

YOUTHFUL OFFENDERS COMMITTED TO  
MASSACHUSETTS CORRECTIONAL INSTITUTIONS-  
A TREND ANALYSIS

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ACQUISITIONS

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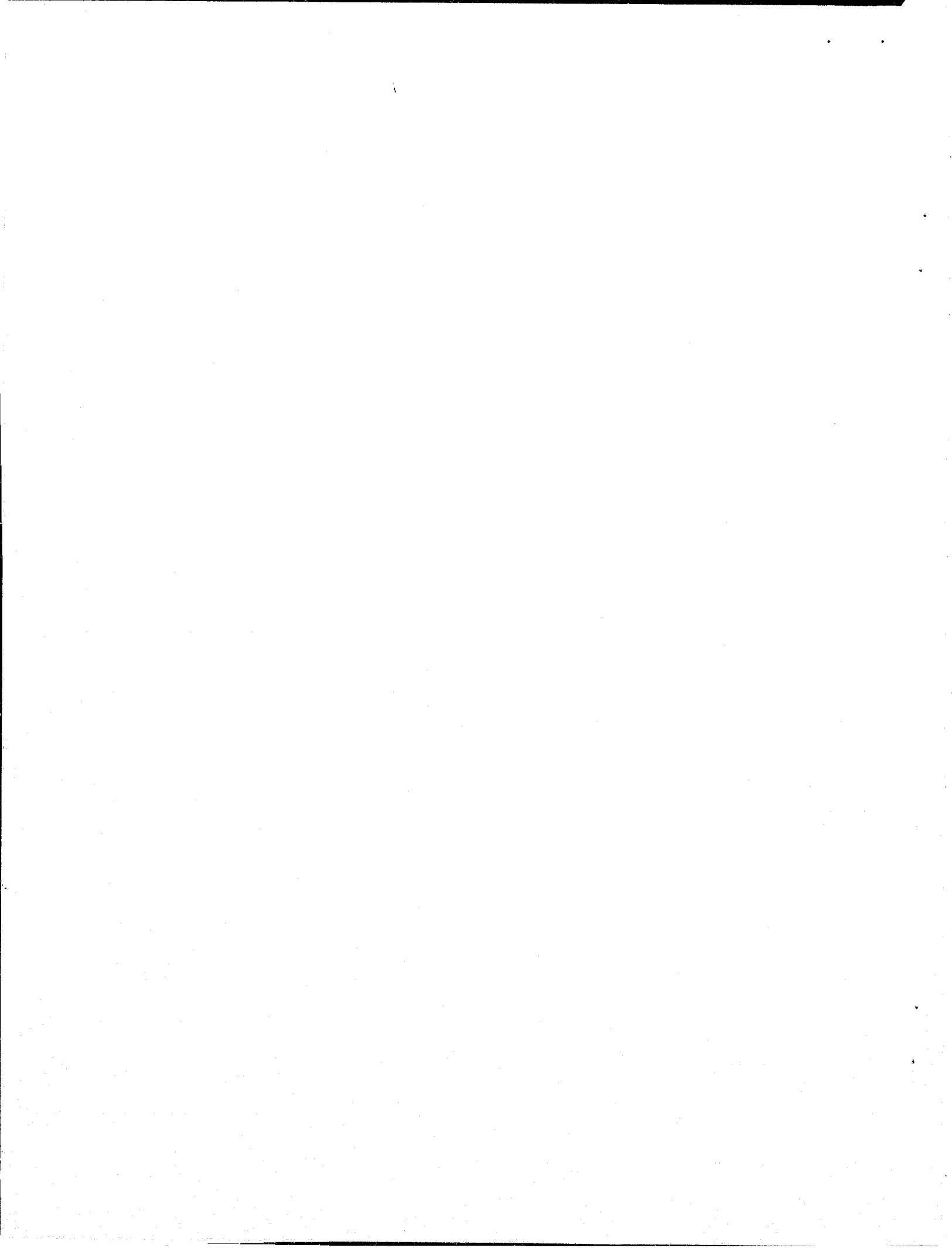
## ABSTRACT

The present study is an attempt to isolate trends of youthful offenders committed to Massachusetts Correctional Institutions. The study is divided into two sections: Part I will place particular emphasis upon short-term trends of offenders aged 14-21, with additional focus upon trends in the total population and the over 21 population as a basis for comparison; Part II will be concerned with long-term trends in the commitment of offenders 20 years old and younger.

Part I utilizes a population index in order to isolate the trend and minimize the distorting influence of atypical population changes, whereas Part II makes use of time series analysis and statistical trend tests.

The short-range analysis resulted in three major findings. First, there is a definite progressively upward trend for offenders of all ages in the short run. Secondly, the trend is more severe and pronounced for individuals 14 to 21 than for the other groups. Thirdly, 1973 appears to be an atypical year for those in the 14 to 21 years group and the over 21 years group with an abnormally inflated and deflated trend, respectively.

The long-range analysis showed that there has been a downward trend in the commitment of offenders 20 and younger. Secondly, although the proportion of youthful offenders is lower now than in the past, there appears to be an upward trend in recent years.



