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ABSTRACT

The purpose of this study was to analyze the influence of the generation born between 1977 and 1994, the "baby boom echo," on the demand for higher education and workforce development in Arkansas. Although the birthrate in Arkansas for this period does not correlate with the national trend, increased school enrollment and in-migration in the 1990s did track the phenomenon. Over the past 26 years, higher education headcount enrollment in Arkansas increased 159 percent. This increase may be explained by the establishment of new two-year colleges in the 1970s and new technical colleges in the 1990s, an increase in the college-going rate from 43 percent in 1980 to 55.4 percent in 1996, a 16.3 percent increase in the number of part-time students, stability in the number of older students, and in-migration during the 1990s. Based on ninth-grade enrollments in 1997, the Arkansas economy must absorb a 13.4 percent increase in workforce entrants by 1999. Assuming the educational patterns of 1990, by 2010 approximately 693,000 Arkansans will attempt to succeed in the workforce without a high school degree, while approximately 600,000 will have some level of college education. Twelve tables and seven figures chart these trends. (Contains 17 references.) (MDM)

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The Baby Boom Echo:
Implications for Higher Education in the Mid-South

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Abstract

The purpose of this paper was to analyze the influence of the "baby boom echo" on the demand for higher education and workforce development in one southern state, Arkansas, and to provide implications for other states with similar characteristics.

The reality of the echo in Arkansas is still in question. Even though live births through 1996 do not correlate with the national trend, there are two trends in Arkansas that do track the echo phenomenon: increased school enrollment and in-migration in the 1990s.

Over the past 26 years, higher education headcount enrollment increased 159%. This increase may be explained by (a) the establishment of new two-year colleges in the 1970s and the new technical colleges in the 1990s, (b) an increase in the college-going rate from 43% in 1980 to 55.4% in 1996, (c) a 16.3% increase in the number of part-time students, (d) stability in the number of older students, and (e) in-migration during the 1990s.

By 2010, the Arkansas workforce cohort of 18 to 64 year olds will provide an economic tax-base for a 32.9% increase of those persons living below poverty. Furthermore, based on ninth grade enrollment to 1997, the Arkansas economy must absorb a 13.4% increase in workforce entrants by 1999.

Assuming the educational patterns of 1990, by 2010 approximately 693,000 Arkansans will attempt to succeed in the workforce without a high school degree, while approximately 600,000 will have some level of college education. Based on the fertility rates of teenage women in Arkansas, approximately 23,000 babies will be born to teenage mothers by 2010. Finally, based on Series B projections from the Institute for Economic Advancement at the University of Arkansas at Little Rock, by 2010 in-migration will account for an additional 305,000 persons in the Arkansas workforce.

The Baby Boom Echo:
Implications for Higher Education in the Mid-South

Introduction

Following World War II there was a significant increase in births throughout the United States; a phenomenon that came to be popularly known as the "Baby Boom". Since that time in the 1940s we have watched this generation of people called the "Baby Boomers" move through American schools, colleges, and society. First, they swelled enrollment at elementary schools, passed to the secondary schools, and finally they went on to college; then, they entered the workforce, married, and started having children of their own.

In recent years there have been warnings of another surge in the American population that is being called the "Baby Boom Echo", or sometimes also referred to as the "Baby Boomlet" or the "Millenial Generation" (Edmondson, 1995). According to Richard W. Riley, U.S. Secretary of Education:

> Four key factors account for rising enrollments. The most significant factor, accounting for half of the current growth rate, is a delay in marriage and child-bearing among baby boomers. A high birth rate among African-Americans, Hispanic-Americans and other minorities is a second important reason why enrollment is on the rise.
>
> Increased immigration represents a third factor. School systems in America's gateway cities, including New York, Los Angeles, and Miami, have been the first to feel the direct impact of new immigration patterns. A fourth trend is that larger numbers of children are enrolled in pre-K and kindergarten and more young people are staying in school to get their high school diplomas. (U.S. Department of Education, 1996, p. 2)

Therefore, unlike the baby boom phenomenon, the "echo" is not driven solely by an increasing birth rate.

Births in the U. S. exceeded four million a year from 1989 to 1993 but started to fall off after 1990, and were just below that number in 1994. "The original boom lasted 19 years, from January 1, 1946 to December 31, 1964. The next boom lasted 18 years, from the year when births began increasing (1977) to the year when they slipped below boom levels (1994)" (Edmondson, 1995, p. 2).

In August 1996 the U.S. Department of Education issued a report entitled, A Back to School Special Report: The Baby Boom Echo. The report cited the following conclusions for the period from 1996 to 2006:

- Total public and private school enrollment will rise from a record 51.7 million to 54.6 million;
- Public high school enrollment is expected to increase by 15 percent;
- The number of high school graduates will increase by 17 percent, 14 percent by 2001;
- About half of the states will have at least a 15 percent increase in the number of high school graduates, with the Western states having almost a 30 percent increase in high school graduates;
- College enrollment is projected to rise by 14 percent;
- Hispanic-Americans and Asian-Americans will be the fastest growing segments of the student population. (p.1)

McKenna (1997) noted that demographers have been warning of this situation for several years, but have had difficulty attracting the attention of officials on whose shoulders the burden will rest. She cited examples such as Los Angeles, California where the 1996-97 budget for the school district was based on an enrollment increase of 8,000, but by mid-October 18,000 new students had been enrolled. In Brooklyn, New York an elementary school built to accommodate 660 students had an enrollment of 1,300. In Dade County, Florida enrollment increased from slightly over 222,000 in 1983 to almost 309,000 in 1993, and an enrollment of 535,000 has been

predicted within 15 years. McKenna projected that "A major difference between the surge of post-World War II births, i.e., the baby boom, and the burst being experienced today is that it is a 'long, slow rising wave' with no decline in sight" (p. 13).

The Echo and Higher Education

In regard to higher education institutions, there appears to be disagreement as to what impact will be felt. Dunn (1994) stated that, "In 1995, high schools will begin graduating the oldest members of the baby-boomlet generation. Many of these youths will march directly into the halls of higher learning, relieving some institutions while bringing enormous strain to others" (p. 12). Dunn noted that the largest increases will be seen in states such as California, Nevada, Florida, and Arizona, but, "While California gets pummeled with college applicants, other states will see no growth at all" (p. 13).

On a nationwide basis, Dortch (1995) cited projections from the National Center for Educational Statistics that show a 7.2% increase in undergraduate higher education enrollment by 2005. She noted that the increase expected at public institutions is 6.9%, while it is 8.4% at private colleges; the largest proportion being in full-time students. She also pointed out that there is an expected decline of -0.8% in graduate students, and -2.6% in professional programs.

Macunovich (1997) took a closer look at the demands that may be faced by higher education institutions as a result of the baby boom echo. She pointed out that there were many projections of declining higher education enrollments following the original baby boom. As recently as 10 years ago, the National Center for Educational Statistics was forecasting a decline by 1996. The Western Interstate Commission on Higher Education predicted as high as 50% declines of high school graduates in some states by 1994.

According to Macunovich, individuals born into different sized cohorts have different life experiences which alter their behavior, and that may account for the fact that college enrollment did not decline as was predicted. She cited several other factors that cause problems in predicting enrollments, but generally supported an economically-based model as having the most potential for accurate predictions. Although she emphasized that it depends on the availability

of funding and the supply of educational facilities, the demand for higher education by U. S. residents in the 18-24 age group can be projected to increase by 30% in the next decade or 2.6 million additional college students.

On the other hand, Healy noted in the August 15, 1997 issue of The Chronicle of Higher Education that, "Enrollment growth at four-year colleges hasn't materialized as expected" (p. A23). Many states are finding that the projected increases are not as high as anticipated, while in others the totals may be relatively accurate but not for individual institutions or types of institutions. In the September 26, 1997 issue of The Chronicle of Higher Education, however, Crissey found that, "Many colleges--from small liberal-arts institutions to large public universities--are reporting increased and in some cases record-setting enrollments this fall" (p. A47).

Many factors appear to be interacting, or have the potential for interacting, to make predictions of college enrollment more difficult. In addition to problems in projecting enrollment generally, determining which sectors (public/private, four-year/two-year) will feel the greatest impact, is becoming more complicated. Healy (1997) tried to explain the contributions to this difficulty by identifying seven trends that have complicated enrollment predictions. They are:

- An increase in the number of high school students who are taking college-level courses, either in school or at community colleges.
- Increasingly heavy demand at community colleges from older students.
- Changes in federal and state policies on financial aid and taxes.
- The growth of distance learning.
- Changes in state and federal welfare programs.
- Migration.
- The cyclical economy. (p. A23)

These conflicting reports make easy answers elusive, and they present a challenge to higher education officials and public policy makers. Yet, it remains incumbent upon them to search for answers and try to anticipate the demands for college enrollment they will be facing in the coming years.

What do these conflicting reports mean for the mid-south, and what demands can be expected as the 21st century is entered? What trends or factors are involved that appear to be having an influence on what can be expected? This paper is based on an in-depth study of one southern state, Arkansas. To the extent that circumstances in other states are similar to those in Arkansas, the findings will provide implications for those states. Although final conclusions may not be possible at this time, these are the questions this paper will attempt to address.

The Baby Boom Echo in Arkansas

Method

To analyze the characteristics of the Arkansas workforce, actual population data were compiled from reports published by the U. S. Bureau of the Census from 1950 through 1996. This information was combined with Arkansas population projections for 1995 through 2010 developed by the Institute for Economic Advancement at the University of Arkansas at Little Rock.

