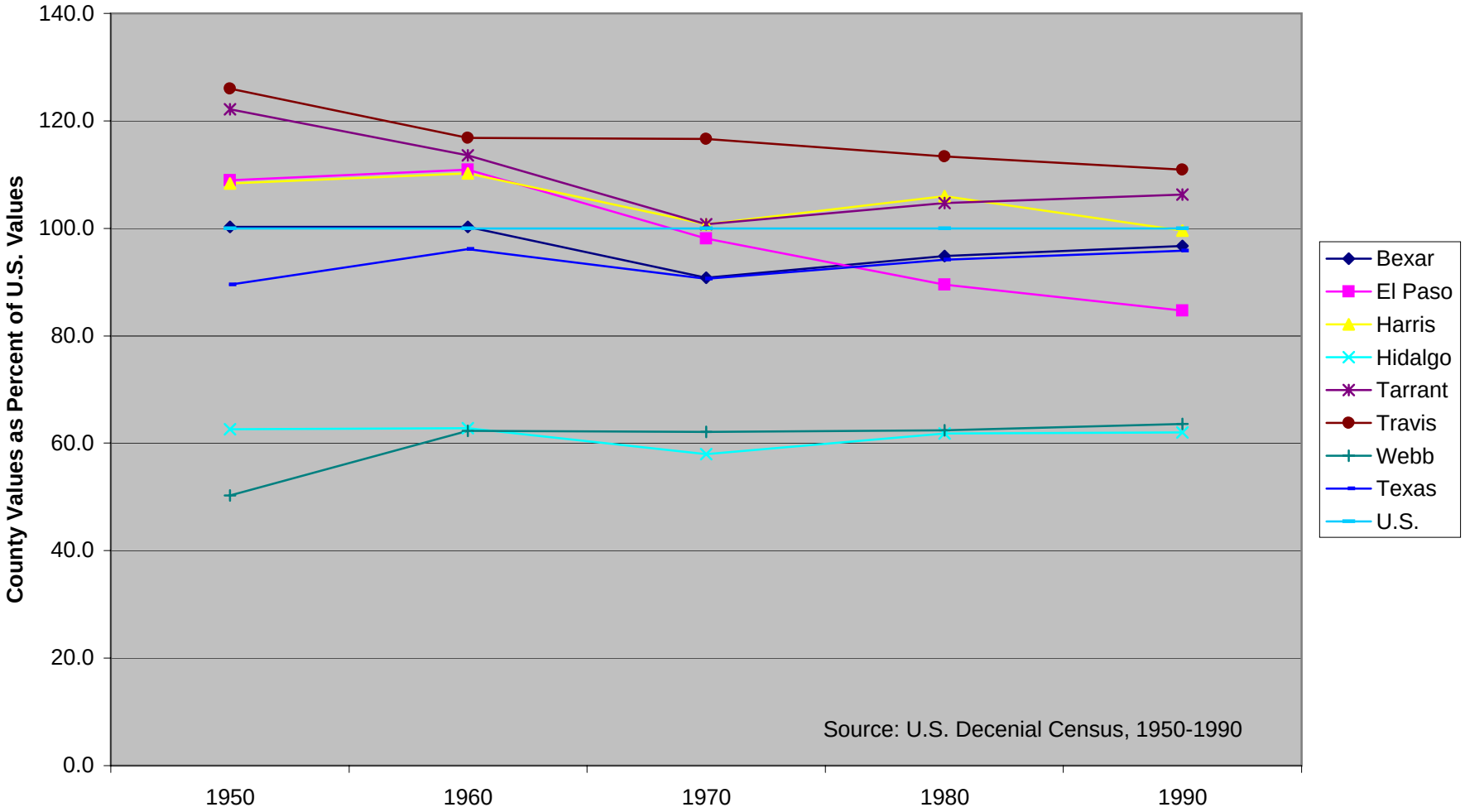


Table 15
Relationship Between Median Family Income And The Percent Of Persons 25 Years Old And Over Who Have Completed High School (Coefficient Of Determination: R^2)[1]

	1950	1960	1970	1980	1990
Interstate	.60	.47	.32	.35	.21
All metropolitan areas	.23	.22	.23	.32	.28
West South Central	.37	.71	.54	.46	.62
Intrastate median	.40	.43	.43	.40	.52
Texas	.59	.73	.68	.50	.65
New Mexico	.65	.71	.63	.45	.61
Arkansas	.61	.66	.62	.54	.70
Oklahoma	.75	.82	.72	.70	.74
Louisiana	.31	.21	.12	.13	.26

$p < .05$ Source: Thompson, 1999.

[1] Explained variance refers to the interpretation of relationship and joint variation between two factors, such as median family income and age, due to an intervening third factor, such as high school completion. "The coefficient of determination expresses the amount of variation in the dependent variable explained or accounted for by the independent variable(s) in a regression equation" (Knoke and Bohrnstedt, 1994, p.207). The value is the percentage of the explained variation or those who demonstrate the trait or characteristic.

at about 25 percent explained variance across national metropolitan areas, as shown in Table 15. This was despite the fact that high school completion rates were rising nationally as more and more young people obtained high school diplomas, thereby narrowing the national variation of educational attainment (Thompson, 1999). In examining the state level association of high school completion rates and median family income, the measure has proved more effective. This is in large part due to the fact that county data, which dominates state-based statistics, incorporates both metropolitan and non-metropolitan counties within a state. The highest level of linked explanation between median family income and the percent of the adult workforce who complete high school is seen in 1990, when over half of the reason for the income a family earns across the West South Central region can be attributed to high school graduation. Across the five-state southwestern region, with the exception of Louisiana, high school completion is clearly linked to the economic progress of families. The relationship between high school graduation rates and income is very strong in Texas, 65 percent in 1990*. At least at the local level, this impact is demonstrated by the fact that only 63.7 percent of the adult workforce held a high school diploma in El Paso in 1990, as compared to 75.2 percent of persons nationally, has translated into lower median incomes.*

What then becomes of areas of the country, both states and local communities, who seriously lag behind the national high school completion rates? *With each succeeding year, those communities fall further and further behind the realization of the American dream. Furthermore, communities that have differentiated completion rates for various sub-sets of their population, particularly minority student populations, face an even greater challenge as they attempt to produce a skilled trained labor force able to compete in the global economy.* As the Texas Education Agency reports:

> Since dropout information has been collected in Texas, Hispanic and African-American students have consistently exhibited the greatest dropout rates among all the ethnic groups. However, the gap between the White and non-White dropout rate has diminished over time. In 1987-88 the difference between dropout rates from minority and White students was 3.4 percentage points. This difference has closed to 1.1 percentage points in 1996-97. While this represents improvement, there is no doubt that minority and economically disadvantaged students are not completing high school as often as are White and non-economically disadvantaged peers (Texas Education Agency, 1998).

Discrepancies in the way dropout rates are calculated by the Texas Education Agency and the actual attrition rate in local districts paint a staggeringly different picture. In El Paso, a longitudinal study of the freshman high school class of 1990 revealed that only 60 percent of students entering as freshmen graduate in four years, increasing to 71 percent in five years (Bone, 1998.) University of Texas at El Paso President Diana Natalicio said she is profoundly disturbed by a set of numbers she has seen recently: of the 93,145 Hispanics in Texas who are 18 in the 1996-97 school year, only 54,167 or 58 percent, graduated from high school. Natalicio notes, “That is simply staggering. It’s a scary subject for this entire nation because demographics are changing and, as the demographics change and we have a growing under-educated population, we are not going to be competing in the global economy” (El Paso Times, 1999).

College Completion

The presence of a significant pool of persons who have completed four or more years of college in a community is the next requisite step necessary for economic development in today’s knowledge-based economy. All of the counties included in the study have risen steadily in the percentage of college completion over the postwar period, tracking with the national trend. This encouraging trend is mitigated when the location quotient for education, which compares the local area with the national parity, is examined in Table 16.

Table 16
Percent of Persons 25 Years Old and Over Who Have Completed 4 or More Years of College for Selected Counties in Texas, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950	6.4	7.2	8.0	4.4	7.2	12.5	3.8	6.0	6.0
1960	7.5	9.0	10.5	5.6	9.3	14.2	5.2	8.0	7.7
1970	10.4	11.4	14.7	7.3	11.8	19.5	6.9	10.9	10.7
1980	16.0	14.0	23.0	10.8	18.4	30.2	9.8	16.9	16.2
1990	19.7	15.2	25.4	11.5	24.0	34.7	11.1	20.3	20.3

Table 17
County Values as Percent of Texas Values for Persons 25 Years Old and Over Who Have Completed 4 or More Years of College, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950	106.7	120.0	133.3	73.3	120.0	208.3	63.3	100.0	100.0
1960	93.8	112.5	131.3	70.0	116.3	177.5	65.0	100.0	96.3
1970	95.4	104.6	134.9	67.0	108.3	178.9	63.3	100.0	98.2
1980	94.7	82.8	136.1	63.9	108.9	178.7	58.0	100.0	95.9
1990	97.0	74.9	125.1	56.7	118.2	170.9	54.7	100.0	100.0

Table 18
County Values as Percent of U.S. Values for Persons 25 Years Old and Over Who Have Completed 4 or More Years of College, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950	106.7	120.0	133.3	73.3	120.0	208.3	63.3	100.0	100.0
1960	97.4	116.9	136.4	72.7	120.8	184.4	67.5	103.9	100.0
1970	97.2	106.5	137.4	68.2	110.3	182.2	64.5	101.9	100.0
1980	98.8	86.4	142.0	66.7	113.6	186.4	60.5	104.3	100.0
1990	97.0	74.9	125.1	56.7	118.2	170.9	54.7	100.0	100.0

Source: U.S. Decennial Census, 1950-1990

In 1950, El Paso was well above (20 percent) the national and state average for persons who completed four or more years of college, as was Tarrant County, as seen in Tables 16, 17 and 18. Harris County was slightly higher with 33.3 percent above national parity, while Travis County had over two times as many college graduates as the U.S. average. Hidalgo and Webb counties began the post-war period with roughly one-quarter and one-third fewer graduates than the rest of the nation, respectively.

El Paso County began falling behind U.S. averages in the 1970s, and by 1990 the number of persons completing 4 or more years of college in El Paso had fallen to approximately 25 percent below the national average, as depicted in Chart 9. Concurrently the other border communities were also sliding into even lower rates of educational attainment, finding both Webb and Hidalgo Counties in 1990 having nearly half the number of college graduates as the rest of the country. Conversely, Harris, Tarrant and Travis Counties have consistently maintained a labor force with well above national and state educational levels. Bexar County has been virtually on par with national averages throughout the 50-year period.

There are important differences among the counties in the cause of the shortfall in the college completion rates. In El Paso, and the other border counties, the very rapid growth in population through the postwar period has flooded the local labor market, as previously shown in Table 2. This represents a trend that couples both a local high birth rate and burgeoning in-migration of workers. *The addition of large numbers of new workers through in-migration whose educational attainment lags behind the local populace causes an educational attainment dilution among the local population* (Thompson, 1999). Low prevailing wages may have also influenced the net out-migration of young adults, especially those with college education or college potential, another factor in the decline of the college completion rate, relative to the national average as youth relocate.