PART I

SHORT-TERM TRENDS IN THE COMMITMENT  
OF YOUTHFUL OFFENDERS  
1972-1976

Prepared by: Elaine McCarthy

## INTRODUCTION

The treatment of youthful offenders has undergone major changes since the late 1960's. In Massachusetts, radical juvenile correctional reform began in 1969 when the Department of Youth Services was created. The main objective of this agency was to rehabilitate rather than incarcerate youthful offenders through the use of community-based facilities.

The impetus for correctional reform in Massachusetts was provided by a number of studies which presented evidence of the poor performance of the traditional mode of juvenile corrections. An earlier study (McKay-1967) presented evidence that the traditional training school fostered criminal behavior. This study strongly advocated the need for alternative correctional programs. Additional studies in the field stressed the need to protect the basic rights of children and young adults, to remove the stigma of institutionalization and to provide for the adjustment and re-entry of the youthful offender back into society.

According to the Uniform Crime Report for 1974, 27.2% of all serious crimes are committed by youths 18 or younger. Youth crimes appear to be on the increase at the local as well as the national level. Recently there has been a substantial increase in the number of youthful (21 or younger) offenders sentenced to Department of Correction facilities.

Because of the large number of serious offenders, administrators are faced with conflicting objectives. First, they must respond to the public demand for safety by employing the more traditional correctional techniques. However, this need for public protection against the serious offender is coupled with the knowledge that youths may be adversely affected by exposure to institutionalized life.

The difficulties encountered by administrators when trying to fulfill these two opposing objectives have been made more difficult by the serious over-crowding of the Massachusetts Adult Correctional facilities during this period of transition in juvenile corrections. Also, administrative decisions are hampered by the lack of sufficient data and knowledge of youthful offenders.

Effective planning and program implementation requires the knowledge of the changing patterns of youthful offenders. Adequate resources, qualified personnel, and appropriate programs for youthful offenders cannot be effectively implemented on an ad hoc basis. Understanding the trends in youthful offenders is paramount in providing appropriate services and effective long-term planning in the field of youth corrections.

## METHODOLOGY

### Research Questions

The areas to be analyzed and the specific research questions to be answered are:

- 1) What is the short term trend in youthful offenders sentenced to Department of Correction facilities in Massachusetts?
- 2) Is the trend experienced by youthful offenders similar to that of the total population and the over 21 offenders?
- 3) What factors, if any, can be isolated to account for the disparities between trends?

### Samples:

The sample selected for the time series analysis will consist of the total number of offenders 21 or younger sentenced to DOC facilities for five years during the 1972-1976 period. The data to be used for the DOC sample will be collected from the Central Office files. Also, the population data will be obtained from the U.S. Census of the Population Reports. To answer these research questions, it is essential to define what a trend is, and to construct a technique for measuring the trend.

There are two general types of trends that can be encountered: 1) a secular or long-term trend, or 2) a cyclical or short-term trend. Most time series exhibit cyclical, short-term trends which fluctuate around the secular, long-term trend. To illustrate this phenomena, three select cases are shown in Figure I.

Cell A demonstrates the case where time series data exhibits upward and downward trends of a short-term nature. However, even though each cycle exhibits upward and downward phases, no long-term trend exists.

Cells B and C exhibit cyclical trends similar to those found in A. These trends exhibit an upward and downward secular trend, respectively.

Secular trends are important from an historical perspective.

Such trends highlight long-run movements in variables. For policy implications, however, most planning and budgeting is done on a relatively short-term horizon, i.e., five years or less. Thus examining and isolating cyclical trends are more appropriate from a practical point of view.

In determining the trend in youthful offenders (i.e., to determine if there is or has been a discernible pattern of youthful offenders over the years), certain adjustments are necessary. First, one must be aware that increases in youthful offenders are, or can be, the combined result of two factors: 1) an increase in the youthful population in general, and 2) a rising trend in youthful offenders. Population increases tend to distort and inflate trend figures. Therefore, it is essential that changes in population be compensated for, in order to isolate the trend.

One method of adjustment that will be used in this study is to change the current series of number of offenders to a constant series of number of offenders by utilizing a Population Index Deflator. What this deflator does, described in detailed below is to compensate for changes in population. The resulting series, i.e., the constant number of offenders, can be treated as if the population has remained constant over the years. This feature of the deflator allows one to treat the series strictly as a trend, facilitates analysis and adds force and credence to findings.

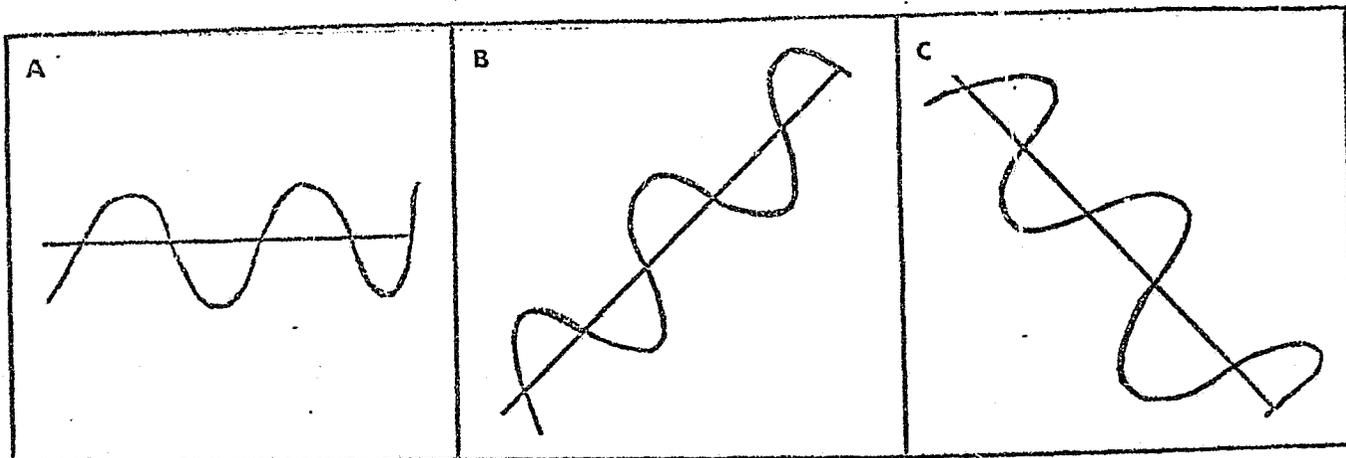
To convert the current series of number of offenders (including population effect) to a constant series of number of offenders (compensating for population changes) the procedure to be used is as follows:

- 1) A base year is chosen. For this study, the 1974 population figure was chosen as the base year.
- 2) A population index for each year is derived by dividing each year's population by the base year population.
- 3) The constant series for the number of offenders is then derived by dividing the number of offenders for each year by the index for that year.

After this procedure is completed, the resulting series is the constant series, i.e., it can be treated as if the population has remained constant. Thus, any increase in this series can be directly attributed to rising trends in youthful offenders. Also,

comparisons can be made between years, and descriptive statistics can be applied without any fear of distortion, since the effect of the population index deflator is to create a series which shares a common base of measurement.

Figure 1 Types of trends



### RESEARCH FINDINGS

In determining whether or not a trend existed toward youthful offenders, it was necessary to determine to what extent the changes in population distorted the data. Removing the effect of the population may have a number of effects on the trend:

- 1) To dampen the trend
- 2) To increase the trend or
- 3) To have no negligible effect on it.

Population correction procedures which have no apparent impact on a trend are still successful exercises. They add credence to the data and add assurance that the resulting trends are not misleading.

Data was gathered for the years 1972 through 1976 and included information on the total Massachusetts prison population between the ages of 14 to 21, and the Massachusetts prison population over 21.

#### Trend in MCI Total Offenders (All Ages)

The effect of removing the population influence on the trends in offenders can be seen in the graphs in Appendix II. In the case of the total number of individuals committed to MCI's it appears that removing the effect of population growth has had a negligible influence on the overall trend. What can be quickly seen, however, is the steady increasing trend in total commitments in MCI's that has occurred over the past five years. In fact, evidence indicates that not only has there been an upward trend in overall offenders, but that the trend has been increasing at faster rates each year. Table I (Appendix I) seems to indicate that just such a pattern has been emerging.

In 1973, the percentage increase in the total population of individuals at MCI facilities was 2.95% higher than in 1972. This increase can be directly attributable to a rising trend in offenders and not to the mere fact that the total population had increased, since population changes relative to the base year have been adjusted for with the use of the index. Similarly the total MCI population continued to increase an additional 5.25% in 1974, and increased even faster in 1975 by growing 6.85%. Perhaps the most startling evidence of an upward trend in total offenders occurred in 1976, with an increase in the total MCI population of

13.5% in one year. Thus, the evidence presented in Table I clearly indicates that the total population at MCI facilities is not only increasing but is increasing at a more rapid rate, i.e., from 2.95% in 1973 to a one-year increase of 13.5% in 1976.

#### Trend in MCI Population (14 to 21 Years)

The smooth upward trend which occurred for the total population was not so apparent when examining youthful offenders. However, when analyzing the number of youthful offenders (ages 14 to 21), there appears to be a smooth upward trend for 1974, 1975 and 1976. After the data had been subsequently adjusted for population increases for those years, the upward trend was somewhat less pronounced but continued to rise quite rapidly (Figure 2 of Appendix II).

The smooth trend in youthful offenders was interrupted by a sharp rise in commitments in 1973. The number of youths, ages 14 to 21, at MCI facilities, rose from 273 in 1972 to 398 in 1974. In percentage terms, there was a 45.78% change in the number of youthful offenders for 1973 alone! Following this large increase in youthful offenders in 1973, there was a sharp decline in the number of offenders 14 to 21 years of age in 1974, from 398 to 316. In fact, youthful offenders dropped 20.6% in 1974 after adjustments were made for population changes.

When 1973 is removed from the analysis, the trend in youthful offenders follows somewhat closer to the total population trend of individuals in Massachusetts Correctional Institutions. However, for the five year period under study, the overall percentage change of individuals committed to these facilities increased 31.43% from 1972 to 1976, while the number of youthful offenders increased 39.56% for the same period. The most startling differences between trends occur when comparing the two sub-populations: youths 14 to 21 years of age and those individuals over 21.

In 1973, the number of individuals over 21 declined 4.82% while those 14 to 21 increased 45.78%. It is understandable that the overall trend as well as the trend of individuals 14 to 21 has increased during 1973, particularly with the closing of the DYS. However, what is difficult to explain is the decline in the number of individuals over 21 which occurred in the same year. Again, additional data must be collected to determine the causes of these conflicting findings.