The Arkansas population projections are provided in three series--A, B, and C--with each projection series using the same fertility and mortality rates based on past trends for the Arkansas population. (See Tables1, 2, & 3) The difference between the three series is in the migration assumption used in the projection formula. For Series A, demographers assumed an out-migration rate of -2.2 as experienced in Arkansas during the 1980-1990 census period. In Series B, demographers assumed an in-migration rate of 11.4 which was the migration rate for the 1970-1980 period. Zero migration was assumed for Series C. (See Tables 4 & 5) Because the net in-migration reported by the U.S. Bureau of the Census (1996) was comparable with estimates based on the 11.4 migration rate for 1970-1980, Series B projections was chosen to use for this study. Based on data through July 1, 1996, Series B appears to provide the most accurate

projections. However, it is important to keep in mind, that Series B was designed by demographers to reflect the "high" range in population projections.

The rest of the information is generally based on actual statistics received from various sources that show historical trends. In most cases, however, projections are not provided since many trend changes are of recent development.

Births

There is no doubt that Arkansas experienced a baby boom after World War II, just as was the case throughout the United States. Figure 1 traces the live births in Arkansas from 1941 to 1995. It will be noted that the number of births peaked in the mid to late-1940s and then started a gradual decline. That decline continued, and accelerated in the late-1960s. The peak of births was reached when 49,152 babies were born to Arkansas residents in 1947, and the low was recorded as 32,575 in 1968. Since the late-1960s, the number of births has remained relatively stable at approximately 35,000 per year (Arkansas Department of Health, 1996). Based on the birth trend alone, it does not appear that a baby boom echo is taking place in Arkansas. However, as mentioned earlier, the echo phenomenon is not solely a function of increasing births in the population. Therefore, there may be other "echo" factors that should be taken into account for educational planning and workforce development in Arkansas.

Elementary School Enrollment

Figure 2 shows elementary school (grades k-6) enrollment from 1975 to 1993, based on information provided by the Arkansas Department of Education. There was a decline in the 1980s, appearing to reach a minimum in about 1984. Since that time the trend has been gradually upward. From slightly more than 230,000 students in 1985, the total reached almost 247,000 by 1996 -- an increase of 7.3%.

Closer inspection would suggest reviewing the trends of kindergarten and first grade enrollment to determine what might be expected in the future. Figure 3 shows that kindergarten enrollment increased in the 1980s as public kindergartens were fully implemented, and then was

relatively stable for about seven years. Starting in 1994, however, kindergarten enrollment started to increase significantly. From 1993 to 1996, the increase was 12.8%.

It is easy to understand how some people might question whether an increase in kindergarten enrollment would specifically translate into higher enrollments at other grade levels. Reviewing first grade enrollment would clarify whether the increase recently observed in kindergarten enrollment was real or due to some other factors. Figure 4 adds first grade enrollment from 1979 to 1996. It has gradually trended up and down. However, it should be noted that kindergarten increases since 1994 were reflected in the first grade enrollment.

Secondary School Enrollment

Secondary school enrollment (grades 7-12) has shown more shifting than elementary school enrollment. (see Figure 5) Starting in the late-1970s, enrollment steadily declined, until 1991, when it again started to increase. Middle school (grades 7-9) enrollment trended up and down during the 1970s and 1980s, and was understandably reflected in high school (grades 10-12) enrollment in subsequent years. In 1992, however, middle school enrollment started an upward trend that was reflected for the first time in high school enrollment in 1996.

The 1996 year was the first time for many years that both middle school and high school enrollments were increasing at the same time. The recent trends in elementary school enrollment, and particularly in kindergarten and first grade, would suggest that secondary school enrollment will continue to gradually increase for several years in the future.

After several years of declining or stable enrollment levels, it now appears that elementary and secondary school enrollment in Arkansas will most likely show gradual increases for several years. It is not expected that these increases will be large, and certainly nothing like the baby boom years, but they will probably be steady.

Migration

Based on information provided by the U.S. Census Bureau on the Arkansas population from 1990 to 1996, it is estimated that Arkansas is experiencing an in-migration comparable to the in-migration of the 1970s (U.S. Bureau of Census, 1996). According to demographers, the

primary reasons for domestic migration are directly related to work and other economic factors (Clark, 1986). Simply put, when the economy outside of the state is better than the economy inside the state, out-migration will occur. For Arkansas, this latter scenario is the typical explanation for the net migration rate. (See Tables 4 & 5) However, during the 1970s the "effect of the relative manufacturing and business advantages of the Sunbelt states in general became apparent in the case of Arkansas" as more people "moved in than moved out" of the state (McGehee & Swanson, 1993, p. 2).

Once again, and for reasons not yet explained, during the first half of the 1990s it is estimated that more people were moving into the state than leaving for a net in-migration of over 102,000 persons. Because migration data provided by the Census Bureau in an off-census year are only estimates based on such items as the comparative number of income tax returns filed from one year to another, the actual migration pattern for Arkansas will not be understood until the 2000 Census (U.S. Bureau of the Census, 1996b). Even with that said, it is apparent from these Census estimates that an in-migration pattern is developing within this state; how large this pattern will become or how long this pattern will last, is anyone's guess at this point in the census decade. It is possible that this in-migration may be the primary factor explaining the substantial increase in kindergarten and first grade enrollments in Arkansas. Furthermore, it is also possible that if this in-migration is a reality, it may become the most important factor in explaining the "echo" trend for this state.

Because these numbers are only estimates, demographers can only speculate as to the demographic composition of these migrants. If it is true that this in-migration mirrors the 1970-1980 migration pattern as some are currently speculating, then it might be helpful to look at the pattern during the 1970s for some clues. Referring to Table 4, it is apparent that the net migration rate of the 1970s was more a consequence of white in-migration than nonwhite out-migration. During the 1970 decade, the white population realized an in-migration rate of 14.7% while the nonwhite population had an out-migration of -2.1%. It is reasonable to

question, based on the national "echo" phenomenon, whether or not this pattern will hold true for the 1990 migration.

Whereas the net migration during the 1970s added approximately 130,000 persons to the workforce, the migration also accounted for an increase of approximately 100,000 persons in those age cohorts which traditionally have the highest percentage of poverty in this state -- children under 19 years of age and seniors 65 and older. Furthermore, as is related to the previous discussion of increasing enrollments in kindergarten and first grade realized during the 1993-94 and 1994-95 school years, the migrant pattern for the 1970s added over 62,000 school age children to the Arkansas educational system. If this patterns holds true for the 1990s, then the increase in kindergarten and first grade enrollments could be explained by migration.

Arkansas Demographics

As shown in Table 6, the 1990 demographic composition of the Arkansas population is similar to the composition of the national population with the exception of the percentage of the minority population to the total population. In Arkansas, minorities account for approximately 18% of the total population as compared with 24% for the United States population. In making population projections for Arkansas, demographers have assumed that the Arkansas population in 2010 will look like the population in 1990 to include the minority composition of the total population (Swanson & McGehee, 1993).

The overall fertility rate for white women is 1969 as compared with 2551 for nonwhite women. Because these fertility rates were used as "constant" variables in the Arkansas projection formula, the percentage of nonwhites to the total population remains constant. Therefore, at this time, the population projections for Arkansas do not reflect the trend inherent in the baby boom echo at the national level of rising birth rates for the African American and Hispanic communities.

In making projections based on age, demographers have further assumed that the age distribution for the Arkansas population in 1990 will remain fairly static to the age distribution in 2010. Therefore, with these assumptions included in the projection formulas, it is difficult to

determine if a demographic shift will take place for the Arkansas population over the next decade to include age distribution and white-to-nonwhite ratios.

Summary

The baby boom echo, nationally, is a reality. According to the U.S. Department of Education, the 1996 fall enrollment figure of 51.7 million children tops the previous national enrollment record of 51.3 million children set in 1971 by the Baby Boom cohort (USDE, 1996). Demographers predict that school enrollments will continue unabated well into the 21st century with some school districts increasing their enrollments by over 30% by 2006. As mentioned earlier, four factors fuel this echo: (a) delayed childbearing by Baby Boomers, (b) increased birth rate of African Americans, Hispanics, and other minorities, (c) increased enrollments in pre-K and kindergarten and an improved retention rate for high school students, and (d) increased immigration.

The question posited by this study relates to the influence of this national trend on the population of Arkansas, and more specifically, higher education demand and the characteristics of the Arkansas workforce. As noted, there is still some doubt as to the reality of the "echo" in Arkansas. In Figure 1, the stability of the live births is not congruent with the "long, slow rising wave" of the national population. In the special report issued by the U.S. Department of Education in 1996, Secretary Richard W. Riley postulated that the most significant factor in the "echo" phenomenon is the delay in marriage and child-bearing of the baby boom generation. As of 1996, this trend was simply not present for the Arkansas population. Furthermore, at this time demographers in Arkansas are not projecting an increase in the birth rate of African Americans and Hispanics as is evidenced in national projections.

Whereas the live birth factor of the "echo" is still in question for Arkansas, the data provided in this paper do provide some evidence of an echo effect based on increasing school enrollments and an estimated in-migration pattern for the 1990s. In summary, the following baby boom echo effects are evidenced in Arkansas:

- Elementary school enrollment has increased by 7.3% in 1996 from a low enrollment in 1984.
- From 1993 to 1996, kindergarten enrollment has increased by 12.8%.
- From 1994 to 1996, first grade enrollment has increased by 5.9%.
- Since 1991–the lowest secondary school enrollment year in over a decade–secondary school enrollment has steadily increased by 6.4% from 187,895 students to close to 200,000 students in 1996.
- Based on U.S. Bureau of the Census estimates, the net migration for Arkansas from 1990 to 1996 closely parallels the in-migration rate of 11.4 witnessed during the 1970s. As of 1996, the Bureau estimates an in-migration of 102,806 persons.

With the exclusion of increasing live births, these factors alone may have a significant enough influence on the population of Arkansas to warrant further investigation into the impact of the echo on higher education demand and workforce characteristics.