Similarly, the percent of the population less than 18 years of age in El Paso has been 18 to 25 percent above the national average. While this study has focused on the measuring the educational attainment among adults 25 years and older, the presence of a very large population of dependent children also acts as a constraint on the adult population seeking to continue their education. Childcare issues and the economic reality of providing for a family can be barrier for individuals seeking to stay and/or return to school.

The Linkage between College Education and Income Generation

As high school education has become more common, and its predictive power has faded, college education has become the more robust variable in explaining median family income. Nationally, the rate of college completion is growing rapidly. The influence of college completion on rising median incomes has grown from explaining only 47 percent in the 1950s and 1960s to 64 percent in 1990, as depicted in Table 17 (Thompson, 1999). The relationship between completion of four years of college and income is very strong nationally, however its role in Texas is less. In 1990, obtaining a bachelor's degree explained 30 percent of the variation in median family income.

Even more impressive and relevant to this study, the metropolitan area college-income linkage has risen sharply from near-zero graduation rate to income relationship in 1950 to explaining 42 percent of the relationship in 1990, far above the steady high school-income. This is characteristic of metropolitan areas of all population-size categories and in all regions.

The college effect has been especially strong in metropolitan areas over one million population throughout the post-World War II period and remains above the other city or metropolitan classes, rising from 36 percent explained variance in 1950 and 1970 to 61 percent in 1990. *Apparently, higher education can be more effectively leveraged to raise incomes in very large metropolitan areas, where the large local market can support finer, deeper occupational specialization, to take full advantage of ever-narrower specialization stemming from*

Chart 9
County Values as Percent of U.S. Values for Persons 25 Years Old and Over Who Have Completed 4 or More Years of College

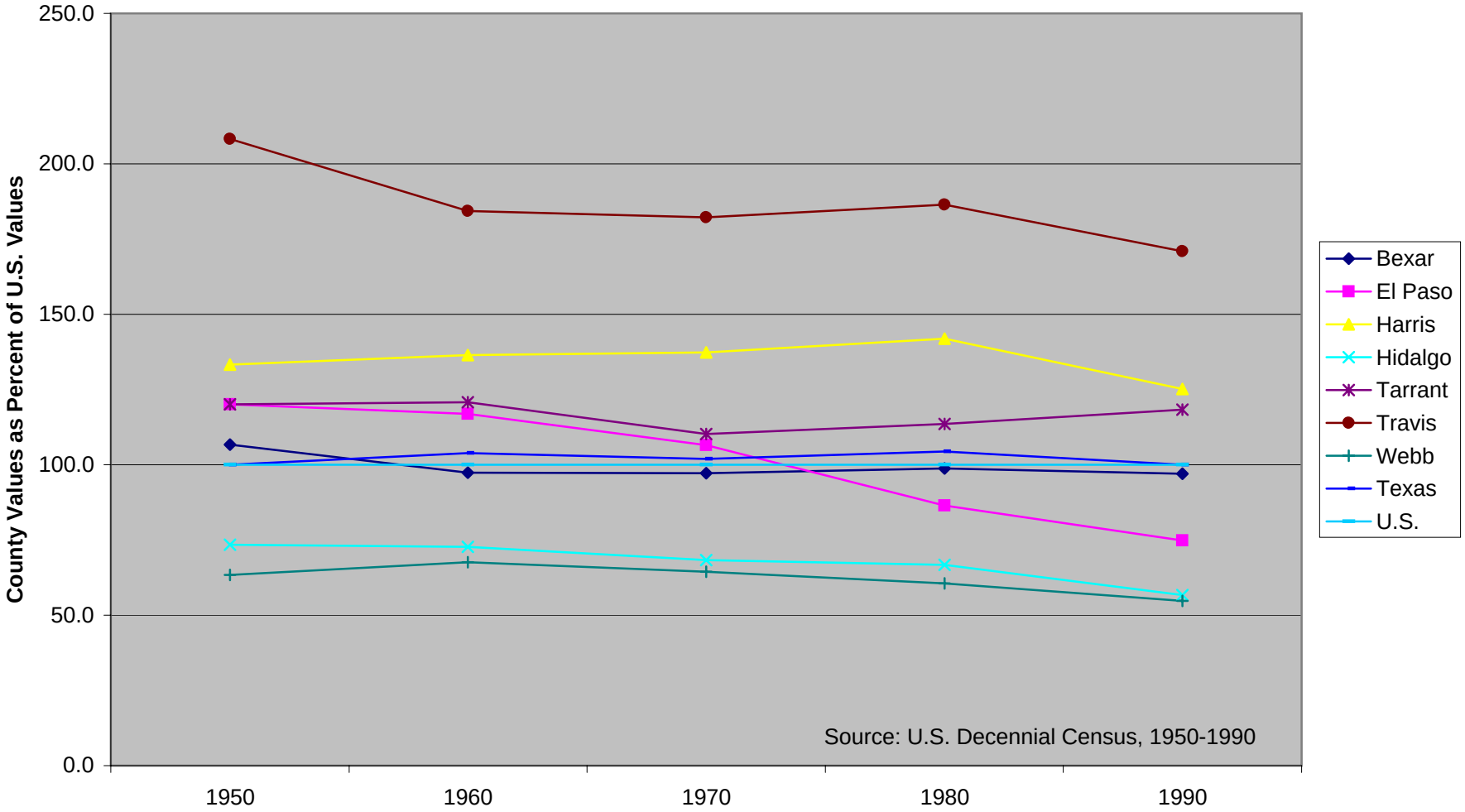


Table 19
Relationship Between College Education (Bachelors degree) and Median Family Income In Metropolitan Areas and Non-metropolitan Counties, 1950-1990 (Coefficients Of Determination: R^2)

	1950	1960	1970	1980	1990
Interstate	.47	.47	.39	.39	.64
All metropolitan areas	.03	.18	.12	.21	.42
West South Central	.15	.23	.07	.07	.26
All Texas metropolitan areas	.15	.43	.35	.51	.48
Intrastate median	.24	.27	.28	.28	.42
Texas	.22	.34	.26	.12	.30
New Mexico	.24	.29	.31	.15	.39
Arkansas	.38	.48	.40	.41	.42
Oklahoma	.39	.43	.32	.34	.48
Louisiana	.31	.21	.12	.13	.26

$p < .05$
Source: Thompson, 1999.

complex industrial and commercial activities (Thompson, 1999).

The intrastate relationship between college completion rates and median family income, between counties within all the states, has been strong across throughout the past 50 years, and now rivals that across national metropolitan areas. As seen in Table 19, obtaining a bachelor's degree or more education explains forty-two percent of median family income across both metropolitan areas and between counties within all the U.S. states. There is, however, marked variation among the states. What this means is college education was not a determinant in income in 1950, but in 1990 it means it is.

A key factor to consider, is when the high school graduation rate peaks as an explanation of income variance. From other research conducted on the education-income linkage, it has been observed that in "post-industrial" California that peak occurred in 1970 (.54) and New York followed a decade later in 1980 (.48), while the college effect continued climbing through 1990. *In Texas, high school completion rates still dominate the explanation of median family income variance rather than college graduation rates. As the Texas economy has diversified and moved away from the dominance of extractive natural resources and into a more knowledge-based economy, the implication would seem to be that Texas rates will track the California experience in the decades to come (Thompson, 1999). But border areas may lag behind this trend, as attainment of high school completion for the adult workforce remains problematic.*

Graduate School as a Future Index of Family Income

Just as high school graduation became a mass phenomenon in the final decades of the twentieth century, college graduation is quickly supplanting that variable as the universal norm. As more and more of the population have access to increased educational opportunity, monitoring the next level of educational attainment will provide the best clue as to the future financial stability of a community. *Therefore, attention to graduate and professional degree completion will almost surely become the new leading edge of the education – income - poverty nexus* (Thompson, 1999). In 1990, 5.5 percent of Texans age 25 years or over obtained post-baccalaureate education, while in El Paso County only 3.9 percent of the adult workforce held graduate or professional degrees. El Paso is thus, beginning a critical period in workforce and economic development already "behind the curve."

Note on Vocational, Technical Training and Certification Completion

Lastly, one of the limits of this study is that census data does not capture the increasing trend of training and certificate completion for skilled trades and other vocational educational programs. Surprisingly, even the 2000 decennial census did not offer certificate completion in highly technical skill areas as a choice for the question that asked for educational attainment. Many 21st century industry-specific skills, such as plastic mold injection or medical lab technician, are not taught in the context of traditional 2 or 4-year degree programs. Certification programs are especially growing at the community college level and in vocational school settings. As an example, in the past five years El Paso Community College has conferred 200 plus certificates per year and serves as an important indicator to monitor. As in the 1950s and 1960s when industrial, union-based employment created a cadre of well-paid workers, these specialty fields may be the harbinger of a similar era in skilled labor development.

THE ROLE OF FEMALE LABOR FORCE PARTICIPATION IN INCOME DETERMINATION

The national female labor force participation rate (FLFPR) has risen steadily and dramatically over the past fifty years, from 28.9 percent in 1950 to 56.8 percent of all workers in 1990. As a consequence, this has also become a major determinant of family income levels.

Female labor force participation rates seem to operate as both a major determinant of family income and as a major poverty-reducing agent does. Somewhat surprising is the fact that FLFPR was not a major factor in explaining differences in income levels among metropolitan areas until 1970. The highest incomes in the early postwar period were found in large industrial areas throughout the United States. Overtime employment in unionized manufacturing firms producing durable goods (e.g. steel, auto and machinery) with heavy demand backlogs meant paychecks sufficient for a husband to support a family. By the 1970s the income-dominating effect of manufacturing began weakening and the presence of a second wage earner became a key variable in family income determination (Brenner, et al., 1999). Paralleling this development was the dramatic increase in the number of single headed (primarily female) households, as a result of divorce, or having never been married. Added to this also legislation forced education to broaden itself to access for females who quickly assimilated into the workforce, however often at sub-par wages vis-à-vis males.

Female Labor Force Participation and Median Family Income

It is only over the past twenty years that female labor force participation has become a dominant factor in local income determination, as shown in Table 20. This is in sharp contrast to education which has always played a leading role. The presence of a second wage earner in a family clearly impacts median income. Forty to fifty percent of the variance in median family income is determined by female labor force participation rates, whether the woman is a second wager earner in a family or the only earner in a female-headed household. In the race for a leading determinant of local income, the local female labor force participation rate has risen to rival college education (Thompson 1999). This does not, however, tell the whole story!

While the rate of female labor force participation is increasing, it may be hitting a very hard glass ceiling. Therefore, it is increasingly necessary not only to look at females' rates of participation, but the types of jobs that they hold. The availability of good jobs for women is an important economic index of the health of a community. *Just as the education variable has moved from high school and college completion rates to graduate education, the overall female labor force participation rate, as a significant variable affecting family income, has moved to female employment in higher paying professional, technical and managerial work.*

The Historic Influence of Female Wager Earners on Family Income

Female labor force participation rates showed only a modest 15 percent association with local income levels in 1950, as a result the dominant effects of heavy industry in the postwar durable goods boom. Noted for their strong unions, durable goods manufacturing in the auto, steel and machinery industries, were characterized by heavy, "dirty work" requiring physical strength and stamina. Although "Rosey the Riveter" proved during World War II that she could work in industry, it was primarily the male wage earner supporting his family.