Further disparities between the two sub-trends occurred in 1974. During this time the committed population aged 14 to 21 declined 20.6% while the over 21 population at MCI facilities increased 10.1%. This seems to indicate that perhaps 1974 was a movement back toward the respective trends, with 1973 being an atypical year both for the 14 to 21 and the over 21 age groups. Subsequently, it appears that the trend of the two groups is somewhat similar. However, the number of youthful offenders is rising more rapidly than the rest of the population. For the five year period under study, the number of youths committed increased 40% while the rate of change in the over 21 population was only 24% i.e., the percentage change in the population of youthful offenders has risen almost twice as fast as the rest of the population.

PART II

LONG-TERM TRENDS IN THE COMMITMENT  
OF YOUTHFUL OFFENDERS  
1932-1977

Prepared by: Randi Mershon

STATEMENT OF PURPOSE

In order to determine whether or not the upward trend found in section one of this study has persisted over time or is simply a recent phenomenon, the following section of the report will be concerned with long-term trends in the commitment of youthful offenders to Massachusetts' Adult Correctional facilities. For the purposes of this analysis, a youthful offender will be defined as 20 years old and younger.

METHODOLOGY

The sample selected for the analysis consists of the total number of offenders 20 or younger committed to Department of Correction facilities during the years 1932 through 1977. The year 1932 was selected as a starting point since that was the first year for which data was collected and recorded in a manner similar to that of subsequent years. Data for the study was collected from the Massachusetts Department of Correction yearly statistical reports.

Rather than constructing a population index to account for population fluctuations, the tests for this part of the study were computed on the percentage of youthful offenders (i.e., the proportion of the total population) and not on the actual number of individuals.

Using the percentage method has virtually the same effect of diminishing the influence of changes in population. Time series analysis and two statistical tests (Daniel's Test and the Mann-Kendall test) were performed to identify any discernible trends. Table I below gives a breakdown of the number of youthful offenders as well as the percentage of youthful offenders committed each year:

TABLE I

NUMBER OF COMMITMENTS AND PROPORTION OF POPULATION BY YEAR

<u>YEAR</u>	<u>NUMBER 20 &amp; YOUNGER</u>	<u>PERCENT TOTAL POPULATION</u>
1977	330	28.8
1976	374	27.6
1975	233	22.0
1974	221	25.6
1973	311	28.9
1972	296	26.8
1971	312	28.6
1970	213	24.8
1969	210	24.0
1968	212	24.8
1967	206	27.9
1966	174	21.1
1965	181	21.9
1964	171	19.6
1963	245	26.3
1962	227	23.0
1961	215	21.3
1960	222	23.2
1959	247	25.1
1958	196	19.9
1957	248	25.4
1956	241	25.7
1955	204	21.4
1954	173	25.4
1953	149	23.7
1952	163	21.8
1951	197	25.8
1950	207	24.5
1949	205	24.6
1948	209	23.1
1947	260	26.1
1946	272	30.9
1945	353	36.4
1944	308	34.5
1943	301	31.1
1942	274	27.3
1941	219	25.1
1940	260	28.6
1939	271	27.2
1938	245	26.9
1937	288	28.1
1936	262	27.5
1935	323	32.6
1934	387	37.9
1933	388	38.1
1932	432	39.6

FINDINGS

The results of the tests indicate that between 1932 and 1977 there has been a downward trend in the commitment of youthful offenders to state facilities. However, since the correlation between the variables is not strong (.304), the overall downward trend appears to be neither pronounced nor highly significant.

The proportion of youthful offenders to the total population ranges from a high of 39.6% in 1932 to 28.8% in 1977, with a low of 19.6% in 1964. The graph in Appendix III presents a clearer picture of the existing patterns in commitments, with five year moving averages being utilized to portray cycles.

It is evident that from 1932 through the early 1940's there was a sharp decrease in the commitment of youthful offenders. From 1943 through 1947 a relatively pronounced increase in commitments occurred, then dropped off sharply and remained somewhat stable through the 1950's and early to middle sixties.

From 1967 to the present it appears that the proportion of youthful offenders has been on an upward swing, with the percentage of offenders rising by 25.5% from 1975 to 1976 and an additional 4.3% from 1976 to 1977.

It would appear that Massachusetts is now experiencing an upward trend in the commitment of youthful offenders, lending support to the findings in the first section of the study. Yet the current proportion of youthful offenders as well as the overall proportion has dropped considerably over the last 46 years. From the available data, however, it is impossible to determine whether or not the upward trend will continue to exist or if it is in fact part of a cyclical trend of a short-term nature. Thus, future research will be necessary both for the analysis of trends as well as possible causes of fluctuations in the commitment of youthful offenders.

SUMMARY

The analysis of short-run trends in the commitment of youthful offenders 14-21 resulted in three major findings: 1) there is an increasingly upward trend for offenders of all ages; 2) the trend is more pronounced for offenders 14 to 21 years of age than for the other two groups; 3) the year 1973 seems to be an atypical year, with abnormally inflated and deflated trends for those 14-21 and those 21 and over, respectively.

In the long-run, two major findings resulted: 1) there has been a downward trend in the commitment of offenders 20 years old and below; 2) although the proportion of youthful offenders is lower than in the past, there appears to be an upward trend in recent years.

Further research is necessary to discern whether or not the recent upward trend is an actual increase in youthful offenders and will continue to increase, or on the contrary, whether or not the recent surge is only the crest of a cyclical trend which will ultimately be on the decline.