Higher Education Enrollment in Arkansas

Even though there may be no Arkansas baby boom echo in terms of births, and the recent increases in elementary and secondary school enrollment cannot be expected to reach higher education for a few more years, past trends in college enrollment are nearly startling. Information provided by the Arkansas Department of Higher Education shows these trends. Figure 6 shows that growth in higher education enrollment increased until about 1980, and then stabilized for a few years. Since the late-1980s, however, there has been consistent growth. From slightly more than 50,000 in 1972, the total more than doubled to over 103,000 by 1996.

Of further interest to the discussion of higher education enrollment in Arkansas is the comparison of actual headcount enrollment to higher education demand based on national economic projection models. According to Macunovich (1997), the demand for higher education in America is projected to increase by 30% by 2006. Utilizing an economic formula which forecasts the demand for higher education based on factors such as the size of a birth cohort, the perception of the American population toward the increased income potential of a

college graduate, as compared with a non-graduate, and various economic indices, Macunovich has projected an increase in the demand for higher education from 8.8 million persons in 1994 to 11.4 million in 2006. It is important to note that this number represents the "demand" for higher education in the United States and is not a forecast of actual "enrollment."

Using the same economic model to forecast higher education demand in Arkansas as Macunovich used to project national demand, total demand for higher education in 1980 was 98,204 persons as compared with an actual enrollment headcount of 72,966. (See Table 7) However, by 1995 the projected demand for higher education based on the 1990 census report was 88,037 persons as compared with an actual headcount of 101,244 persons. Based on projections for the Arkansas population, higher education demand is expected to reach close to 112,000 persons by 2010 as compared with close to 103,000 persons actually enrolled in a higher education institution in Arkansas in 1996.

What caused an increase in enrollment of 159% over the past 26 years and what has fueled a greater actual enrollment as compared with the projected demand? It was not due to an increase in the number of high school graduates in Arkansas, because that number was in decline for many years. Since 1982 when there were 29,710 high school graduates, the decline was generally consistent to a low of 24,636 in 1995. There was an increase to 25,152 in 1996 and, based on current enrollment trends in elementary and secondary schools, it can be expected to continue to grow in the future (ADHE, 1997, p. 16).

The increase in higher education enrollment, which became significant in the mid-1980s following about 10 years of stability, cannot, therefore, be attributed to more high school graduates. This growth may be explained, however, by other factors which include: (a) the establishment of more colleges in Arkansas during that period of time, (b) an increasing college-going rate by high school graduates, and (c) an increased number of part-time students and older students.

More Colleges and Increased Going Rates

A part of the increase in college enrollment can be attributed to the establishment of additional colleges. In the early-1970s several community colleges were being established, and that accounted for some of the growth at that time. In 1992 the technical colleges were authorized and that accounted for part of the significant increase that year.

With the establishment of additional colleges, it is apparent that more students graduating from high school were provided opportunities to attend college, and took advantage of those opportunities. The going rate, calculated as the percentage of high school graduates the previous spring who were first-time entering full-time students in college the following fall, has been increasing--from 43% in 1980 to 55.4% by 1996. Table 8 shows the increase that took place in Arkansas, and it also shows that the gap between the Arkansas rate and the national rate has been narrowing.

Part-Time and Older Students

Part-time students. Part-time students statewide increased 16.3% from 1992 to 1996, while full-time students declined 0.7%. The four-year public institutions declined in both full-time and part-time students, but part-time decreased more. The two-year institutions increased in both categories, and part-time enrollment was up more than 40%. The independent institutions increased full-time students and decreased part-time students.

The two-year colleges enroll more than half of their students on a part-time basis. Part-time students represented 51.5% of their enrollments in 1992 and 56.1% in 1996, with a consistent increase each year between 1992 and 1996. Continuing to be responsive to part-time students will be important to enrollment growth in the future.

Student age. When considering age, older students (age 25 and older) represent 28% of all undergraduate students statewide. At independent colleges they are 15% of the undergraduate student body, and 23% at public 4-year institutions. At the public two-year colleges, however, 42% of the students are 25 years of age or older. Although older students only represent 28% of total statewide enrollment, half of them are enrolled at two-year colleges.

The number of older students has consistently stayed within a few students of the average of 26,472 at all institutions over the past five years. Nearly all the growth in total enrollment that has taken place during that time has been in traditional-aged students (ADHE, 1997, p. 45).

The two-year colleges enroll approximately half of all older students in the state, and the number they serve has increased slightly. As is the case with part-time students, older students represent a significant population for two-year colleges, and their continued interest will be important to enrollment growth for those institutions in the future.

Summary

In summary, actual headcount enrollment for higher education in Arkansas has increased by 159% over the past 26 years. This increase has fueled an enrollment level that surpassed economic projections of demand for higher education in the state by over 13,000 persons in 1995. This increase in enrollment may be explained by:

- the establishment of additional colleges in Arkansas during the 1970s and the 1992 authorization of two-year technical colleges,
- an increased college going-rate among high school graduates from 43% in 1980 to 55.4% in 1996,
- growth in the number of part-time students attending college–a 16.3% increase from 1992 to 1996 with part-time students accounting for 56.1% of the total enrollment in two-year colleges in 1996, and
- continued rate of older students attending college with at least half of these students attending two-year colleges.

Finally, the increase in higher education enrollment may also be explained in part by the in-migration pattern estimated for the 1990s as discussed earlier in this paper.

Characteristics of the Arkansas Workforce

Total Population in Arkansas by Age

Based on projections provided by the Census Bureau, the Arkansas population is expected to increase 29.5% by the year 2010, with 1990 as the baseline year, as compared with only a 19.7% increase in the total United States population. (See Table 6) This is an increase of close to 700,000 people by the end of the first decade in the 21st century. Table 6 is a presentation of the population increase based on the age cohorts of "0-17 years of age", "18-64 years of age", and "65 and over". As shown in Table 6, the age distribution for the Arkansas population is projected to remain fairly stable for the year 2010 as compared to 1990 with the 18 to 64 cohort accounting for 59% and 61% of the population in 1990 and 2010, respectively. From 1990 to 2010, the 18 to 64 cohort is expected to increase by 34% while the 65 and over cohort is anticipated to have a slightly higher gain of 35%.

On the national level, the age distribution of the population is also projected to remain fairly stable with the 18 to 64 age cohort accounting for 61.8% and 62.4% of the total population for 1990 and 2010, respectively. However, unlike the Arkansas population increase, nationally the 65 years of age and older cohort will have the most significant increase in population, climbing 26.8% as compared with a 20.9% increase for the 18 to 64 cohort.

Poverty in Arkansas

Even though the 18 to 64 cohort accounts for the majority of the Arkansas population, by the year 2010 this age cohort must provide an economic tax-base to support close to 40% of the population. Unfortunately, the remaining 40% of the Arkansas population includes those age cohorts which have some of the state's highest percentages of persons living below the poverty level.

As stated by Riley, one primary concern with the echo phenomenon is the increasing number of children in the American population who will live below the poverty level in the 21st century. In 1970, just over 10 million children lived below the poverty level (USDE, 1996). By

1995, that number had reached 15.7 million: a 57% increase in the number of children living below poverty in America.

In 1990, while only 19.1% of the total population in Arkansas lived below the poverty level, as compared with 13.5% of the national population, children in the state fared much worse. For the children of Arkansans age 17 and under, 25.3% lived below the poverty level. This compares unfavorably with only 19.9% nationally. At the other end of the age distribution, 22.9% of those Arkansans age 65 or older lived in poverty in 1990. This compares with a national poverty rate of 12.2% for seniors over 65. Assuming that these percentages remain static over the next 14 years, the number of Arkansans living in poverty will increase by approximately 144,000 persons, in toto, for an overall increase of 32.9%. That number will include an additional 52,344 children and 26,979 seniors living below the poverty level. (See Table 9)

The picture of poverty is even more telling when the focus shifts from the total Arkansas population to a look at poverty based on race. (For ease in reading, the national poverty rates included within this paragraph are underlined in parentheses following each Arkansas percentage.) In 1990, 14.5% (10.7%) of the white population in Arkansas lived below the poverty level. This compares with 43% (31.0%) of black Arkansans who lived below poverty and 26.2% (26.2%) of the Hispanic population. Furthermore, for white children under 17, 18.2% (15.1%) lived in poverty as compared with 52.2% (44.2%) of black children and 31.7% (37.7%) of Hispanic children. Finally for white seniors over 65 years of age, approximately 21% (10.1%) lived below poverty in 1990 whereas 49% (33.8%) of black seniors and 30% (26.8%) of Hispanic seniors lived in poverty. Once again, assuming a static poverty rate through 2010 for minorities in Arkansas, approximately 49,000 additional minorities will live in poverty by 2010, a 30% increase from 1990.

It is important to note that in the calculation of the poverty projections for 2010, it has been assumed that the poverty rate for the total population and for minorities in Arkansas will remain static based on the 1990 actual rates. It is possible that these poverty rates may increase

or decline over the next 14 years. Certainly, it can be argued that attention paid to the poverty outlook for Arkansas by state policy makers may have a positive influence on economic conditions within the state to allow a reduction in the actual poverty rate as compared with the projected. However, for the purpose of this paper, we did not assume or speculate on the decision making trend of state leaders nor the affect of that decision making on the poverty rate. Therefore, the most appropriate projection method for this study was to simply assume a status quo.

Short-Term Increase in Workforce Entrants

Of more immediate concern to the discussion of the characteristics of the Arkansas workforce population is the trend of increasing student enrollments in the ninth grade statewide and the subsequent impact of that enrollment on the workforce four years hence. (See Table 10) Beginning with the 1985-1986 school year, ninth grade enrollments steadily declined in Arkansas with only a slight increase in the 1991-92 and 1992-93 school years. However during the 1993-94 school year, ninth grade enrollments increased by 7.5% and have continued to increase through 1995. Assuming that these students remain in high school to graduation, these ninth grade enrollment numbers can be used to project entrants into the Arkansas workforce four years in the future. With this assumption of 100% completion, it is reasonable to suggest that by 1999 entrants into the workforce will increase by 13.4% over the 1994 projection--the lowest projection year in this decade.