As the durable goods sector diminished in influence in the national economy, the impact of female labor force participation increased as a determinant of median family income, from 22 percent explained variance in 1960 to 32 percent in 1970. Clearly, the culture and the nature of work were changing in America. The acceptance of working wives, the increasing number of female-headed households moved female labor force participation to a high of 40 percent explained variance with median family income in 1990, rivaling education as an explanatory variable.

While some of the national interstate effect of working women on median family income is due to the undercounting of working women on the farm, the income generating power of another wage earner in the family is attested to by the fact that female labor force participation rates for all metropolitan areas have risen steadily from no relationship with median family income in 1950 to a 21 percent association in 1970 to 37 percent in 1990 (Thompson, 1999).

Table 20
Association Between The Median Family Income and
The Female Labor Force Participation Rate, 1950-1990
(Coefficient Of Determination: R^2)

	1950	**1960**	**1970**	**1980**	**1990**
Interstate median	.15	.22	.32	.29	.40
All metropolitan areas	.00	.05	.21	.26	.37
West South Central	.42	.40	.54	.49	.70
Intrastate median	.28	.26	.39	.40	.52
Texas	.11	.16	-.02	.24	.37
New Mexico	.55	.50	.51	.27	.43
Arkansas	.35	.35	.53	.43	.53
Louisiana	.26	.26	.11	.40	.37
Oklahoma	.55	.50	.51	.27	.43

$P < .05$

Source: Thompson, 1999.

Table 21
Female Labor Force Participation Rate for Selected Counties in Texas, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950	28.6	28.5	32.0	22.8	32.9	33.3	23.4	26.8	28.9
1960	32.6	33.9	36.4	33.1	36.0	39.4	25.7	33.0	34.5
1970	39.4	37.8	44.8	34.1	44.7	46.7	31.2	38.7	39.6
1980	49.1	45.7	58.0	44.5	56.2	59.9	39.8	51.0	49.9
1990	56.4	50.0	61.0	44.8	63.3	66.0	46.2	56.4	56.8

Table 22
County Values as Percent of Texas Values for Female Labor Force Participation, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950	106.7	106.3	119.4	85.1	122.8	124.3	87.3	100.0	107.8
1960	98.8	102.7	110.3	100.3	109.1	119.4	77.9	100.0	104.5
1970	101.8	97.7	115.8	88.1	115.5	120.7	80.6	100.0	102.3
1980	96.3	89.6	113.7	87.3	110.2	117.5	78.0	100.0	97.8
1990	100.0	88.7	108.2	79.4	112.2	117.0	81.9	100.0	100.7

Table 23
County Values as Percent of U.S. Values for Female Labor Force Participation, 1950-1990

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas	U.S.
1950	99.0	98.6	110.7	78.9	113.8	115.2	81.0	92.7	100.0
1960	94.5	98.3	105.5	95.9	104.3	114.2	74.5	95.7	100.0
1970	99.5	95.5	113.1	86.1	112.9	117.9	78.8	97.7	100.0
1980	98.4	91.6	116.2	89.2	112.6	120.0	79.8	102.2	100.0
1990	99.3	88.0	107.4	78.9	111.4	116.2	81.3	99.3	100.0

Source: U.S. Decennial Census, 1950-1990

All of the counties in the study have seen increased female labor force participation throughout the 50-year period, as shown in Table 21. Tables 22 and 23 again reinforce the previous findings that border counties are not following the pattern of the more prosperous Texas urban counties in the comparison group when contrasted with the state and national rates. El Paso County began the post-war period slightly above the Texas participation rates and almost at par with national rates. By 1990, women in the El Paso labor force had diminished to 88 percent of both the Texas and U.S. rates. This directly relates to income, as many households have no second wage earner. These figures do, however, outpace the rates of Hidalgo and Webb County. The more culturally traditional role of wife and stay-at-home mother, coupled with lower divorce rates, may be more prevalent in counties with higher percentages of Hispanic females

Bexar County has had a stable level of female employment throughout the 50-year period, matching the state and national average. Tarrant, Travis and Harris Counties have all outpaced both the Texas and U.S. female labor force participation rates for the period under study, as depicted in Chart 10.

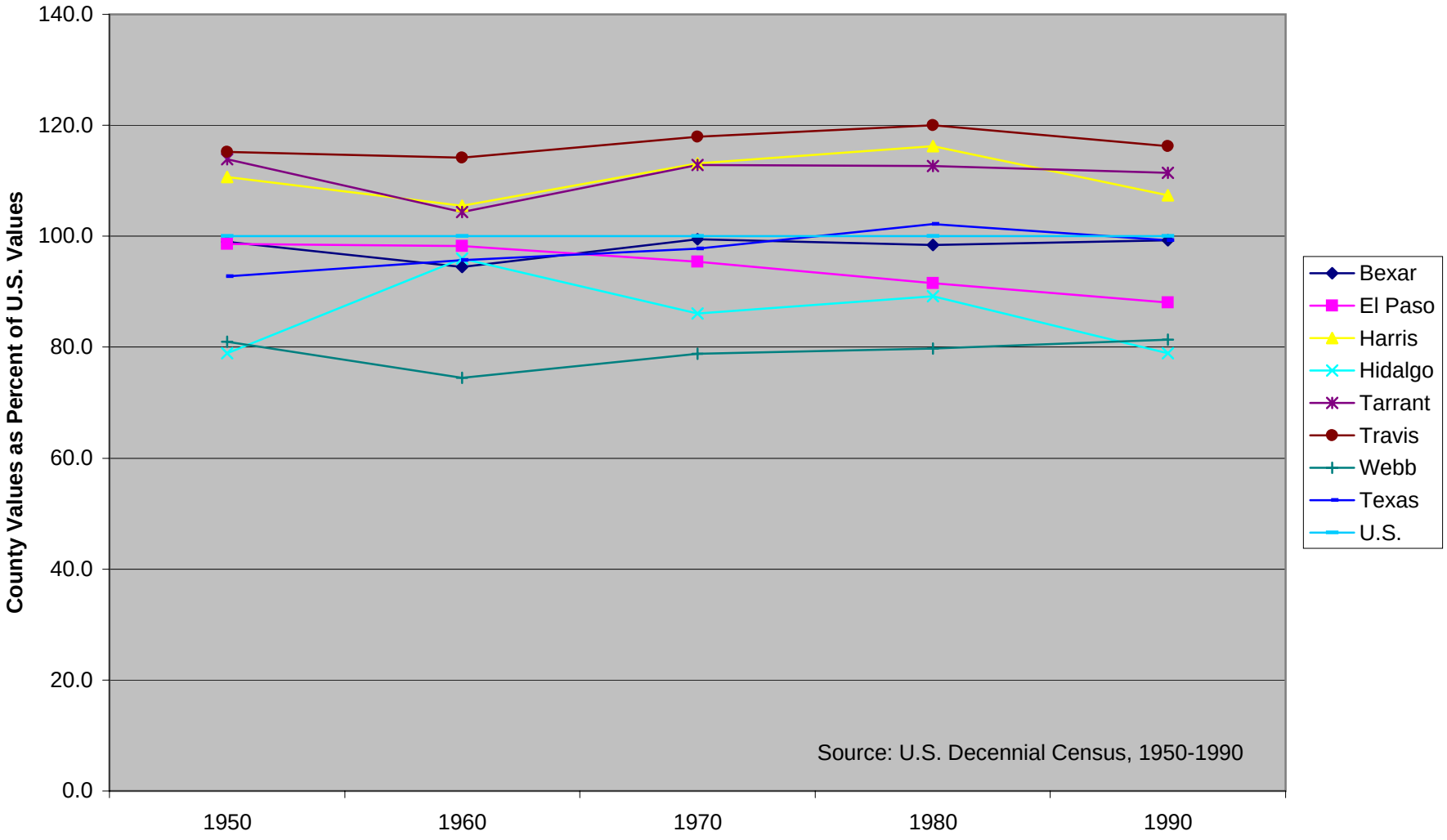
The confluence of a number of factors may be driving the dramatic increased participation of women in the labor force. *Growing broad-based occupational opportunities for women, increased educational attainment, which may fuel the desire for external employment and the economic pressure of low income households, have all combined such that female labor force participation now matches education as a determinant of median family income.* However, there is early evidence according to research conducted by the University of Texas at Arlington on trade-impacted communities that "the relationship between FLFPR and income may be "U" shaped. High participation at low incomes due to the need to work to bolster family incomes is balanced by high participation at high incomes due to higher education and desire to express professional and managerial skills" (Brenner, et al., 1999). As Waldfogel and Mayer report:

> …Declines in the gender wage gap for workers with less than a high school education occurred mainly as a result of earnings losses for men, rather than gains in real wages for women, particularly between 1980 and 1997. For women with less than a high school education employment and annual earnings rose between 1971 and 1980. But their employment, annual earnings, and hourly earnings all declined between 1980 and 1997. Women with a high school education or more experienced real gains in employment and earnings from 1971 to 1980 and again from 1980 to 1997. However, women with just a high school education, like women with less than a high school education, gained mainly due to losses by men, rather than through their own real gains (Waldfogel and Mayer, 1999, p. 8).

In Texas FLFPR has grown steadily in influence on median family income from 11 percent in 1950 to 37 percent association in 1990. The drop in 1970 may reflect the depressed oil industry, stagflation, and the abrupt change from wives as second wage earners to primary earners as their spouses lost jobs in the oil industry. A similar story emerges for the garment industry in El Paso County. Declines in the domestic apparel industry, as companies moved their production facilities to Mexico and other countries to reduce cost, displaced a largely female workforce. Lack of English fluency coupled with largely non-transferable skill sets created major re-employment obstacles. In addition, many of the female former garment workers entered educational programs or re-training programs, which had varying degrees of success, meaning that they were not counted in the workforce.

> The ability of low-skilled women to earn enough to be self-sufficient has declined since 1980, even as their wages have converged with men's. Wages for low-skilled workers have become more fairly distributed between men and women, but they have fallen in absolute terms. Since it is absolute income and not

Chart 10
County Values as Percent of U.S. Values for Female Labor Force Participation, 1950-1990



> income relative to men that determines living standards, the living standard of low-skilled women and their children has declined. Moreover, there is some indication from the National Labor Study data that children now exert a larger negative influence on wages of low-skilled women than they did a few decades ago (Waldfogel and Mayer, 1999, p. 28).

Impact of Childbearing and Marital Status on Female Labor Force Participation

Felice Schwartz (1989) first raised the question of the "Mommy track" and its influence on female labor force participation. Schwartz proposed that corporate America offer women two tracks for career advancement, career primary for fast track, single-minded businesswomen and another for the career with family track. By opting for the "Mommy track," women would be slotted into lower paying positions in return for flexible schedules that allow them to accommodate their family's needs. Additionally, Young and Brenner (2000) find female entrepreneurs facing the challenge of balancing both business and family obligations will seek additional education or business assistance from colleges and universities but need access during non-traditional times and locations, including distance learning.