APPENDIX I

TABLE I

YEARLY PERCENTAGE CHANGE OF TOTAL, 14 - 21 OVER 21 AFTER REMOVING THE EFFECT OF POPULATION			
YEAR	PERCENT CHANGE TOTAL	PERCENT CHANGE (14-21)	PERCENT CHANGE (OVER 21)
1972			
1973	2.95%	45.78%	- 4.82%
1974	5.25%	- 20.60%	10.10%
1975	6.85%	5.69%	5.71%
1976	13.50%	14.07%	12.06%

TABLE II

COMPARISON OF TOTAL, 14 - 21, OVER 21 POPULATION (CONSTANT)			
YEAR	TOTAL*	14 - 21	OVER 21
1972	2036	273	1804
1973	2096	398	1717
1974	2206	316	1890
1975	2357	334	1998
1976	2676	381	2239

\* Discrepancies are due to rounding

TABLE III

CURRENT AGE (14 - 21)		
YEAR	CURRENT POPULATION	CONSTANT POPULATION*
1972	263	273
1973	393	398
1974	316	316
1975	339	334
1976	389	381

\* Constant population is the population adjusted to remove population effects

TABLE IV

CURRENT AGE (21 OVER)		
YEAR	CURRENT POPULATION	CONSTANT POPULATION
1972	1768	1804
1973	1703	1717
1974	1890	1890
1975	2024	1998
1976	2292	2239

TABLE V

CURRENT AGE (TOTAL)		
YEAR	CURRENT POPULATION	CONSTANT POPULATION
1972	2031	2036
1973	2096	2096
1974	2206	2206
1975	2363	2357
1976	2681	2676