Arkansas Workforce

Recognizing that the 18 to 64 year old cohort will have the burden of providing economic support for a proportion of the population with a growing percentage of persons living below poverty and the increased number of projected entrants into the workforce beginning in 1997, the discussion of workforce development becomes important to the economic vitality of this state. Furthermore, understanding the potential this poverty level has as a drain on the Arkansas economy, it becomes imperative that educational, business, and community leaders begin to focus resource allocation on workforce development strategies that will have the best probability

for success. In order to effectively channel resources to the most successful strategies, state leaders must be aware of three characteristics of the baby boom echo in Arkansas that may influence successful workforce development: (a) educational attainment, (b) population demographics, and (c) the influence of migration.

Educational attainment. Table 11 is a presentation of the educational attainment of Arkansans age 25 and older for 1990 with projections through 2010. The projections for educational attainment assume that the attainment distribution for the Arkansas population in 1990 will remain constant to 2010. The percentage changes in the projections for each year over the 1990 baseline are based on projections made from the 1990 Bureau of the Census Report by the Institute for Economic Advancement at the University of Arkansas at Little Rock. It is notable that the population within this age cohort is projected to increase by 37.7% by 2010.

There are three important educational patterns in Table 11 related to the discussion of workforce development: in 1990 for the 25 and older cohort, (a) approximately 34% did not have a high school diploma, (b) 33% did earn a high school diploma, and (c) roughly 29% had some level of college education. As compared with the national percentages--25% of the national population with no high school degree, 30% with a high school degree, and 38% with some level of college education--state leaders in Arkansas have an increased challenge in preparing a workforce with a much lower educational attainment than the national average. If these educational attainment percentages remain static to 2010, approximately 693,000 Arkansans in the 25 or older cohort will attempt to succeed in the workforce without the benefit of a high school degree.

On the flip side of that projection is the number of Arkansans who did have a college education at some level from "some college with no degree" to a "bachelor's degree". In 1990, approximately 30% of Arkansans reported to have some college experience. With the projected increase in the 25 and older age cohort, the anticipated number of Arkansans reporting some college education by 2010 increases by approximately 164,000 to a total of slightly over 600,000 persons.

These projections are based on the assumption that the 1990 educational attainment percentages will remain static over the next 14 years. However, based on the information provided earlier in this paper of increasing numbers of students entering the education stream in kindergarten and first grade, increasing enrollments in high school, and increasing college going rates, it can be suggested that the educational attainment distribution will improve by 2010. With these promising trends, the percentage of the 25 and over age cohort with a high school degree and some college education should increase. Of course, at this point in the discussion it is difficult to project the degree to which these trends will influence educational attainment. Therefore, the 1990 attainment levels are the most appropriate method of projection for this study.

Population demographics. As mentioned earlier, the demographics of the Arkansas population are not projected to change by 2010. In fact, demographers are anticipating a fairly consistent age distribution for the total population, gender ratio, and white-to-nonwhite ratio for 2010 as compared with 1990. At the present time, there is very little evidence in the live birth data for Arkansas through 1996 to support the hypothesis of a demographic shift in the population. Therefore, until the 2000 Census Report, the only reasonable assumption that can be made concerning the demographics of the Arkansas population is an assumption of status quo.

However, one important characteristic to the analysis of the projected workforce demographics in Arkansas is the substantial number of teenage births reflected in the fertility rates: 67 births per 1,000 white females 15-19 years of age and 133 births per 1,000 nonwhite females. (See Table 1) Assuming that these fertility rates remain constant to 2010, white teenage girls will give birth to approximately 15,000 children added to the projected 8,311 births for nonwhite teenage girls for a total of approximately 23,000 teenage births. Recognizing that, based on the 1990 census report, 52.1% of Arkansas families with children under 17 and headed by a single female lived below the poverty level, it is important to question the influence that these children and their teenage mothers will have on the characteristics of the Arkansas workforce.

Migration. As discussed earlier, the U.S. Bureau of the Census has estimated that Arkansas is experiencing in-migration during the 1990s comparable with the in-migration of the 1970s. In an attempt to understand the projected effect of migration on the total population and distribution of demographics for this study, Series C projections were subtracted from Series B projections. (Series B projections assume a net migration rate of 11.4, the actual migration rate for the 1970s, while Series C assumes zero migration.) The result is presented in Table 12. According to the information presented in Table 12, by the year 2010 the migrant population will account for approximately 17% of the total population. Based on these projections, by the year 2010 in-migration will add approximately 305,000 persons to the Arkansas workforce.

Summary

In summary, the Arkansas population is projected to increase by 29.5% by the year 2010 with 1990 as the baseline year. Along with this projection of an increase in the population is the importance of analyzing the projected population in terms of strategies and resources needed for workforce development. Based on the Series B projections from the 1990 Census Report, the Arkansas workforce will be affected by the following:

- The workforce cohort, persons age 18 to 64, will comprise approximately 61% of the total population in 2010.
- In the remaining 39% of the population--children under 17 years of age and seniors over 65--25.3% of those children lived below the poverty level in 1990 and 22.9% of seniors lived in poverty.
- Furthermore, 18.2% of white children lived in poverty as compared with 52.2% of black children and 31.7% of Hispanic children, and approximately 21% of white seniors lived in poverty as compared with 49% of black seniors and 30% of Hispanic seniors in 1990.
- Based on ninth grade enrollment patterns, the Arkansas workforce is expected to realize a 13.4% increase in high school entrants into the workforce by 1999.

- Assuming that the educational attainment patterns of 1990 remain static to 2010, approximately 693,000 Arkansans in the 25 and over age cohort will attempt successful employment without benefit of a high school degree in 2010.
- On the flip side of that projection, by 2010 approximately 600,000 Arkansans will have a college education at some level.
- Because population projections for 2010 are based on the 1990 demographic distributions, it is difficult to ascertain at this time if there will be a demographic shift in the Arkansas population. Currently, there is no evidence in the live birth information to support a shift.
- Assuming that current fertility rates remain static to 2010, approximately 23,000 babies will be born to teenage mothers by that year.
- In an analysis of Series C projections as compared with Series B projections, the projected in-migration will add approximately 305,000 persons to the Arkansas workforce by 2010.

Discussion

While the baby boom echo is a reality for some states, the reality of the "echo" in Arkansas is still in question. Even though live births in Arkansas through 1996 do not correlate with the slow rising wave of births associated with the national trend, there are two trends occurring in Arkansas that do track the "echo" phenomenon: increased school enrollment and in-migration rates for the 1990s comparable to the high rates of the 1970s. Elementary school enrollment was up by 7.3% in 1996 as compared with 1985. More importantly, kindergarten enrollment increased 12.8% from 1993 to 1996. Secondary school enrollment also increased 6.4% from 1991 to 1996. Finally, as of 1996, the U.S. Bureau of the Census estimated that Arkansas will realize an in-migration of 102,806 persons as compared with an out-migration for the 1980s of over 52,000.

Because of the importance of these two trends--increasing school enrollment and in-migration--to the "echo" phenomenon in Arkansas, the purpose of this paper was to analyze the influence of the "echo" on the demand for higher education in Arkansas and to workforce development within the state. Over the past 26 years, the actual headcount enrollment for higher education institutions in Arkansas increased by 159%. This increase surpassed the economic projections of higher education demand in the state by over 13,000 persons in 1995. Furthermore, while the demand for higher education is projected to reach close to 112,000 persons by 2010, the actual enrollment headcount in 1996 was already close to 103,000. This increase may be explained by: (a) the establishment of new colleges in Arkansas during the 1970s and the new technical college in the 1990s, (b) an increase in the college-going rate for high school graduates from 43% in 1980 to 55.4% in 1996, (c) a 16.3% increase in the number of part-time students attending college, (d) stability in the number of older students attending college, and (e) in-migration during the 1990s compared with the in-migration of the 1970s.

By 2010, the Arkansas workforce cohort of 18 to 64 year olds will provide an economic tax base for a 32.9% increase of those persons living below poverty. That percentage increase will include an additional 52,344 children and 26,979 seniors living below the poverty level in Arkansas. Furthermore, based on ninth grade enrollment to 1997, the Arkansas economy must absorb a 13.4% increase in workforce entrants by 1999. Because of the pressures on this workforce cohort, and the Arkansas economy to accommodate this cohort, it is important to understand the educational attainment and population demographics of this group and the influence migration will have on the future population.

Assuming the educational patterns of 1990, by 2010 approximately 693,000 Arkansans in the workforce cohort will attempt to succeed in the workforce without a high school degree while approximately 600,000 Arkansans will have some level of college education. The population demographics for the workforce of 2010 are not expected to change significantly from the demographic composition of the Arkansas population in 1990 other than to note that, based on the fertility rates of teenage women in Arkansas, approximately 23,000 babies will be

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Table 1

Age Specific Fertility Rates Used in Projection Series A, B, and C: Arkansas Projections

Age Group	Annual Births Per 1000 Women White	Nonwhite
15 - 19	67.00	133.20
20 - 24	140.20	180.40
25 - 29	111.90	111.30
30 - 34	53.90	56.50
35 - 39	18.20	22.60
40 - 44	2.60	6.20
TFR	1,969.00	2,551.00

Note. Data taken from: Swanson, D.A., & McGehee, M.A. (May, 1993). Projections of the Population of Arkansas, by County, Age, Gender, and Race: 1990 to 2010. (Publication 93-14). Little Rock, Arkansas: University of Arkansas at Little Rock, Arkansas Institute for Economic Advancement. "TFR" is the Total Fertility Rate and represents the total number of births per 1,000 women. It is calculated by "multiplying the sum of the age-specific fertility rates by five" (p. 21).