The presence of pre-school children is the main constraint on full-time employment for women (Desai and Waite, 1991; Lehrer and Nerlove, 1986; Moen, 1985). Some women drop out of paid employment when they have babies or preschool children at home, while others maintain their attachment to the labor market by moving into part-time employment (Moen, 1985; Main, 1988). The use of extended family inter-generational childcare as well as more formal childcare arrangements assist young mothers who are balancing the demands of work and family (Stier, 1998).

The negative career impact of part-time employment impacts both men and women (Beechey and Perkins, 1987; Duffy and Pupo, 1992). This may include being "stuck" in dead-end jobs that require lower skill levels, constraints on promotion, and pay and benefits packages which offer much less than full-time positions (Ermisch and Wright, 1992; Long and Jones, 1981; Stier, 1998).

Table 24 above indicates the national relationship between marital status and female labor force participation rates. Not surprisingly any divorced women, 73.7 percent, who have either assumed the role of single head of household, or who are their own sole support, record the highest participation rates.

Counties with the highest percentage of children under the age of 18 included in this study, El Paso, Hidalgo and Webb, are also the counties with the lowest female labor force participation rates, thus possibly another reason for lower incomes.

RACE AND ETHNICITY: THE EDUCATION AND EARNINGS GAP

The National Perspective

Pursuit of the American dream of a better life for an individual and his or her family has been intricately linked to educational attainment. Anecdotal stories abound of parents working long hours often at two or more jobs to be able to provide post-secondary education for their children. Yet other anecdotal evidence supports the fact that minority youth in particular are sometimes faced with the hard economic reality of having to leave school to enter the workforce to help economically support their family.

Educational gaps translate into earnings gaps between non-Hispanic white and Hispanic youths and adults. In 1999 the median income for non-Hispanic Whites was $25,489 as compared to $20,135 for non-Hispanic Blacks and $16,728 for Hispanics, as shown in Table 25. Chart 11 compares the 1999 median income of all workers age 25 years old and over by race and ethnicity for a levels of educational attainment. *Hispanics and non-Hispanic Whites who do not complete high school have virtually equivalent earnings; however once an individual obtains a high school diploma, or its equivalency, an earnings gap of almost*

Table 24
Female Labor Force Participation by Marital Status, 1995

Marital Status	Participation Rate
All Women	58.9
Never Married	65.5
Married, spouse present	61.1
Married, spouse absent	62.0
Divorced	73.7
Widowed	17.5

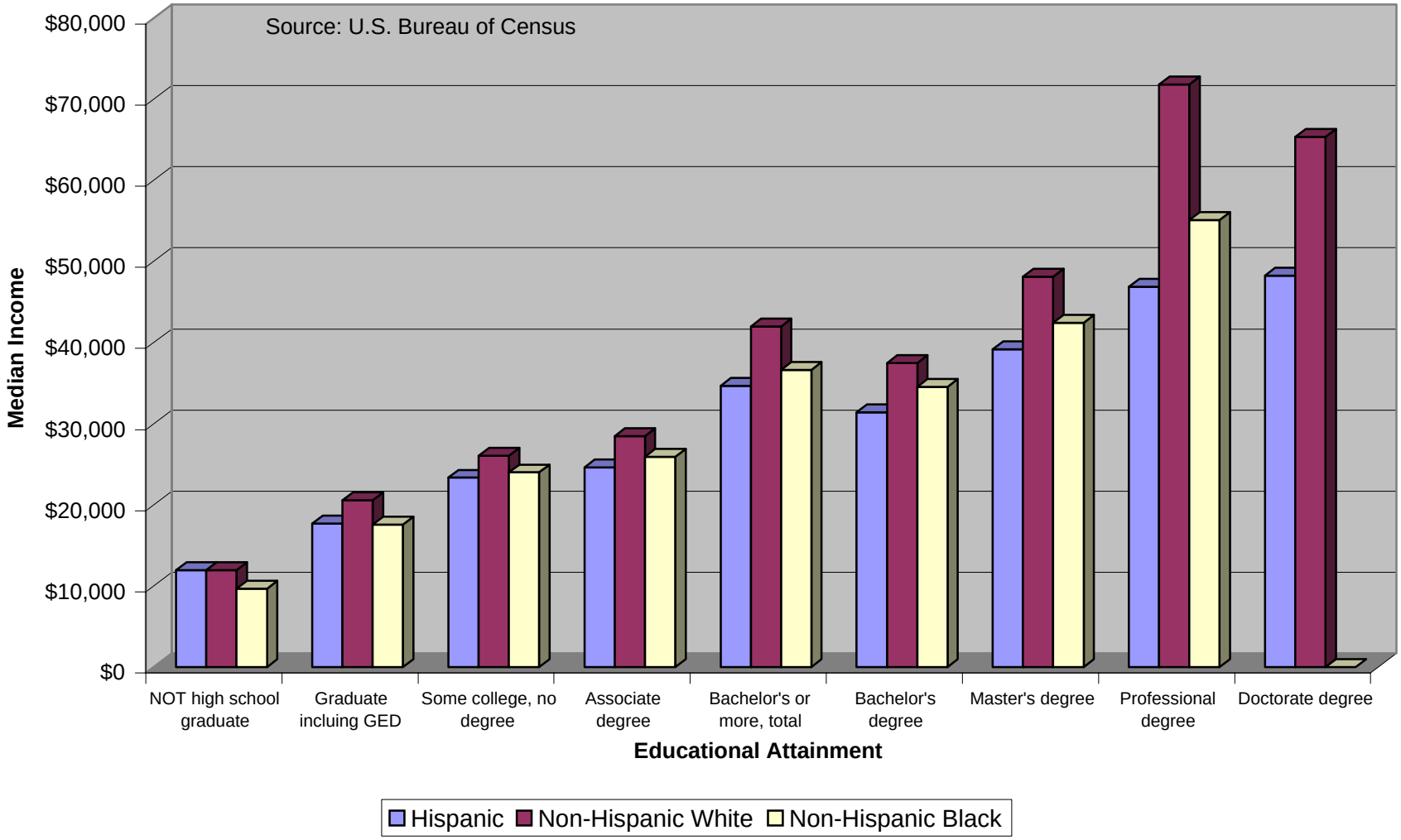
Source: U.S. Department of Labor, Bureau of Labor Statistics, Unpublished Data, March 1995.

Table 25
Income in 1999 by Educational Attainment for All Workers Age 25 Years Old and Over by Race and Hispanic Origin

	HIGH SCHOOL		COLLEGE							
Race/Ethnicity	NOT high school graduate	Graduate incluing GED	Some college, no degree	Associate degree	Bachelor's or more, total	Bachelor's degree	Master's degree	Professional degree	Doctorate degree	Total
Hispanic	$11,978	$17,694	$23,350	$24,629	$34,693	$31,394	$39,177	$46,895	$48,278	$16,728
Non-Hispanic White	$11,942	$20,580	$26,072	$28,456	$42,007	$37,464	$48,135	$71,841	$65,379	$25,489
Non-Hispanic Black	$9,694	$17,585	$24,008	$25,913	$36,628	$34,567	$42,446	$55,130	(A)	$20,135
All Races	$11,606	$19,979	$25,498	$27,493	$41,112	$36,715	$47,468	$67,462	$62,355	$23,598

(A) Insufficient data to be statistically significant
Source: U.S. Census Bureau

Chart 11
Income in 1999 by Educational Attainment for All Workers Age 25 Years Old and Over by Race and Hispanic Origin



$3,000 appears. This earnings gap increases at each additional education level. The earnings gap is even more pronounced if gender is taken into account. In a recent study Carnevale notes that, "The best summary of evidence of our failure to close the opportunity gap is the continuing difference in earnings of all Hispanics and non-Hispanic Whites. On average, non-Hispanic White men earn nearly $17,000 more a year than Hispanic men and on average, non-Hispanic White women earn $6,700 a year more than Hispanic women" (Carnevale, 1999, p. 23.)

Chart 12 depicts the difference in median income calculated in 1999 dollars for non-Hispanic White and Hispanics by gender from 1972 to 1999. While increases in female labor force participation had a positive impact on non-Hispanic White women's earnings, *the startling revelation is that Hispanic female's income has essentially been flat at approximately $10,000 throughout the 27-year period.* Although non-Hispanic White women's earnings were also fairly flat from 1972 to 1980, beginning in 1980 their median income has shown a slow but steady upward trend.

The 27-year period from 1972 to 1999 saw a steady erosion of the manufacturing base in the United States. The loss of high pay-low skill jobs associated with factory work has impacted male earnings. Nationally, non-Hispanic White males' median income fell in the decade from 1972 through 1982 and except for the economic downturn of the early 1990's shows a slow upward trend in earnings, as seen in Table 26. By 1998, non-Hispanic White males' earnings exceeded the 1973 level for the first time in 25 years. In contrast, Hispanic male earnings, in constant dollars, show a downward trend from $21,777 in 1972 to a low of $15,783 in 1993 when an increase in earnings begins to appear. *By 1999 the median income for Hispanic males of $18,234 remains $3,477 behind the level of earnings enjoyed in 1972 in real or constant dollars.*

The State of Texas, El Paso and Comparison Counties

In this section, we will consider the educational attainment and median income in the State of Texas, El Paso County and the comparison counties. *The largest disparities in educational attainment appear at the lowest rung of the educational ladder.* In 1980, when compared to all Texans 51.2 percent of Hispanics had less than a 9th grade education as shown in Table 27. In the decade that followed that margin had narrowed by only 6 percent, such that 13.5 percent of all Texans, yet 37.9 percent of Hispanics had less than 9th grade education, as depicted in Tables 28. Charts 13 and 14 depict county values as a percentage of Texas values for Hispanic origin persons in 1990 and 1980, respectively. While mitigating factors, beyond discrimination and poverty, such as immigrant status, including age at time of entry to U.S., as well as age of entry into the U.S. educational system, may play a role in the large number of Hispanics lacking the credential of a high school diploma. The fact that over half of the fastest growing demographic group in Texas is educationally mismatched to the most basic existing workforce entrance criteria is troubling. As the Texas State demographer contends, "If the current relationships between minority status and educational attainment, occupations of employment, and wage and salary income do not change in the future from those existing in 1990, the future work force of Texas would be less educated, more likely to be employed in lower status occupations, and earning lower wages and salaries than the present work force of the state" (Murdock, 1997, p. 133).