APPENDIX II

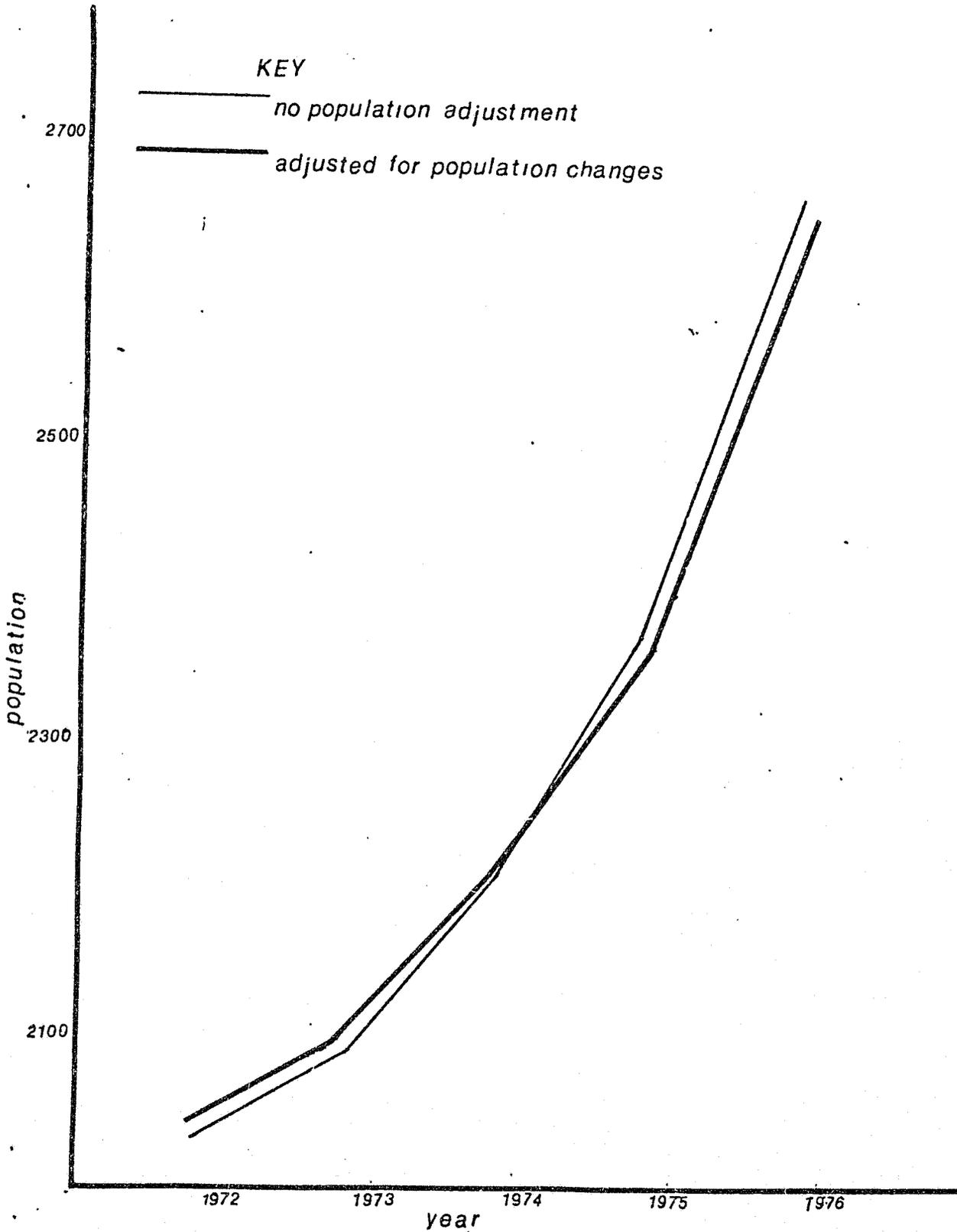
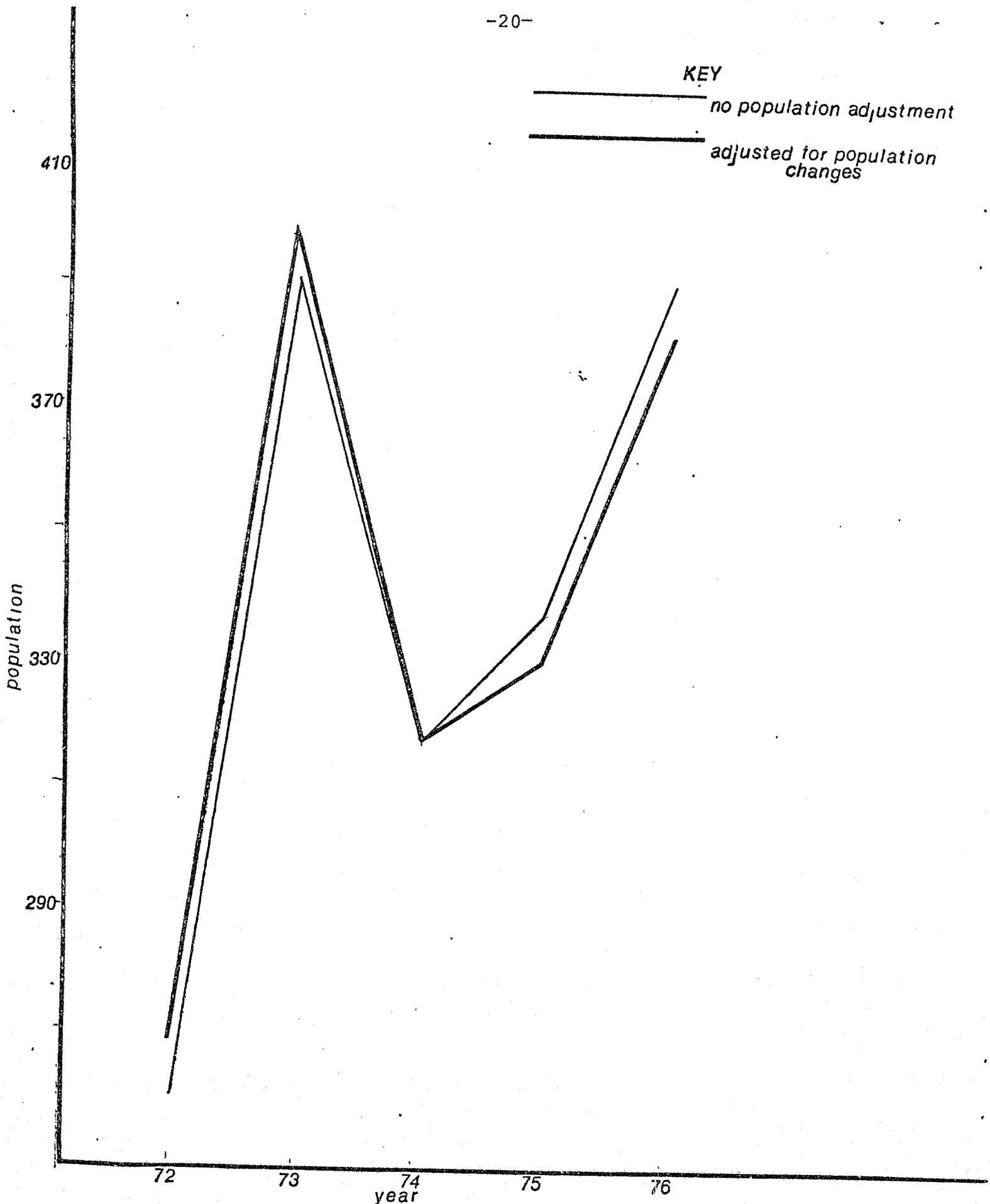