Table 2

Life Expectancy at Birth by Race and Gender, Arkansas 1970, 1980, and 1990

	Black		Nonwhite		White	
Year	Female	Male	Female	Male	Female	Male
1990	73.67	64.46	74.37	65.30	79.17	71.88
1980	73.12	64.88	73.64	65.60	78.79	70.40
1970	n/a	n/a	70.72	62.81	75.91	67.86

Note. Data taken from: Swanson, D.A., & McGehee, M.A. (May, 1993). Projections of the Population of Arkansas, by County, Age, Gender, and Race: 1990 to 2010. (Publication 93-14). Little Rock, Arkansas: University of Arkansas at Little Rock, Arkansas Institute for Economic Advancement.

Table 3

Five Year Survivorship Probabilities Used in Each Projection Series by Age, Gender, and Race

Age Group	White		Nonwhite	
	Male	Female	Male	Female
(Births)	.98840	.98811	.98008	.98059
0 - 4	.99776	.99767	.99615	.99716
5 - 9	.99640	.99761	.99573	.99715
10 - 14	.99504	.99751	.99531	.99713
15 - 19	.99111	.99741	.98863	.99712
20 - 24	.99073	.99651	.98180	.99487
25 - 29	.99017	.99522	.97803	.99252
30 - 34	.98960	.99316	.96785	.99079
35 - 39	.98597	.99316	.96785	.98727
40 - 44	.97996	.98952	.95326	.97901
45 - 49	.97046	.98319	.93681	.96669
50 - 54	.95175	.97271	.90826	.95017
55 - 59	.92041	.95839	.86915	.92580
60 - 64	.88125	.93716	.83722	.89609
65 - 69	.83249	.90563	.78735	.86880
70 - 74	.76175	.86070	.72204	.83067
75 - 79	.65451	.78225	.64029	.75222
80+	.44659	.53971	.43630	.55766

Note. Data taken from: Swanson, D.A., & McGehee, M.A. (May, 1993). Projections of the Population of Arkansas, by County, Age, Gender, and Race: 1990 to 2010. (Publication 93-14). Little Rock, Arkansas: University of Arkansas at Little Rock, Arkansas Institute for Economic Advancement.

Table 4

Net Migration by Race, Arkansas: 1940-1990

	Total		White		Nonwhite	
Period	Migration	Rate	Migration	Rate	Migration	Rate
1940-1950	-416,000	-21.3	-259,000	-17.6	-157,000	-32.4
1950-1960	-430937	-19.7	-283,921	-17.0	-147,016	-28.5
1960-1970	-51,072	-2.6	47,229	3.1	-98,301	-21.5
1970-1980	231,467	11.4	239,834	14.7	-8367	-2.1
1980-1990	-52,743	-2.2	-14,989	-0.8	-37,754	-8.5
1990-1996[a]	102,806	n/a	n/a	n/a	n/a	n/a

Note. 1940 to 1990 data taken from: McGehee, M.A. & Swanson, D.A. (May, 1993). Arkansas Net Migration by Age, Gender, Race, & County: 1980-1990. (Publication 93-02). Little Rock, Arkansas: University of Arkansas at Little Rock, Arkansas Institute for Economic Advancement. 1990 to 1996 data taken from: U.S. Bureau of Census. (1996) Estimates of the Population of Counties: Annual Time Serics. July 1, 1990 to July 1, 1996. Washington, DC.

Table 5

Net Migration by Race and Age, Arkansas: 1950-1990

Age Group	1950 - 1960			1960 - 1970			1970 - 1980			1980 - 1990		
	Total	White	Nonwhite	Total	White	Nonwhite	Total	White	Nonwhite	Total	White	Nonwhite
0 - 4	-14,562	-6,761	-7,801	4,632	-518	-4,114	3,109	3,694	-585	-8,684	-5,210	-3,474
5 - 19	-142,959	-93,148	-49,811	-16,313	18,652	-34,965	59,002	56,611	2,391	-381	4,357	-4,738
20 - 29	-146,597	-101,278	-45,319	-76,641	-34,738	-41,903	-6,970	14,344	-21,314	-55,258	-31,966	-23,291
30 - 44	-87,670	-58,411	-29,252	8,914	21,171	-12,257	66,440	62,390	4,050	-14,957	-8,963	-5,994
45 - 64	-39,596	-26,507	-13,089	21,503	25,854	-4,351	65,150	61,094	4,056	19,315	18,280	1,035
65+	447	2,184	-1,737	16,097	16,808	-711	44,736	41,701	3,035	7,222	8,513	-1,292
All Ages	-430,937	-283,921	-147,016	-51,072	47,229	-98,301	231,467	239,834	-8,367	-52,743	-14,989	-37,754

Note. 1950 to 1960 and 1960 to 1970 data derived by Industrial Research and Extension Center, University of Arkansas, Little Rock; 1970 to 1980 and 1980 to 1990 data derived by Demographic Research Division, Arkansas Institute for Economic Advancement, College of Business Administration, University of Arkansas at Little Rock.

Table 6

Population Demographics for Arkansas as Compared with the United States - (000's)

Demographic	1990 Arkansas #	1990 Arkansas % of Total	1990 United States #	1990 United States % of Total	2010 Arkansas #	2010 Arkansas % of Total	2010 United States #	2010 United States % of Total	Arkansas % change	United States % change
Total Population	2350.725	n/a	248718	n/a	3044.124	n/a	297716	n/a	29.5	19.7
Race:										
White Population	1944.393	82.7	188306	75.7	2522.745	82.8	202390	68.0	29.7	7.5
Nonwhite Population	406.332	17.3	60412	24.3	521.379	17.2	95326	32.0	22.4	57.8
		100.0		100.0		100.0		100.0		
Gender:										
Male Population	1132.228	48.0	121126	48.7	1500.603	49.3	145583	48.9	32.5	20.2
Female Population	1218.497	52.0	127592	51.3	1543.521	50.7	152133	51.1	26.7	19.2
		100.0		100.0		100.0		100.0		
Age Distribution:										
0-17	621.268	26.0	63923	25.7	719.442	24.0	72512	24.4	16.0	13.4
18-64	1379.641	59.0	153715	61.8	1851.144	61.0	18798	62.4	34.0	20.9
65+	349.816	15.0	31081	12.5	473.538	16.0	39408	13.2	35.0	26.8
		100.0		100.0		100.0		100.0		

Note. Population numbers are in thousands.
The 1990 and 2010 data for the United States taken from: U.S. Bureau of the Census, Statistical Abstract of the U.S.: 1996 (116th edition.) Washington, DC, 1996.
The 1990 data for Arkansas taken from: U.S. Bureau of the Census, 1990 Census of Population and Housing. Washington, DC, 1990.
The 2010 data for Arkansas taken from: Swanson, D. A., & McGehee, M.A. (May, 1993). Projections of the Population of Arkansas, by County, Age, Gender, and Race: 1990 to 2010. (Publication 93-14). Little Rock, Arkansas: University of Arkansas at Little Rock, Arkansas Institute for Economic Advancement.

Table 7

Higher Education Demand in Arkansas as Compared with Actual Headcount Enrollment

Year	Projected Higher Education Demand in Arkansas[a]	Actual Headcount Enrollment[b]
Actual:		
1980	98205	72966
1990	82744	87605
1995	88038	101244
Projections:		
2000	88573	n/a
2005	107770	n/a
2010	111599	n/a

[a]Projections based on census data from 1980-1995 taken from: U.S. Bureau of the Census, Census of Population and Housing. Washington, DC. Projection formula for Arkansas higher education demand used national higher education projection percentages taken from: Macunovich, D.J. (May/June, 1997). Will there be a boom in the demand for U.S. higher education among 18-to-24 year-olds? Change, 34-44.
[b]Actual headcount enrollment for Arkansas includes the total enrollment for two-year and four-year public and independent colleges in the state. Data were provided by the Arkansas Department of Higher Education.

Table 8

Arkansas and National College -Going Rates

Year	Arkansas College-Going Rate	National College-Going Rate
1980	43.0	n/a
1981	39.7	53.9
1982	38.2	n/a
1983	39.3	52.7
1984	39.4	n/a
1985	41.6	57.7
1986	42.9	n/a
1987	43.5	56.8
1988	44.3	n/a
1989	45.5	59.6
1990	48.3	60.1
1991	51.6	62.5
1992	57.3	61.9
1993	55.0	61.5
1994	56.1	61.9
1995	55.4	61.9
1996	55.4	n/a

Note. Data taken from: Arkansas Department of Higher Education (June, 1997). Fall 1996 Student Enrollments. Little Rock, Arkansas.