In the past two decades, the adult Hispanic workforce in El Paso County, while still lagging behind all Texas students at the lower rung of the educational ladder, fairs slightly better than Hispanics statewide in regards to high school and college completion, as shown in Tables 29 and 30. An area of concern is the increased percentage of adults who left high school in grades 9 through 12 before receiving their degree, from 12.9 percent in 1980 to 15.2 percent in 1990. Furthermore, with 20.7 percent of all adult Hispanics having some

Chart 12
Median Income for Non-Hispanic White and Hispanic Persons by Gender (1999 Dollars)

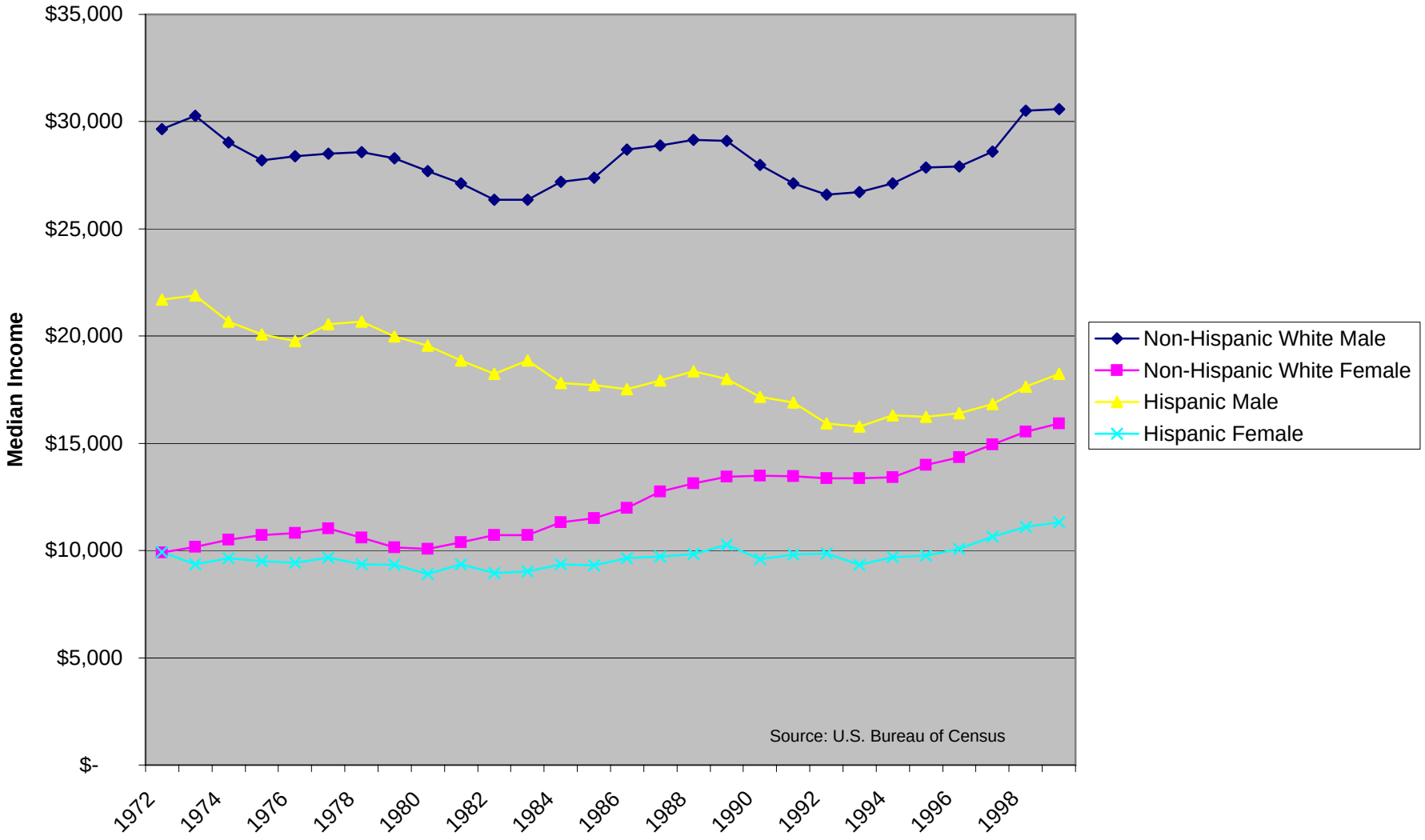


Table 26
Median Income by Race and Hispanic Origin in the United States
(1999 Dollars)

	Non-Hispanic White		Hispanic	
	Male	Female	Male	Female
1972	$ 29,654	$ 9,906	$ 21,711	$ 9,932
1973	$ 30,263	$ 10,176	$ 21,884	$ 9,361
1974	$ 29,022	$ 10,506	$ 20,682	$ 9,656
1975	$ 28,203	$ 10,719	$ 20,090	$ 9,492
1976	$ 28,381	$ 10,807	$ 19,773	$ 9,421
1977	$ 28,517	$ 11,029	$ 20,553	$ 9,672
1978	$ 28,569	$ 10,611	$ 20,683	$ 9,349
1979	$ 28,286	$ 10,147	$ 19,972	$ 9,343
1980	$ 27,694	$ 10,081	$ 19,553	$ 8,917
1981	$ 27,129	$ 10,388	$ 18,866	$ 9,356
1982	$ 26,358	$ 10,709	$ 18,248	$ 8,957
1983	$ 26,358	$ 10,709	$ 18,865	$ 9,036
1984	$ 27,190	$ 11,320	$ 17,800	$ 9,348
1985	$ 27,393	$ 11,516	$ 17,704	$ 9,321
1986	$ 28,687	$ 11,995	$ 17,529	$ 9,634
1987	$ 28,882	$ 12,756	$ 17,936	$ 9,723
1988	$ 29,156	$ 13,120	$ 18,350	$ 9,844
1989	$ 29,101	$ 13,453	$ 18,004	$ 10,274
1990	$ 27,989	$ 13,487	$ 17,170	$ 9,601
1991	$ 27,123	$ 13,456	$ 16,902	$ 9,802
1992	$ 26,598	$ 13,361	$ 15,921	$ 9,865
1993	$ 26,715	$ 13,373	$ 15,783	$ 9,339
1994	$ 27,117	$ 13,428	$ 16,300	$ 9,682
1995	$ 27,855	$ 14,000	$ 16,223	$ 9,760
1996	$ 27,915	$ 14,349	$ 16,391	$ 10,070
1997	$ 28,606	$ 14,936	$ 16,832	$ 10,650
1998	$ 30,522	$ 15,553	$ 17,638	$ 11,102
1999	$ 30,594	$ 15,922	$ 18,234	$ 11,314

Source: U.S. Bureau of the Census

Table 27
Percentage of Persons 25 Years Old and Over of Hispanic Origin by Years of School Completed, 1980

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas
Less than 9th grade	43.8	46.3	43.6	62.9	45.3	38.0	51.8	51.2
9th-12th grade, no diploma	14.1	12.9	15.7	8.2	14.7	14.6	10.5	13.3
High School graduate[1]	24.5	24.0	22.4	14.6	21.8	24.2	18.4	20.3
Some College, no degree	12.4	10.8	10.5	8.1	11.3	11.8	11.4	9.5
Bachelor's degree or higher	5.2	6.0	7.7	6.2	6.9	11.4	7.9	5.6

[1]Includes GED Source: U.S. Census, 1980 Tape File 3A

Table 28
State of Texas Educational Attainment of Persons Age 25 and Over, 1980-1990

	1980		1990	
	All Students	Hispanic Students	All Students	Hispanic Students
Less than 9th grade	20.7	51.2	13.5	37.9
9th-12th grade, no diploma	16.7	13.3	14.4	17.5
High School graduate[1]	28.8	20.3	25.6	20.6
Some College, no degree	17.0	9.5	26.2	16.7
College, 4 or more years	16.9	5.6	20.3	7.3

Source: U.S. Census, 1980 Tape File 3A; 1990 Census of Population and Housing, Summary Tape File 3, 1990

Table 29
County Values as Percent of Texas Values for Percentage of Persons 25 Years Old and Over of Hispanic Origin by Years of School Completed, 1980

	Bexar	El Paso	Harris	Hidalgo	Tarrant	Travis	Webb	Texas
Less than 9th grade	85.5	90.5	85.2	122.8	88.5	74.2	101.2	100
9th-12th grade, no diploma	106.2	96.6	118.1	62.0	110.3	110.1	78.8	100
High School graduate[1]	120.8	118.0	110.4	71.8	107.5	119.1	90.8	100
Some College, no degree	130.2	114.0	111.0	85.6	118.7	124.0	119.7	100
Bachelor's degree or higher	92.6	107.4	138.2	109.9	123.5	204.3	140.7	100

[1]Includes GED Source: U.S. Census, 1980 Tape File 3A

Chart 13
County Values as Percentage of Texas Values for Educational Attainment of Persons 25 Years and Over of Hispanic Origin, 1980

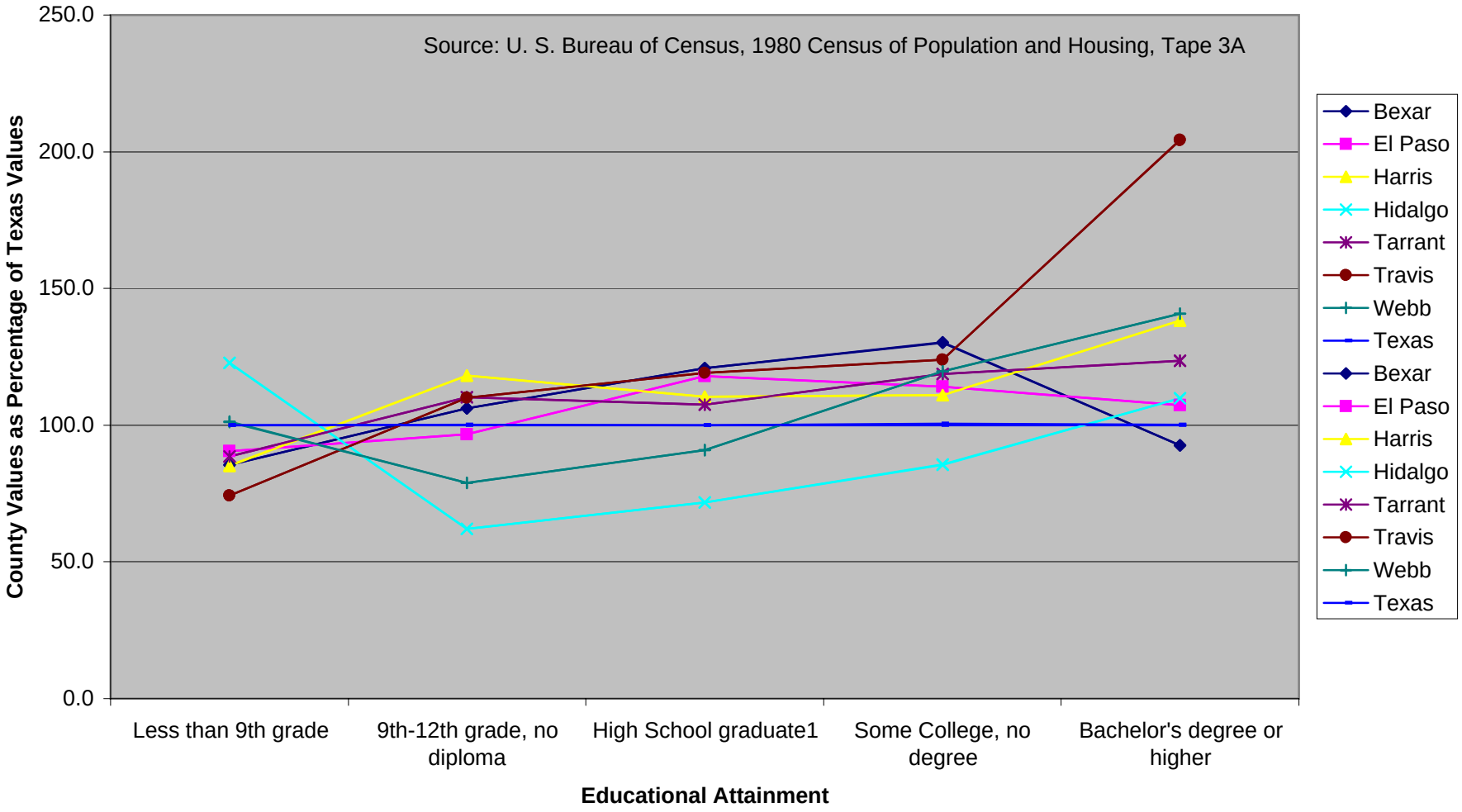


Chart 14
County Values as a Percentage of Texas Values for Educational Attainment by Hispanic Origin of Persons 25 Years Old and Over, 1990