Figure 1 Total population before and after adjustments by year



KEY

no population adjustment

adjusted for population changes

Figure 2 Population 14-21 before and after adjustments

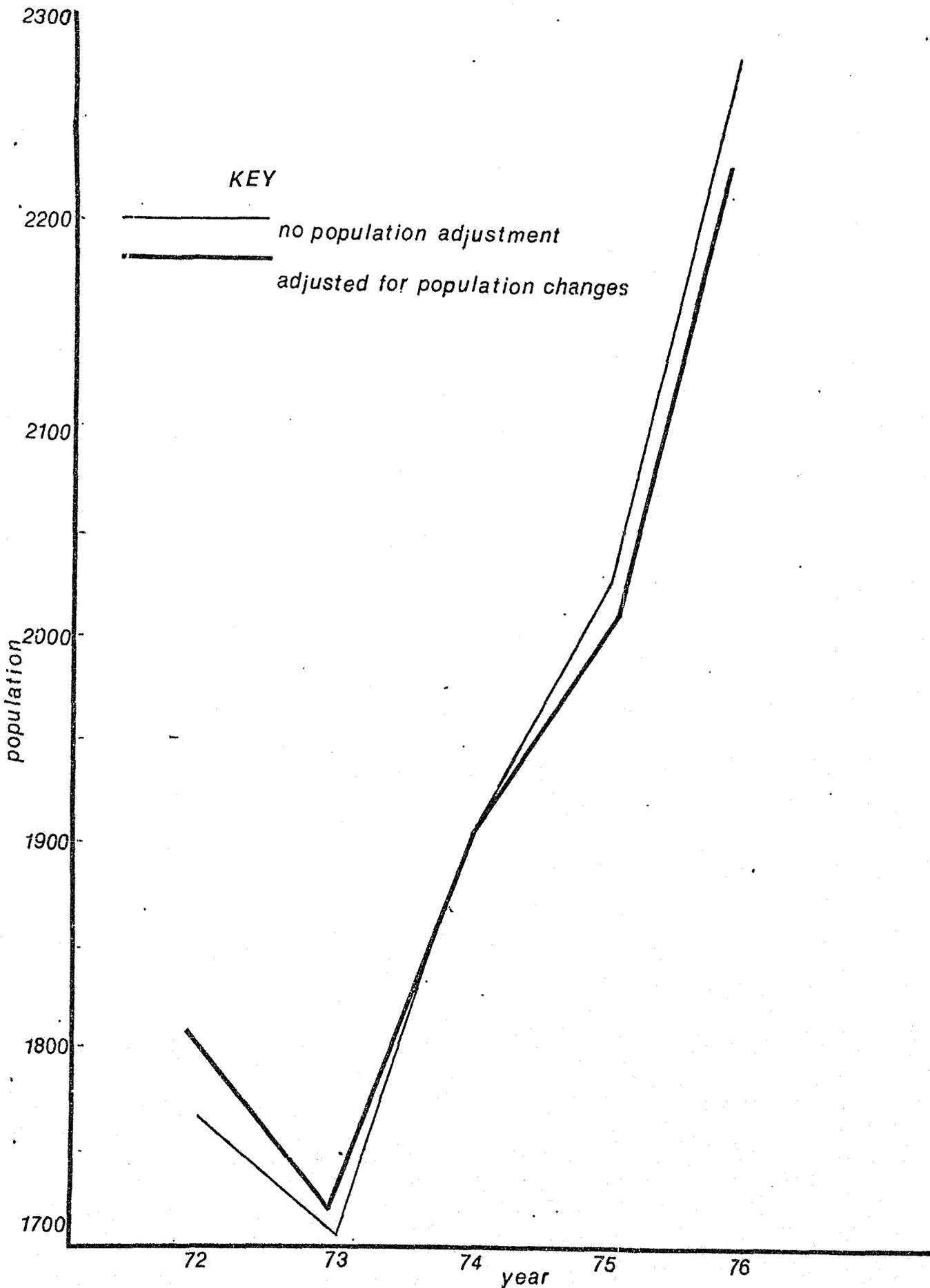


