MARKET, GOVERNMENT, AND
ISRAEL'S MUTED BABY BOOM

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ABSTRACT

Cohorts born in Israel since the late 1940s were approximately 70 percent larger than earlier cohorts. This brought about changes in the age structure that are even more dramatic than the American baby boom. This paper follows the impact of the large cohorts on the school system and on the labor market, emphasizing the role played by the public sector.

In terms of the number of teaching posts the school system demonstrated on the whole a very prompt ability to adjust to the pressure of high number of pupils. However, as rates of growth of pupils decelerated, inputs in the school system failed to adujst down. As a result, when the larger cohorts moved up the educational scale, the combination of rapid adjustment where they arrived and sluggish adjustment imparted an upward pressure to the aggregate expenditure on education.

When the large cohorts arrived at the age of entry into the labor force the impact was delayed and muted by a rapid expansion of the army and of the universities. Relative earnings of the young men 18-24 declined sharply during the decade. The earnings of the very young seem to be responsive to the relative size of a broader age group (18-34), as well as to the size elderly (65 plus).

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Rapid changes arouse curiosity, and this paper is motivated by such curiosity. There is a great deal of variety in the rapid changes that we observe – in cohort size, age distribution, entry of women into the labor market, the level of education, ethnic composition, etc. Some of these changes are exogenous to the contemporary economic, demographic or social scene, some may result from other changes; some are expected and some come as a surprise.

Generally, a problem is defined and a research program is designed around endogenous variables. In seeking explanations for a phenomenon we construct hypotheses, propose theories, or speculate about its causes which either predispose one towards specific independent variables or impose a preselection of such variables. It is less clear how to chart a research project around an exogenous change: here is an exogenous variable which may affect everything (or nothing) under the sun. If it appears in many equations, what are we after?

One argument in favor of focusing on large-scale changes is that they may generate sufficiently robust findings that will show up even if the analysis fails to take many other variables into account, so that they provide more dramatic experiments for dealing with conventional questions. Another is that rapid changes can reveal different aspects of social and economic systems from those we learn about in the normal course of events, i.e., they invite different types of questions. What we ask and what we

hope to learn has to do with the adaptability of society to rapid changes: the assessment of the capacity to absorb shocks, and the identification of bottlenecks and rigidities. This is a question of dynamics; the emphasis is not on a particular variable but on the phenomenon of rapid change. Now it also makes sense to compare different cases of rapid change and ways of adjusting to them. While the exogenous shocks may stem from diverse causes, the sets of protagonists and the relevant bottlenecks in each case may have much in common.

Several studies have examined the specific effect of cohort size on wages and unemployment (Welch, 1979; Freeman, 1979; and Wachter, 1976). Detailed documentation and arguments for the U.S. presented by Easterlin (1980) and Russell (1982) trace the history and discuss the consequences of the American baby boom. Easterlin (1980) and Jones (1980) focus on the unique experience of the baby boom generation. Louise Russel (1982) argues that on the whole the baby boom was not a very important phenomenon; her judgement relates not to the presence or absence of partial effects but to the robustness or dominance of the phenomenon.

Israel experienced a baby boom in the 1950s. In view of the keen interest in the American baby boom, one wonders whether the Israeli version had any effect. The sources of the Israeli baby boom were analyzed by Friedlander (1975). The potential significance of the rapid change in age structure was pointed out by Kop (1980).

I. THE BOOM

The Jewish population of Israel is based on immigrants, most of whom

arrived in the past century. Immigration occurred in waves, inducing uneven growth in the total population. The single most significant wave occurred in 1948-51 when the population doubled. Subsequent immigration rates fluctuated, but were much lower; between 1951 and 1973 the Jewish population grew at 3.8 percent annually, of which immigration directly contributed 47 percent. Between 1974 and 1980 the population grew at an annual rate of 2.1 percent, the migration balance contributing only 20 percent.

Looking at the age structure of the population in 1955 we see that the age group 0-4 numbered 214 thousand, while the age group 10-14, i.e., those aged 0-4 in 1945, numbered only 122 thousand (Figure 1 and Table A-1). Obviously, the jump in the size of cohorts is translated to big spurts in the rate of increase over time of particular age groups (see Table 1). The dramatic change was brought about by a combination of the large and concentrated immigration, the higher fertility of immigrants, a baby boom among immigrants (Friedlander, 1975), and perhaps some making up of births delayed abroad prior to immigration (Ben-Porath, 1980).

Most of the Jewish population in Palestine before 1948 was of European origin (EA); only approximately one tenth originated from the Arab countries of the Middle East (AA: Asia-Africa). Mass immigration was more equally divided between these two groups. AA women bore far more children than EA women – in 1951 total fertility of AA women was 6.31 while that of EA women was 3.16 and that of Israel-born women was 3.56.[1] To these compositional differences there was added a baby boom within the migrant population. The figures on age structure in 1950 for the European born (not shown) indicate a deficiency in the size of the 5-19 age group (i.e., those born in 1931-1945); the largest deficiency is for people born

in 1941-1945, which partly reflects the effect of the war and the holocaust on births and the creation and resumption of family life after the war.[2]

The subsequent changes in cohort size are a result of reduced immigration and fertility, and an echo of the first boom.