Table 9

Persons Living Below Poverty by Age and Race for Arkansas and the United States - (000's)

	1990								2010[a]							
	0-17		18-64		65+		Total		0-17		18-64		65+		Total	
	#	%[b]	#	%[b]	#	%[b]	#	%[b]	#	%[b]	#	%[b]	#	%[b]	#	%[b]
Arkansas																
Total Population	155.399	25.3	206.065	15.3	75.625	22.9	437.089	19.1	207.743	25.3	270.429	15.3	102.604	22.9	580.776	19.1
Race																
White	82.932	18.2	136.592	12.0	55.992	20.5	275.516	14.5	110.649	18.2	177.404	12.0	76.748	20.5	364.800	14.5
Black	70.023	52.2	65.452	35.2	19.206	48.7	154.681	43.0	90.980	52.2	84.718	35.2	24.973	48.7	200.671	43.0
Hispanic	2.290	31.7	2.385	22.2	.219	29.8	4.894	26.2	2.945	31.7	3.093	22.2	.296	29.8	6.334	26.2
American Indian	1.053	27.2	1.833	20.5	.338	36.8	3.224	23.1	1.423	27.2	2.378	20.5	.469	36.8	4.271	23.1
Pacific Islander	.648	18.4	1.254	16.4	.070	18.8	1.972	16.8	.881	18.4	1.628	16.4	.089	18.8	2.598	16.8
Other	.743	31.2	.934	24.4	.019	19.1	1.696	27.9	.865	31.2	1.209	24.4	.029	19.1	2.103	27.9
United States																
Total Population	12715.000	19.9	17212.000	11.2	3658.000	12.2	33585.000	13.5								
Race																
White	7696.000	15.1	11923.000	10.2	2707.000	10.1	22326.000	10.7								
Black	4412.000	44.2	4565.000	26.2	860.000	33.8	9837.000	31.9								
Hispanic	2750.000	37.7	3011.000	22.5	245.000	22.5	6006.000	26.2								

[a]To estimate the number of Arkansans living in poverty in 2010, it was assumed that the poverty rate, the age distribution of the population, and the race distribution would remain static from 1990 to 2010.

[b]Percentages should read: In Arkansas, 25.3 of all children under 17 lived below poverty in 1990 as compared with 19.9% for all children under 17 in the United States.

Note. The 1990 data for the United States taken from: U.S. Bureau of the Census, Statistical Abstract of the U.S.: 1996 (116th edition.) Washington, DC, 1996. The 1990 data for Arkansas taken from: U.S. Bureau of the Census, 1990 Census of Population and Housing. Washington, DC, 1990. The 2010 data for Arkansas taken from: Swanson, D.A., & McGehee, M.A. (May, 1993). Projections of the Population of Arkansas, by County, Age, Gender, and Race: 1990 to 2010. (Publication 93-14). Little Rock, Arkansas: University of Arkansas at Little Rock, Arkansas Institute for Economic Advancement.

Table 10

Ninth Grade Enrollment and Projected Workforce Entrants

Year	Ninth Grade Enrollment	Projected Workforce Entrants
1985	35875	n/a
1986	34501	n/a
1987	33489	n/a
1988	33009	n/a
1989	32731	35875
1990	32644	34505
1991	33616	33489
1992	33518	33009
1993	36045	32731
1994	36689	32644
1995	37005	33616
1996	n/a	33518
1997	n/a	36045
1998	n/a	36689
1999	n/a	37005

Note. Data provided by the Demographic Research Division, Arkansas Institute for Economic Advancement, College of Business Administration, University of Arkansas at Little Rock.

Table 11

Educational Attainment: 25 and over Age Cohort for Arkansas and United States

	1990		2010	
Education Level	#	%	#	%
Arkansas				
No high school diploma	503.481	33.7	693.241	33.7
High school diploma	489.570	32.7	674.086	32.7
[a]Some College Education	436.507	29.2	601.024	29.2
Advanced Degree	66.592	4.5	91.690	4.5
Total population – 25 years and over	1496.150	100.0	2060.041	100.0
United States				
No high school diploma	39399.0	24.8	n/a	n/a
High school diploma	47660.0	30.0	n/a	n/a
[a]Some College Education	60370.0	38.0	n/a	n/a
Advanced Degree	11439.0	7.2	n/a	n/a
Total population – 25 years and over	17793.0	100.00		

[a]This category includes the following: "some college, no degree", "Associate Degree", "Bachelor's Degree".

Note. The 1990 data for the United States taken from: U.S. Bureau of the Census, Statistical Abstract of the U.S.: 1996 (116th edition.) Washington, DC, 1996. The 1990 data for Arkansas taken from: U.S. Bureau of the Census, 1990 Census of Population and Housing. Washington, DC, 1990. The 2010 data for Arkansas taken from: Swanson, D.A., & McGehee, M.A. (May, 1993). Projections of the Population of Arkansas, by County, Age, Gender, and Race: 1990 to 2010. (Publication 93-14). Little Rock, Arkansas: University of Arkansas at Little Rock, Arkansas Institute for Economic Advancement.

Table 12

Projected Migration for Arkansas: 2000 to 2010 - (000's)

Age	2000			2005			2010		
	Total Projection	Migrant Projection	%[a]	Total Projection	Migrant Projection	%[a]	Total Projection	Migrant Projection	%[a]
Total Population	2681.039	233.485	8.7	2856.158	370.396	13.0	3044.124	524.721	17.2
0 - 4	185.964	8.319	4.5	189.732	14.108	7.4	195.667	21.270	10.9
5 - 19	556.661	37.470	6.7	577.326	55.360	10.0	603.678	74.488	12.3
20 - 29	359.361	6.646	1.9	365.383	20.679	5.7	375.539	38.986	10.4
30 - 44	576.197	63.307	11.0	593.044	84.309	14.2	598.385	95.807	16.0
45 - 64	603.074	66.748	11.1	705.666	114.383	16.2	797.317	170.954	21.4
65+	399.782	49.441	12.4	425.007	81.557	19.2	472.538	123.216	26.0

[a]Percent of migration projection to the total population projection for that category. For example, for the total population projection for 2000, 8.7% is accounted for by migration. In 2000, for the total projection for children 0 - 4 years old, 8.7% of the projection is accounted for by migration.
Note. The data is taken from: Swanson, D.A., & McGehee, M.A. (May, 1993). Projections of the Population of Arkansas, by County, Age, Gender, and Race: 1990 to 2010. (Publication 93-14). Little Rock, Arkansas: University of Arkansas at Little Rock, Arkansas Institute for Economic Advancement.

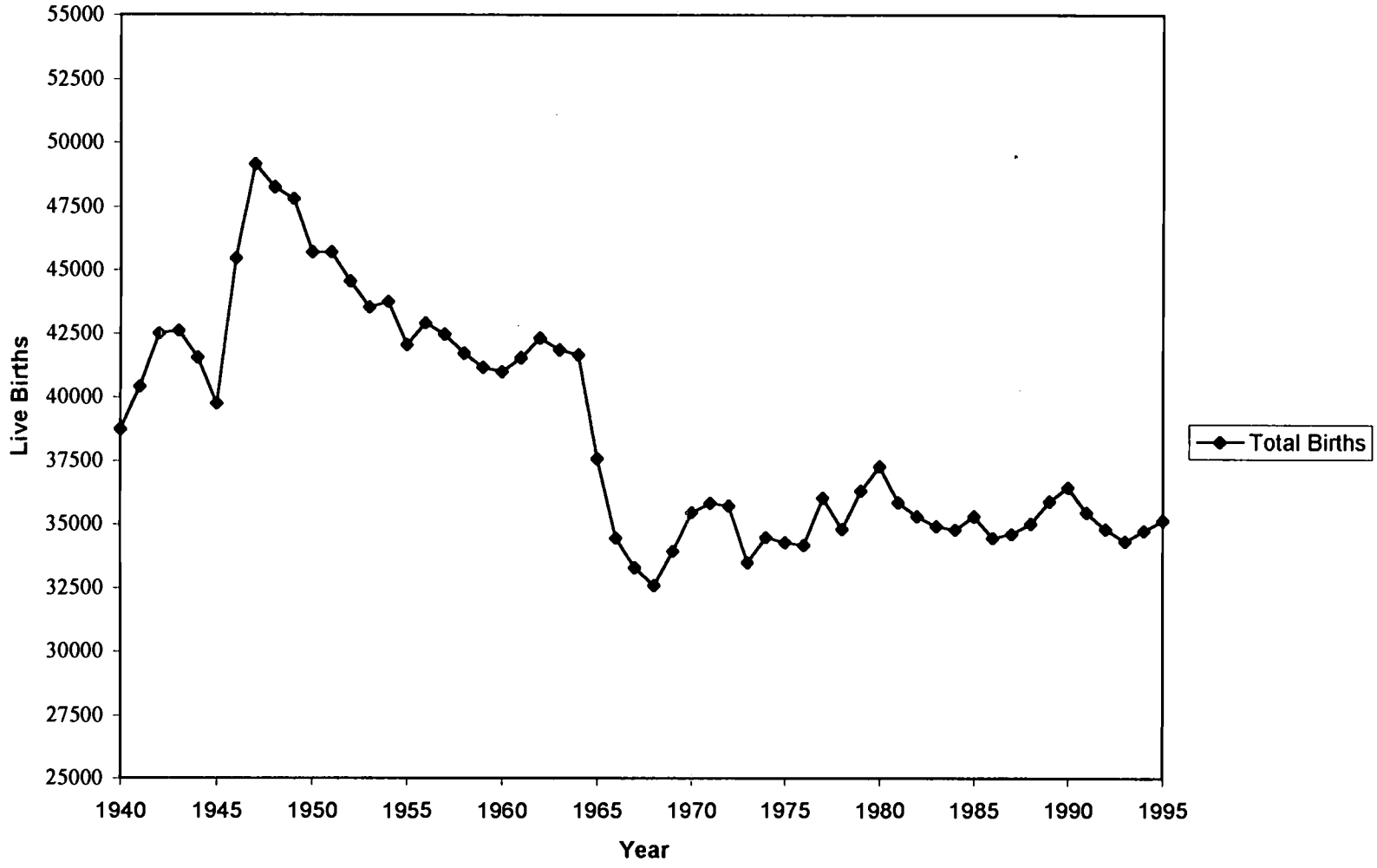

Figure 1. Live birth data for Arkansas, 1940-1995.
Note. Data from "Vital statistics", by the Arkansas Department of Health.