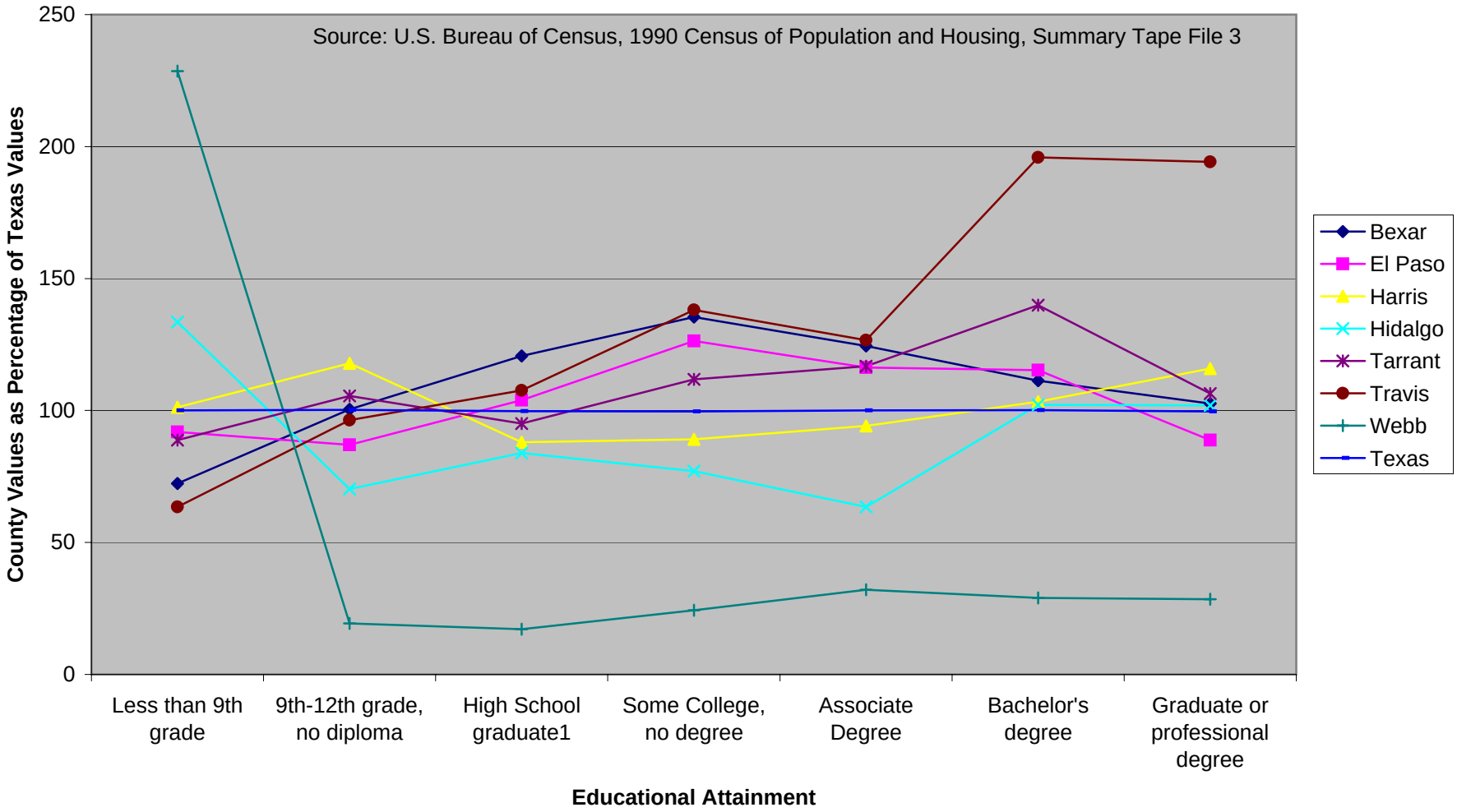


Table 30

El Paso County Educational Attainment of Persons Age 25 and Over, 1980-1990

	1980		1990	
	All Students	Hispanic Students	All Students	Hispanic Students
Less than 9th grade	28.9	46.3	23.7	34.8
9th-12th grade, no diploma	11.6	12.9	12.6	15.2
High School graduate[1]	29.1	24.0	23.0	21.4
Some College, no degree	16.4	10.8	25.5	20.7
College, 4 or more years	14.0	6.0	15.2	7.8

Bexar County Educational Attainment of Persons Age 25 and Over, 1980 - 1990

	1980		1990	
	All Students	Hispanic Students	All Students	Hispanic Students
Less than 9th grade	23.9	43.8	14.7	27.4
9th-12th grade, no diploma	13.0	14.1	12.6	17.6
High School graduate[1]	29.0	24.5	24.5	24.9
Some College, no degree	18.1	12.4	28.4	22.2
College, 4 or more years	16.0	5.2	19.7	7.9

Harris County Educational Attainment of Persons Age 25 and Over, 1980-1990

	1980		1990	
	All Students	Hispanic Students	All Students	Hispanic Students
Less than 9th grade	14.5	43.6	11.3	38.4
9th-12th grade, no diploma	14.9	15.7	13.7	20.6
High School graduate[1]	28.7	22.4	23.3	18.1
Some College, no degree	18.8	10.5	26.2	15.1
College, 4 or more years	23.0	7.7	25.4	7.8

Hidalgo County Educational Attainment of Persons Age 25 and Over, 1980-1990

	1980		1990	
	All Students	Hispanic Students	All Students	Hispanic Students
Less than 9th grade	49.0	62.9	41.1	50.6
9th-12th grade, no diploma	9.9	8.2	12.3	12.3
High School graduate[1]	18.9	14.6	19.6	17.3
Some College, no degree	11.4	8.1	15.6	12.4
College, 4 or more years	10.8	6.2	11.5	7.5

Tarrant County Educational Attainment of Persons Age 25 and Over, 1980-1990

	1980		1990	
	All Students	Hispanic Students	All Students	Hispanic Students
Less than 9th grade	13.4	45.3	7.4	33.7
9th-12th grade, no diploma	17.0	14.7	12.7	18.5
High School graduate[1]	31.0	21.8	24.8	19.6
Some College, no degree	20.3	11.3	31.1	18.9
College, 4 or more years	18.4	6.9	24.0	9.4

Source: U.S. Census, 1980 Tape File 3A; 1990 Census of Population and Housing, Summary Tape File 3, 1990

Table 30 -- Continued

Travis County Educational Attainment of Persons Age 25 and Over, 1980-1990

	1980		1990	
	All Students	Hispanic Students	All Students	Hispanic Students
Less than 9th grade	12.9	38.0	7.2	24.1
9th-12th grade, no diploma	11.7	14.6	9.4	16.9
High School graduate[1]	25.5	24.2	19.4	22.2
Some College, no degree	19.8	11.8	29.3	22.7
College, 4 or more years	30.2	11.4	34.7	14.3

Webb County Educational Attainment of Persons Age 25 and Over, 1980-1990

	1980		1990	
	All Students	Hispanic Students	All Students	Hispanic Students
Less than 9th grade	47.8	51.8	37.2	86.6
9th-12th grade, no diploma	10.7	10.5	15.0	3.4
High School graduate[1]	19.2	18.4	16.5	3.5
Some College, no degree	12.4	11.4	20.2	4.3
College, 4 or more years	9.8	7.9	11.1	2.1

Source: U.S. Census, 1980 Tape File 3A; 1990 Census of Population and Housing, Summary Tape File 3, 1990

college, but no degree, the need to reach out to adults desiring to complete bachelor's level education, which significantly increases earnings potential, is critical.

Clearly among the comparison counties, the gravest educational challenge exists in Webb and Hidalgo, where 86.6 percent and 50.6 percent, respectively, of adults age 25 years and over lacked a 9th grade education in 1990, as seen in Table 30. Interestingly, a number of the comparison counties have higher percentages of the adult workforce without a high school diploma than El Paso at 12.6 percent for all students with Hispanics at 15.2 percent. Among these, Bexar reports a higher rate among Hispanics (17.6 %), as do Tarrant (18.5 %) and Travis (16.9 %), but equivalent overall rates. The highest high school graduation rates are reported in Harris, Tarrant and Bexar, with El Paso (23.0 %) highest among border counties and surpassing Travis county (19.4 %) seen in Table 30 for 1990.

Post-secondary degree completion is another important consideration, especially with the workplace linkages of increased salary and wages attributable to degree completion. In El Paso County, for 1990, 7.8 percent of Hispanic adults have completed 4 or more years of college while statewide 20.3 percent of adults hold bachelor's or higher degrees. This education gap may explain much of the earnings gap that exist in the county. Comparable levels of college graduation rates are found in Bexar, Harris and Hidalgo Counties and in the State of Texas. In Webb County only 2.1 percent of the adult work force holds a 4-year college degree. The highest levels of post-secondary degree completion for Hispanic adults are found in Travis (14.3 %) and Tarrant (9.4 %) Counties.

(Note: Local level data, which will inform the discussion on the educational attainment and income by race and ethnicity, is currently being developed by the Texas State Data Center. The demands of processing the 2000 decennial data and the recent condemnation of their building, which is forcing an unplanned re-location, have impacted the delivery of this data. This information will be added to the report as soon as it becomes available.)

CONCLUSIONS AND POLICY IMPLICATIONS

A recent working paper from the U.S. Census Population Division focused on educational attainment projections for the U.S. population. Four major influences that may impact future educational levels were identified in *Have we reached the top? Educational attainment projections of the U.S. Population* (Day and Bauman, 2000). In summary they are:

1*) In their analysis of age cohort degree completion, "Overall education levels increased as older, less-educated cohorts were replaced by younger (better educated) ones."* This supports earlier arguments by Thompson that high school completion as a terminal educational goal has been supplanted by college degree acquisition as a norm. The differentiation in labor market hiring a college degree created in the post WWII years is today represented by completion of a graduate degree.

In this regard, El Paso faces a dual challenge, increasing high school and college completion rates, while, at the same time, providing employment opportunities for graduates. The major community efforts in the past three years have focused primarily on K through 12. The local school districts, El Paso Community College and the University of Texas at El Paso, through the leadership of the Collaborative for Academic Excellence, in partnership with the El Paso business community have examined, conferred and developed action plans to move educational attainment forward in the city. Growing out of the 2000 Education Summit, working groups are addressing issues like parent/community involvement, teacher preparation, recruitment and retention, local accountability as well as accessibility to higher education.