The crude birth rate declined sharply in the 1950s, increased between 1965 and 1975, and declined again from 1975 to 1980 (Table 2). The decline in the 1950s was largely a result of the steep decline in age-specific fertility coupled with a sharp drop in the share of women of the main childbearing age (20-34) in the population. These outweighed the change in the composition of women by continent of origin which, by itself, should have raised fertility: because of the composition of immigration, the share of women from AA among women of peak childbearing age, which must have been less than 10 percent before 1948, rose to 22 percent in 1950, 35 percent in 1955, and 43 percent in 1960. This is only part of the story. The decline in age-specific fertility rates continued throughout the period, mostly among the immigrants from Asia and Africa whose fertility converged down towards the levels of the European immigrants; only in recent periods was there a decline also among the latter. Between 1965 and 1975 we observe the echo of the original baby boom. The number of women aged 20-34 rose from 215 thousand in 1965 to 347 thousand in 1975, an increase of 60 percent, while the total population of women rose by only 30 percent. Children aged 0-4 increased in this period by 39 percent.

There has been a trend towards postponed marriages which accounted for some of the decline in age-specific fertility rates. The marked decline in the proportion married between 1965 and 1970, coupled with a sharp narrowing of age differentials between brides and grooms, reflect

the coming of age of large cohorts of nubile women with some scarcity in the older male cohorts. Ben Moshe (1983) has found that the marriage squeeze brought about a decline in the age-specific marriage rates of women and an increase in the marriage rates of men.

II. THE SCHOOL SYSTEM

The relevant age group for elementary school is roughly 5-14, and the one relevant for high school is roughly 14-17. The evolution of these groups' sizes is as follows:

	1950	1955	1960	1965	1970	1975	1980
Thousands							
5-14	180	308	445	502	502	539	629
14-17	n.a.	90	118	199	208	203	213
As percent of total population							
5-14	16.3	19.8	23.6	22.1	19.8	18.4	19.4
14-17	n.a.	5.8	6.3	8.8	8.2	8.2	6.9

Friedlander (1975) has demonstrated the effect of mass immigration and the baby boom on Israel's school system by citing the absolute number of children aged exactly 6 (in thousands): 1947 - 01.5; 1952 - 31.1; 1957 - 45.0; 1962 - 47.2. During the 1950s the proportion of pupils out of this rapidly growing population increased steeply, converging towards full coverage in elementary schools by the end of the 1950s. Among those aged

14-17 the proportion enrolled in schools rose from 43 percent in 1952 to 60 percent in 1960, fluctuated for several years when the population grew at peak rates, and then resumed its growth in the mid-1960s to reach 80 percent in 1980. (Note that elementary education has been free and compulsory in Israel since 1949; secondary-schooling is free since 1978).

The most amazing thing occurred right at the start. There were 125 thousand pupils in the Hebrew educational system (excluding higher education) in 1948/9. In 1951/2 the number reached 284 thousand, an increase of 126 percent (or an annual rate of increase of 31.3 percent). At the same time, the number of teachers' posts increased by 123 percent, so that the average number of pupils per teaching-post hardly changed! This, in a country whose total population had doubled, and where the immigrant population was illiterate - at best in the language of the country and often illiterate in general - or had relatively low levels of schooling. The increased supply of teachers therefore had to come from the absorbing population. It is a well-known fact that this rapid expansion took its toll in terms of a deterioration in teachers' qualifications; it is, in fact, remarkable that the response in quantities was so close to perfect and that all the pressures translated into quality reduction. It would have been reasonable to suppose that the quality-quantity tradeoff would be more evenly balanced: a higher teaching load borne by few, but better qualified teachers. We get a similar picture in the U.S. baby boom where certification standards of teachers were lowered, and the student/ teacher ratio reflected only small pressures (Russell, 1982), p. 30.

Let us now examine this response in greater detail. The wave of increase 1948/9-1951/2 affected elementary and secondary schools more-or-less to the same degree, with very little change in the student/teaching-

post ratio (Table 3). In the following years the number of elementary-school pupils kept rising, though at a decreasing rate, until around 1964/5. During this period of rapid growth, which also included the entry of the baby-boom cohorts, the number of teaching-posts and classrooms increased proportionately with practically no change in the student/ teacher/classes ratios. During the next 12 years of stability (or some decline) in the number of pupils - 1964-76 - the number of teaching-posts kept rising, sharply reducing the ratio of pupils to teaching-posts. This reduction continued when the growth of the student population resumed in 1976-82, the echo of the first baby boom.