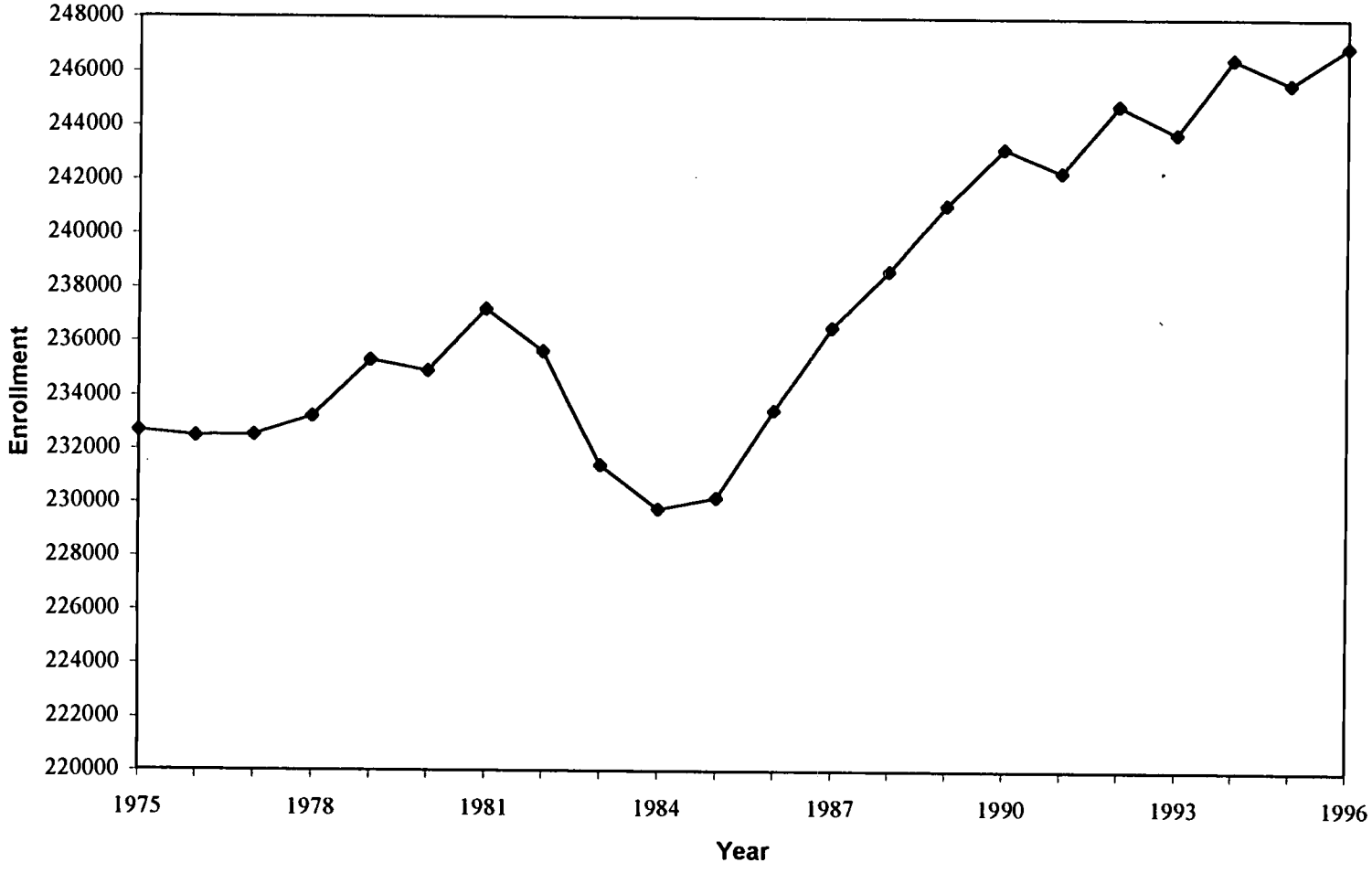

Figure 2. Elementary school enrollment (grades k-6) in Arkansas, 1975-1993.
Note. Data from "Arkansas public school average daily membership", by the Arkansas Department of Education.

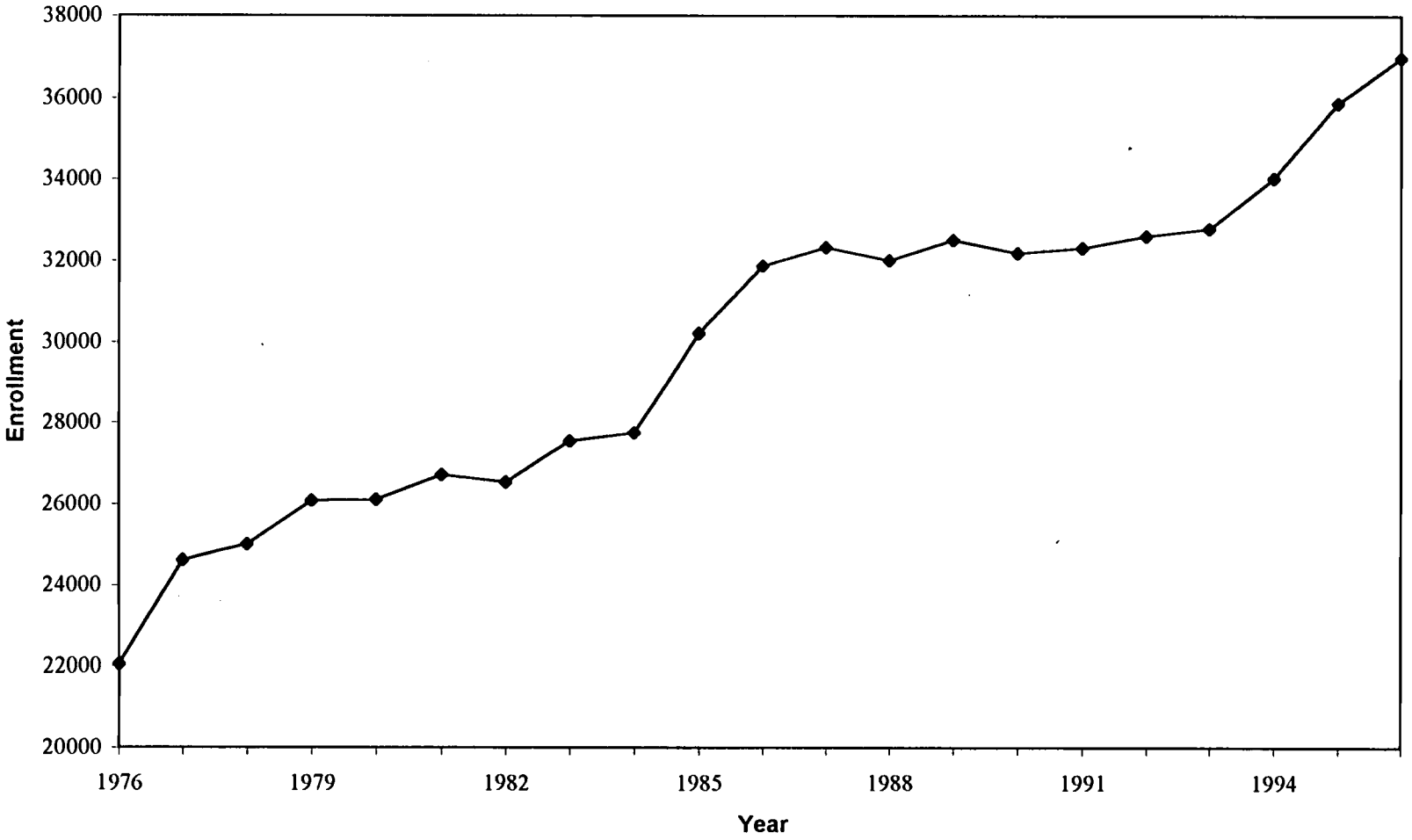

Figure 3. Kindergarten enrollment in Arkansas, 1976-1996.
Note. Data from "Arkansas public school average daily membership", by the Arkansas Department of Education.

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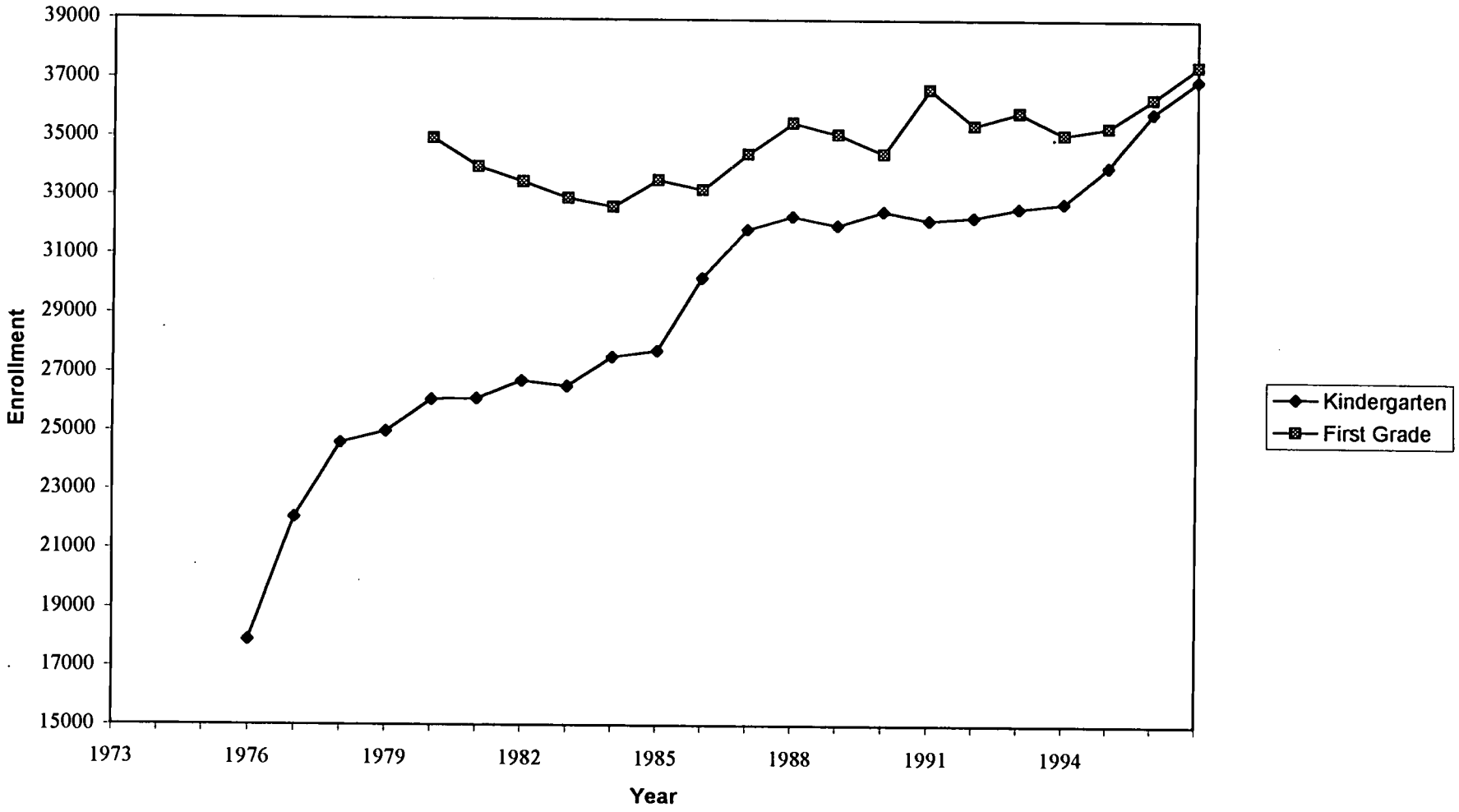