One particularly important effort, in light of the importance of math in developing a technology-based workforce, is curriculum alignment efforts between high school and college mathematicians. According to data collected by the Collaborative, three-quarters of all El Paso Community College students and just under one-half of UTEP students are placed into developmental, or

remedial, math courses. This occurs because half of the 1999 graduates of the "Big Three" districts (El Paso, Socorro and Ysleta) earned their diplomas by completing the minimum high school program, which requires much less of students, particularly in the areas of math and science. Those same students who may choose to pursue higher education must then spend the early portion of their college years addressing these deficiencies and, subsequently add to their college period. One of the major emphases emerging from the summit process was a community-wide effort to encourage more high school students to pursue academically rigorous programs (Brenner, 2001.) Data collected by the Collaborative indicates that students enrolled in a rigorous college prep curriculum score 112 points higher on the SAT than other students and are twice as likely to exempt, or pass all three sections of the Texas Academic Skills Program, which is required for entrance into public higher education in the state, than students who pursue the minimum high school degree plan (Collaborative for Academic Excellence, 2001).

At El Paso Community College, over half (55.7 percent) of first time in college students enroll in academic majors as opposed to 44.3 percent in technical majors. Under a special program funded by the U.S. Department of Education, Integrated Vocational and Academic Learning Program (IVALP), EPCC is combining the efforts of academic and vocational instructors to incorporate academic competencies into vocational courses. The goal of the program is to provide better skilled employees for the highly technical workplace of the 21st century. EPCC has also established over 100 business partnerships, which provide both internship opportunities as well as job shadowing, and other integration of academic and technical skill preparation to assist students in their entry into the workforce.

Under the leadership of President Diana Natalicio, the University of Texas at El Paso is focusing efforts on providing supports for entering students, both academically and socially, to increase retention of freshmen. She recently elevated a 3-year old program to college-level status by creating the College for University Studies. The college will house the Entering Student Program (ESP), University Studies (University Seminar), Student Advising, the Tutoring and Learning Center (TLC) and departments involved with Enrollment Services. Funding for the new college will come from the included departments and a U.S. Department of Education grant.

While the combination of these efforts is promising for the future of El Paso, systemic change takes time and the business leaderships' active engagement in the process is critical to a long-term strategy. The combined efforts of the Greater El Paso Chamber of Commerce, El Paso, Socorro and Ysleta Independent School Districts, El Paso Community College and the University of Texas at El Paso resulted in a contract with the National Center on Education and the Economy (NCEE) to provide guidance in the process. UTEP will be working with NCEE to analyze the demand side of the local labor market with particular attention to the changing job skills and performance standards necessary to move students from academia to full participants in the 21st century labor force. Prior research efforts by the Texas Business and Education Coalition will also inform this work.

El Paso does not start this marathon of educational transformation on par with either the State of Texas or the U.S. *In El Paso high dropout and non-completion rates have historically coupled with low college graduation rates creating a vicious cycle. Without a growing pool of college graduates nor an adequate supply of industries to employ them, those who are graduating with 21st century skill sets, have limited options with the net result that El Paso could be one or two decades behind.* However as the various players, pre-K-12 educators, parents, the community college, the university, and business and community leadership keep encouraging the process, more educated younger generations will have the potential for greater success in the workforce and increased earning power. In essence, the focus may be largely on the next generation for excellence while providing new opportunities to the current cohort of students in our system.

2) Changing demographics with increases in minority group population, as a proportion of the total U.S. population is clearly evident. Thus, "*For Hispanics in particular, the growth in numbers is not matched by a growth in education levels…the issue of minority education has been directly tied to concerns about the quality of the American labor force* (Miller, 1997)."

Analysis of state level data reveals an even more pronounced trend. As the State Demographer argues, "If the current relationships between minority status and educational attainment, occupations of employment, and wage and salary income do not change in the future from those existing in 1990, the future work force of Texas would be less well educated, more likely to be employed in lower state occupations, and earning lower wages and salaries than the present workforce of the state…Preparing Texas workers to compete more effectively in the increasingly competitive international work force of the future will require changing current patterns of relationships between minority status and other characteristics by improving the educational and skill levels of Texas minority workers" (Murdock, et al., 1997). El Paso clearly falls into this area. Without an educational system that meets educational needs of employers, then lower level wages will remain. The problem is the chicken and egg…schools are innovative in El Paso, but it would seem at not a fast enough pace and educators are sometimes hampered by teaching tests that get you out of high school but do not prepare you for college.

The achievement gap among students continues to narrow in El Paso. Because math achievement gains during 1990-2000 were the greatest among ethnic minority group students, the passing rate gap between Hispanic and White students has also been reduced as depicted in Table 31 (Collaborative for Academic Excellence, 2001).

In El Paso, efforts at the K-12 level are producing results in increasing graduation rates for Hispanic youth. As reported in the El Paso Urban Systemic Initiative Program Effectiveness Review Report (1998), "Looking at the progression of enrollment from grade 8 through high school provides a different picture. For example, across the three (*largest)* districts grade 8 enrollments in 1993 were 9,805 and in 1997 grade 12 enrollment was 7,660 (or 78 percent of the 8th grade class four years earlier.) The Hispanic enrollment in 1993 was 7,704 and in 1997 grade 12th enrollment was 6,043 (or 78 percent of the 8th grade class four years earlier). Thus, for the three districts combined, Hispanic students made it to grade 12 at the same rate as the total student body."

As more Hispanics are completing high school, the next question is how prepared are they for higher education, or the workforce? Analysis of the graduation data of Hispanic youth by degree plan for the Class of 2000 reveals that 60 percent of the students in Ysleta ISD completed the recommended or higher degree plan compared with 41 percent in El Paso ISD and 36 percent in Socorro. The Commissioner's report on *The Condition of Education 2001* from the National Center for Education Statistics notes, "taking advanced mathematics in high school increases the likelihood of enrollment in a 4-year institution, especially for first-generation students" (p. v). *Clearly, continued efforts need to focus on moving Hispanic students into more rigorous degree programs, particularly those that emphasized additional years of math and science and to sustain or improve all other groups.*

Another indicator of preparation for success in college is performance on the Scholastic Achievement Test (SAT). El Paso's Hispanic high school students scored an average of 143 below white students from 1996-1998. Thus, it follows that while 88 percent of EPCC's and 70 percent of UTEP's enrollment are Hispanic students, they may be arriving less ready to compete than their non-Hispanic White counterparts.

Maintaining a strong support system for Hispanic students is critical throughout their educational careers. Entering student programs, tutoring, and a myriad of other enhancements increase the probability that Hispanic students will successfully negotiate the shoals of higher education.

Table 31

TAAS[1] Passing Rates for Hispanic Students in El Paso, Socorro and Ysleta ISDs

School Year	All Tests		Math	
	Hispanic	White	Hispanic	White
1992-93	30.3	58.2	70.3	63.1
1997-98	70.3	87.8	79.7	91.4

Source: El Paso Collaborative for Academic Excellence

[1] Texas Assessment of Academic Skills.

College completion is a major issue confronting all post-secondary institutions. Locally, the community college has a dual institutional mission, both to prepare students with work prep and technical certifications and to offer academic degrees. The focus on work prep certification rather than technical certification is evident in 10-year statistics, which show a 21 increase in work prep certifications and a 61 percent decrease in technical certificates awarded, such that for 1998-99, 532 technical degrees and 230 technical certificates were awarded.

While El Paso Community College increased the number of academic degrees awarded by 65 percent, between 1990 and 1999, the total number of students receiving an associate's degree in an academic field was only 227 for 1998-99. *Since an associate's degree in an academic field can be the springboard to a baccalaureate, continuing the college's upward trends to increase academic degree completion at EPCC should be strongly supported.*

The University of Texas at El Paso has been the recipient of numerous grants, which permit additional support for Hispanic and female students. One particularly successful program, funded by the National Science Foundation, places entering science and engineering students in cohort groups to take basic classes together. This concept of a study circle creates an immediate support group of peers who can support each other in the learning process, as well as maintaining access to tutoring services.

UTEP has also established itself as a national leader in encouraging Hispanics to pursue higher education. In a unique program that reaches out to middle school aged Hispanics and their mothers, the mother-daughter program just completed its 15th year of operation. By offering seminars, bringing young women and their mothers on campus, the mother-daughter program models the value of higher education. Many of the mothers have chosen to pursue their own higher educational goals as a result of participating in the program with their daughters.

3) *Concerns over the role of immigration include both its dramatic increase over the past 50 years as well as the fact that many immigrants have low levels of formal education.* Separating native and foreign-born populations, especially for Hispanics, is necessary to give a truer picture of educational attainment. The U.S. Census projections for educational attainment, included as Table 32, show high school completion rates for both men and women are 20 percent higher for native as compared to foreign-born Hispanics in 2003 and 25 percent higher for 2028.

Texas' proximity to Mexico raises the question of educational attainment in that country. The Mexican educational system is broken into three segments, *primaria* (grades 1-6), *secundaria* (grades 7-9) and *preparatoria* (grades 10-12, college preparation). President Salinas (1988-94) made completion of *secondaria* mandatory for Mexican youth. One of the hallmarks of Mexican education has been very strong development of mathematical skills. Anecdotal evidence suggests that Mexican nationals who have completed *secundaria* and immigrate to the United States have been successful in passing the Spanish language GED. However, if these same immigrants were asked to complete the U.S. decennial census, they would characterize their educational attainment as the 9th grade.

Earlier work by Bean, et al. (1994) finds that in the period 1960 to 1988, the Mexican nationals who immigrated to the U.S. show declining educational levels among more recent immigrants. The Mexican financial crises and subsequent peso devaluation, the 1985 earthquake in Mexico City, growing migration from rural areas to cities which hold the promise of *maquiladora* employment, and increased through-migration of persons from Latin America, may all contribute to the lower educational levels of Mexican and other nationals who immigrate to the U.S. Table 33 shows the percent foreign born in major Texas cities.