Figure 3 Population over 21 before and after adjustments

APPENDIX III

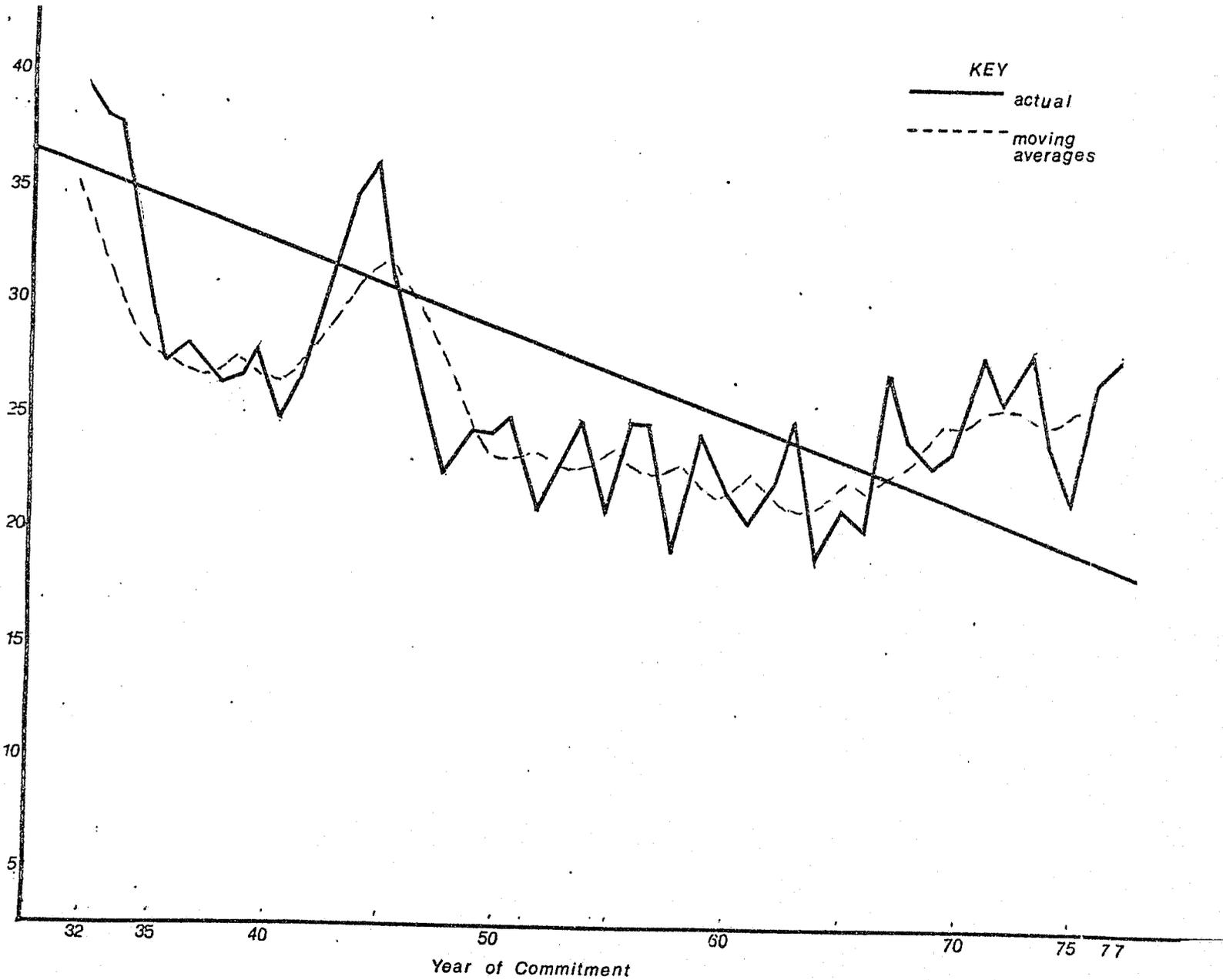
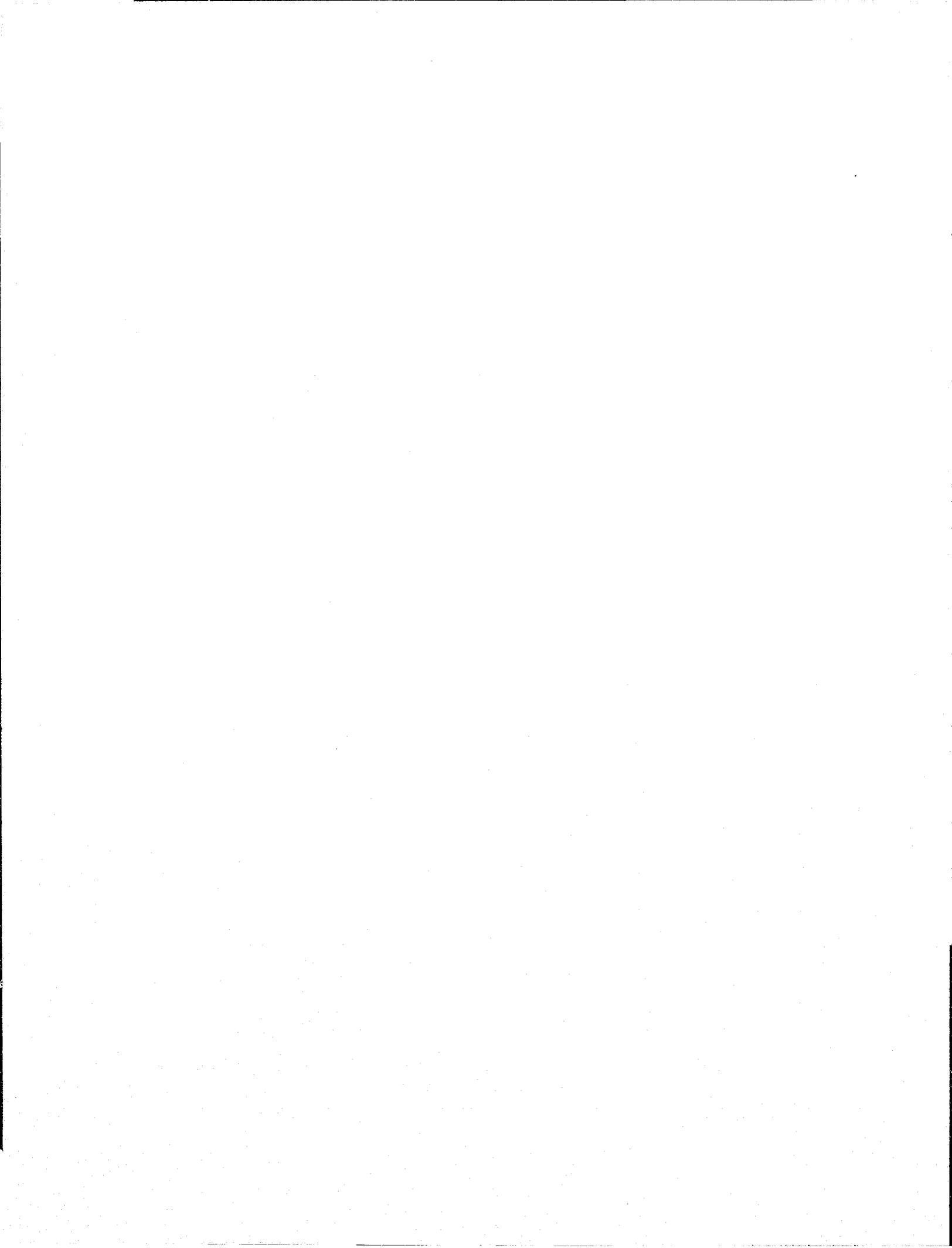


Figure 1 Percent of commitments 20 and under by year  
1932 to 1977



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