Figure 4: A comparison of kindergarten and first-grade enrollment in Arkansas, 1973-1996.
Note. Data from "Arkansas public school average daily membership", by the Arkansas Department of Education.

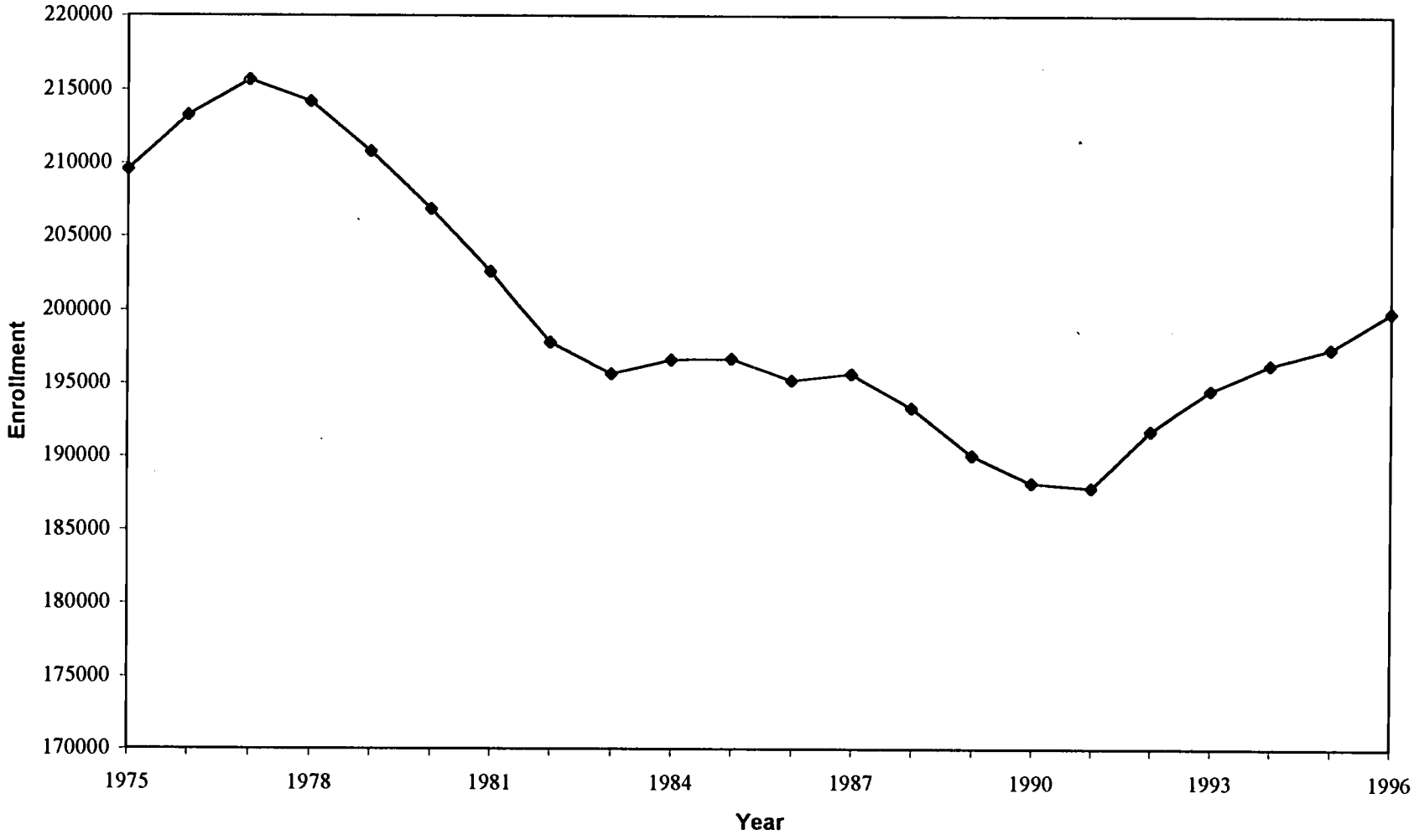

Figure 5. Secondary school enrollment (grades 7-12) in Arkansas, 1975-1996.
Note. Data from "Arkansas public school average daily membership", by the Arkansas Department of Education.

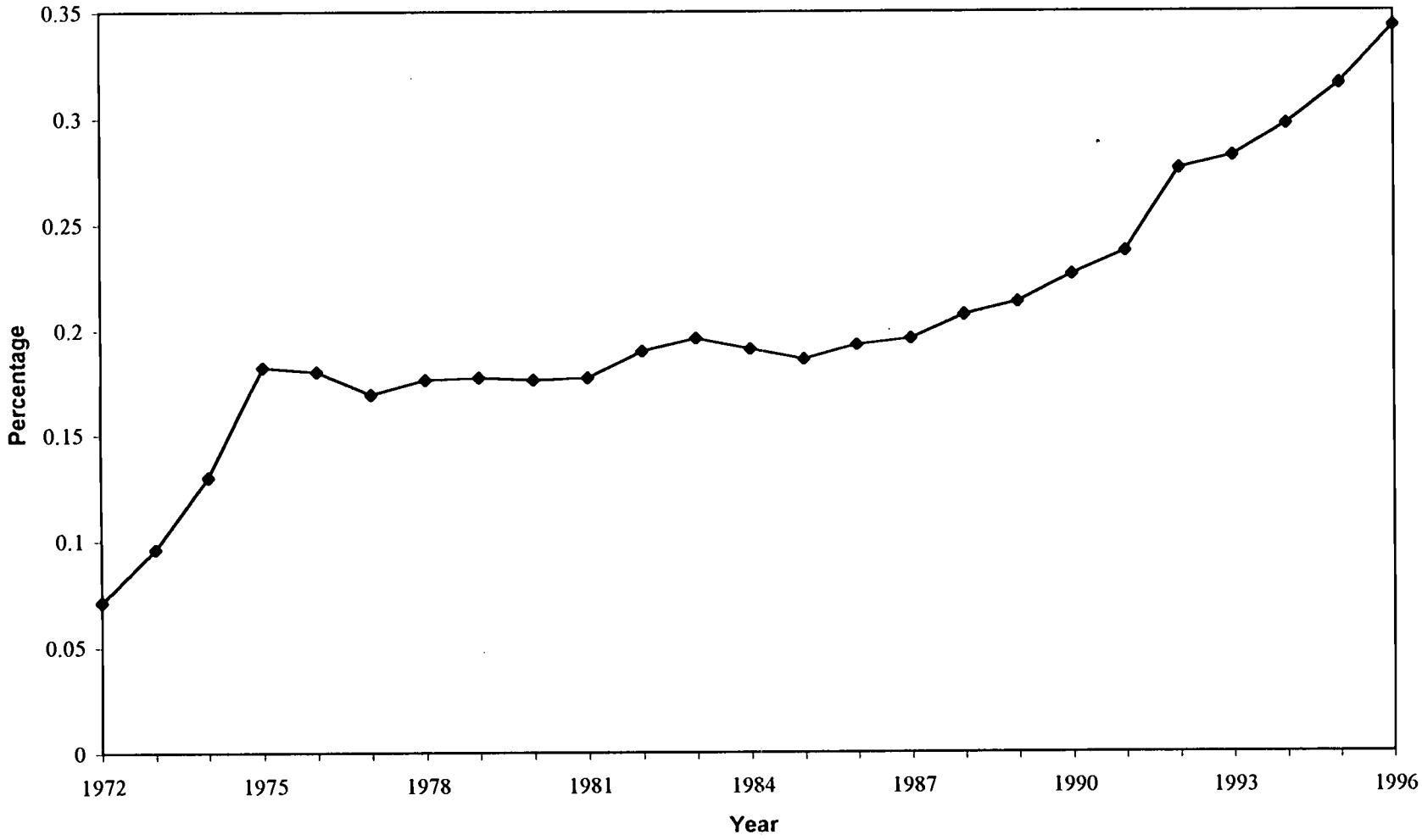

Figure 7. Two-year enrollment as a percentage of total enrollment in Arkansas, 1972-1996.
Note. Data from "Fall 1996 student enrollments", by the Arkansas Department of Higher Education.

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