Immigration is El Paso, it has always been the "pass" for immigrants in transit. The reality is immigration is systematic and/or necessary to find a better job and life, for many. As the 2000 Census data becomes available on the state and county level, it will be important for Texas and border

Table 32
Educational Attainment Projections to 2028, U.S. Population Age 25 and Older

	Percent at Stated Level or Higher, 2003			Percent at Stated Level or Higher, 2028		
	High School	Post-secondary	Bachelors	High School	Post-secondary	Bachelors
TOTAL	83.2	48.4	23.9	87.3	55.8	27.6
NATIVE BORN						
Total	85.7	49.4	23.7	90.3	57.2	27.3
White male	88.3	55.1	29.5	92.7	59.9	31.3
Black male	77.2	37.8	13.3	86.3	42.2	12.7
Hispanic male	67.1	37.9	14.8	73.0	40.9	13.6
Asian male	91.3	68.2	46.3	95.5	73.0	46.0
White female	88.0	48.5	22.1	93.6	61.0	30.3
Black female	77.7	39.2	13.6	88.1	51.7	17.4
Hispanic female	65.9	35.3	13.0	74.2	46.1	16.9
Asian female	86.9	59.7	37.4	94.0	74.9	48.8
FOREIGN BORN						
Total	67.2	42.2	25.1	72.5	49.1	29.1
Hispanic male	46.1	25.0	11.2	49.9	25.5	10.4
Asian male	87.0	66.1	49.1	91.1	71.7	50.7
Hispanic female	44.3	21.4	8.3	50.4	25.9	10.0
Asian female	81.1	54.3	35.6	87.5	66.1	44.3

Source: U.S. Census Population Division Working Paper No. 43

Table 33
Nativity of the Population for Major Urban Places in Texas

Year		Total	Native	Foreign Born	
				Number	Percent
1950	Austin	131,645	127,930	3,715	2.8
	Dallas	432,970	424,620	8,350	1.9
	El Paso	130,505	108,655	21,850	16.7
	Fort Worth	277,585	273,465	4,120	1.5
	Houston	594,585	577,030	17,555	3
	San Antonio	407,335	374,340	32,995	8.1
1960	Austin	186,545	182,209	4,336	2.3
	Dallas	679,684	666,964	12,720	1.9
	El Paso	276,687	233,673	43,014	15.5
	Fort Worth	356,729	351,913	4,816	1.4
	Houston	938,219	913,920	24,299	2.6
	San Antonio	588,064	548,258	39,784	6.8
1970	Austin	251,791	246,294	5,497	2.2
	Dallas	844,280	826,854	17,426	2.1
	El Paso	322,261	277,919	44,342	13.8
	Fort Worth	393,516	387,577	5,939	1.5
	Houston	1,231,572	1,194,071	37,501	3.0
	San Antonio	654,468	615,779	38,689	5.9
1980	Austin	345,544	328,840	16,704	4.8
	Dallas	904,074	849,162	54,912	6.1
	El Paso	425,259	334,352	90,907	21.4
	Fort Worth	385,166	366,854	18,312	4.8
	Houston	1,595,167	1,439,590	155,577	9.8
	San Antonio	785,809	720,933	64,876	8.3
1990	Austin	465,577	425,951	39,626	8.5
	Dallas	1,006,831	880,969	125,862	12.5
	El Paso	515,342	394,910	120,432	23.4
	Fort Worth	447,619	407,319	40,300	9.0
	Houston	1,630,672	1,340,298	290,374	17.8
	San Antonio	935,927	848,378	87,549	9.4

Source: U. S. Bureau of Census, March 9, 1999

communities to analyze the educational attainment by nativity. This case is clearly evident in El Paso*. Without too much effort standards and measures to determine equivalence, combined with opportunities to obtain GEDs may be a quick fix.*

4) *The timing of school completion is changing*. "Educational attainment has ceased to be fixed in early adulthood, especially among members of ethnic and racial minorities…age at completion of schooling is higher for Blacks and Hispanics than it is for Whites" (U.S. Census Bureau 1997). *The enrollment rate of Blacks and Hispanics in their 30s is more than half again as high as the rate among whites when compared to the enrollment rate of each group in their 20s.* The delayed completion of education may be reflected in lower education levels in younger groups," according to the U.S. Census Bureau.

In El Paso, the average undergraduate student at UTEP is 24 years old while the median age for graduate students is 31 years of age. In cohort group research that the university is conducting that follows entering freshmen through graduation, between 12 to 15 percent of students who entered college from 1993 through 1995 graduated after 5 years and that increases to 24 percent after 6 years. Length of completion is sometimes offset with more cooperative internship programs. Flexibility clearly needs to be a pivotal practice in higher education, which should embrace with more vigor teaching at the workplace, on weekends, and offering expanded evening and intensive classes. Demands of parenting and families, the economic necessity of working, either full or part-time, and issues of finances and transportation, often influence longer completion times. In addition, UTEP accepts a high percentage of provisional students, who do not meet basic entrance requirements but are allowed to attempt college-level coursework while taking developmental classes in areas like math and writing. Completing their college education is extended for provisional students when they receive their unconditional admittance to the university because of the "catch-up" time; however they are included in the official statistics the university must report on graduation rates. The National Center for Education Statistics finds that "taking rigorous coursework in high school increases the likelihood of persistence toward a bachelor's degree, especially for first-generation students" (p. v).

El Paso Community College has been pursuing flexible course offerings, which include "power packs," three-week sessions of full time attendance for one class and weekend classes that may offer an appealing option to working adults. Distance learning by both higher education institutions is another important option, expansion of which will make off-site offerings available to more students.

5*) The role of citizenship.* In another study conducted for the Immigration and Naturalization Service of the U.S. Department of Justice, the U.S. Census Bureau finds that citizenship status also influences educational attainment. At the low end of the educational ladder 27.3 percent of non-U.S. citizens have less than a 9th grade education as compared to 15.6 percent for naturalized citizens and 4.7 percent native born persons. Interestingly, college degree completion at the bachelor and master's level is higher for naturalized citizens than for native born. One possible explanation may be that the desire for citizenship and pursuit of the American dream may fuel the pursuit of higher education by naturalized citizens, while others arrive in this country with academic credentials in hand and may eventually seek American citizenship. Lowell (2001) finds that the adjustment of students with foreign F visas, as much as one quarter of all holders, to employment-based long-term permanent residency (LPR) status and H-1B specialty worker status coupled with the H-1B temporary visa holders who adjust to LPR form a highly educated core group of workers. Although the Immigration and Naturalization Service does not track visa adjustments of individuals nor are they able to link adjustments to obtaining U.S. citizenship, undoubtedly many well-educated long term permanent residents may eventually seek to become naturalized, boosting educational attainment statistics for naturalized citizens.

In El Paso, the prevalence of students who are the first generation to go to college is apparent. Efforts by community-based groups like El Paso Inter-religious Sponsoring Organization (EPISO) who work in partnership with parents and the public schools to raise educational expectations, especially regarding post-secondary education, are important models that need to be replicated. The Collaborative for Academic Excellence is currently working with twelve Alliance Schools to identify and sustain key relationships with service organizations, parent groups, community-based organizations and outreach programs (El Paso Urban Systemic Initiative Program Effectiveness Review Report, 1998).

Efforts by Texas Governor Rick Perry and the Texas legislature will lead to expanded Texas tuition grants for economically disadvantaged students. In its third year of operation, the Toward Excellence, Access and Success (TEXAS) Grant scholarship program goal is to increase postsecondary education in the State by making college more financially accessible. The University of Texas at El Paso will receive $4.1 million for the 2001-2 school year; triple the amount available during the past academic year. This will remove a major financial barrier for many students. In order to qualify for the TEXAS Grant scholarship high school students must complete the recommended or advanced high-school curriculum, which adds another financial incentive for more rigorous course work and underscores the importance of parental and community support for this additional academic effort by students. *Local colleges and universities need to maintain and expand relationships with local public school guidance counselors to make the higher education application including financial aid, an easy seamless process for students and their parents.*

In particular immigrant parents need access to information. The Congressional Hispanic Caucus Institute reporting on its summit, *Education for the 21st Century,* sites the problem of poor communication with parents. They note, "Low expectations of Hispanic students held by educators may be the result of ineffective communication between home and school. In many families, the child has the greater command of English and serves as translator between school officials and the family. Current ESL (English as Second Language) programs do not prepare Hispanic children to act as social workers/advocates for the interests of their families" (2001). Furthermore, the National Center for Education Statistics (2001, p. v) finds that, "high school graduates whose parents did not attend college remain at a disadvantage with respect to postsecondary access even after taking into account other important factors such as educational expectations, academic preparation, support from parents and schools and family income. Also according to these studies, among those who overcome the barriers to access and do enroll in postsecondary education, students whose parents did not attend college remain at a disadvantage with respect to staying enrolled and attaining a degree, again controlling for other related factors." *Efforts by local districts and higher education to reach out to parents and provide dual language informational sessions and materials are important.*

Another piece of legislation authorizes post-secondary educational access and financial aid for undocumented students. The State of Texas offers K through 12 educational services to all students, regardless of citizenship. Previously bright, academically talented young people without legal residency status would graduate from Texas public schools and find themselves facing an educational dead end. Unable to enter higher education because of lack of official residency status, these students were shuttled into the low skill-low wage job market. Recognizing the changing demographics of the state and the importance of all residents, regardless of citizenship status, to engage in the labor force, the passage of this legislation opens the doors for students. Texas' progressive pursuit of this initiative stands in contrast to the closed-door approach taken by other states.

Additionally the Mexican government, under the *Secretaría De Educación Pública (SEP*), the Mexican Department of Education, has expanded academic instruction to include foreign nationals living abroad. The Mexican consulate in El Paso, through *Instituto*

Nacional de Educación para los Adultos (INEA), sponsors twelve educational sites offering *primaria* and *secundaria* certifications as well as classes for *alfabetización*, basic literacy classes. Through a partnership agreement with the Center for Civic Engagement, UTEP students are teaching at many of the sites. Since the capacity to learn a foreign language, in this case English, is predicted on literacy and numeracy skills in one's native language, these classes, which are taught in Spanish, offer Mexican nationals a way to gain a broader educational base. *Local business leadership should pursue cooperation with the Mexican consulate to expand these class offerings in El Paso, possibly even offering worksite locations. Completion of Mexican educational certification could subsequently lead into English literacy and workplace literacy training.*

6) *The influence of adult education.* A recent report from the Educational Testing Service and the Hispanic Association of Colleges and Universities notes that, "In the United States we invest more than twice as much in the elementary/secondary education system as we do in the education and training of adults, especially adult immigrants…Despite the growing need for lifelong learning, this imbalance in our human capital investment has not changed significantly since World War II. It is especially significant to Hispanics and related directly to the low levels of educational attainment of adult Hispanics, particularly adult immigrants" (Carnevale and Jacobson, 1998).

In El Paso there is a need for workplace preparation for GED, expanded on-the-job training (OJT) and certification opportunities for all skill levels of workers, as well as opportunities to prepare and reward students who take the SAT and ACT as a precursor to college admissions. Lifelong learning is not fully in place, as evidenced by the recent experiences of the displaced garment workers. Local industries may need to monitor the state and national trends regarding OJT, certification and literacy efforts and consider offering more on-site training, such as literacy classes taught at lunchtime, or after hours. *The present educational system is built on an old industrial model rather than the 21st century demand for just-in-time knowledge-based skills, which demand continuous improvement and upgrades in skills. As the pre-K through 16 educational institutions are in transition to meet the needs of the workforce of the future, business and industry may need to look at what training and certification opportunities they can offer in the workplace to raise the human capacity of their employees.*

The loss of the garment industry in El Paso and subsequent efforts providing literacy and workforce training uncovered many deficiencies in local adult education efforts. In spite of the lack of success of many initial efforts, training programs are improving. Involvement of local worker groups in program re-design was critical in that process. *Serious program monitoring and accountability in terms of job placement and retention must serve as the underpinning of all future efforts.* The newly created Upper Rio Grande Workforce Development Board is pursuing local contracts to provide this monitoring.

Benchmarking other successful programs like the information technology-training program designed by the Texas State Comptroller to improve skills of current State of Texas employees with the caveat that they remain employed with their base agency for a requisite time period, or, for example, the local Eureka manufacturer who offers GED classes on site, offer new perspectives to local employers. Furthermore, the State of Ohio recently enacted legislation that offers free GED examinations to students who pass the official practice test as an incentive for pursuit of high school equivalency certification. *Education demands access. With access employers and employees will reap the benefits of increased education and subsequent increased income, both in terms of firm and personal earnings.*

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