The growth of the student population in secondary schools also decelerated gradually, but was nonetheless quite high throughout the period. In the 1950s a significant part of this growth was caused by the increase in the rate of school enrolment among teenagers (secondary-school enrolment rates for the 14-17 age group rose from 23.4 to 1952 to 46.5 in 1959). This is the only period in which the pressure of students was not met by a proportional increase in teachers and classrooms (Table 3). The early 1960s marked the arrival of the large cohorts to secondary school age. The age group 14-17 increased from 107 thousand in 1959 to 200 thousand in 1965. These new cohorts also differed by origin - a higher fraction of Asia-Africa origin. For the secondary school system this growth meant several years in which school enrolment remained fairly stable, probably due to the change in the composition of the teenage population by origin rather than a supply constraint on the part of the system itself. The figures in Table 3 show that the slightly higher rate of increase of students in this period (compared to 1952-59) was matched by an increase in both teachers and classrooms. When cohort size and

composition stabilized, the increase in enrolment rates was renewed (46.1 in 1964, 64.4 in 1979), which meant that inputs (teachers, classrooms) rose faster than students, improving the relevant input ratios.

It is probably no accident that a reform that broke down the two-tier system of 8 years of elementary and 4 years of secondary school into a 6-3-3 system was introduced in the late 1960s after the pressures exerted by the growing number of pupils had subsided.

Going back in time, we have to trace what happened to teenage employment. In the late 1950s approximately two fifths of the boys and one third of the girls aged 14-17 were in the labor force. This meant leaving school early and starting work, to be interrupted at age 18 by army service for 2 to 3 years, and then returning to the labor market. The rate of labor force participation of the 14-17 age group was on the decline between 1955 and 1960. In 1959 the growth of the 14-17 age group began accelerating and, as noted, this influx was associated with a change in composition by origin and with a temporary halt in the increase in school enrolment. It was also associated with a halt in the declining trend of teenagers' labor force participation. Between 1960 and 1965 the number of teenage workers doubled and their proportion in the labor force increased from 3.2 to 5.6 for boys, and from 6.3 to 9.7 for girls. Still, the rate of unemployment of the group did <u>not</u> increase in response to this influx. 1967 was the trough of a depression and teenage unemployment reached 30.4 percent (whereas the normal level before that was 12-14 percent), the size of the group stabilized, and the rate of labor force participation resumed its rapid decline: teenage employment gradually disappeared (less than 2 percent of employment in 1980).

III. ON THE REACTION OF THE PUBLIC SECTOR

The above discussion indicates that in terms of the rough physical indicators there has been a very responsive accomodation of the change in cohort size by the public sector. There was one period in which pressure was felt in the secondary schools, and there was also an improvement in quantitative standards when pressures subsided. Of course, the quality aspect is not discussed here; the deterioration in teachers' quality in the period of undiscriminating recruitment may have affected the quality of education received by children who went to school in the 1950s.

There is no general accepted framework within which the reaction of the public sector can be analyzed. Various models of the public sector can be examined: (a) a bureaucratic machine that has some quasi-firm responses to changing prices or demand pressures, but also stickiness in certain parameters (budgets or various indicators of performance); (b) a benevolent maximizer of a perceived social welfare; (c) a political entity intent on maximizing support or moved by self-seeking politicians and bureaucrats. For any particular government response, one could find a rationale in more than one view.

Large-scale demographic changes cause large changes in the number of clients the government serves: in schools (in the case of the baby boom), in health services (for the elderly), etc. Such pressures can be expected to lead to a deterioration of services for a variety of reasons: a quasi-firm argument is based on upward sloping (and perhaps short-run) inelastic supply curves of the factors used to provide the services. A bureaucratic argument is based on short term stickiness of budget allocations which

would impart an elasticity of -1 to the curve relating expenditure per client to the number of clients. From a static political-economy point of view, if rapid pressures sharply increase the marginal cost of satisfying a particular group of supporters, there is an argument to seek the support of others. A benevolent government, too, would shift the distribution of its efforts in response to changes in relative costs. There are therefore plenty of reasons to expect a short run downward sloping curve relating government services per client to the number of clients.

What if the government copes swiftly with certain aspects of crises and shocks with little or no decline in the level of services, i.e., has a short term elastic curve relating expenditures or performance to clients? This may reflect some bureaucratic or public attachment to certain parameters, it may reflect real social priorities of a benevolent government, or it may reflect a political system which has a built-in bias towards handling crises. We can describe the political process in the following terms: governments seek support, which is presumed to depend on government actions. The support of most people is quite inert in the short run, and unresponsive to government activities in many fields, including thinly spread changes in taxation or the quality of services (see Olson, 1982; and Peltzman, 1976).[3] However, at different times certain topics can become political issues, i.e., the way in which the government handles a problem will significantly affect the support it gets. This may be so either because the topic is high on the minds of the public at large, or because a particular group in the population will sway its support based solely on the way a specific issue is resolved. The issues more likely to get government response are those where the group of beneficiaries is well defined while the cost is spread out thin, because of the inert reaction

described above. Obviously, there are advantages to government expenditures that have a public good property so that they satisfy more than one group. Particularly notable is the convergence of interests of clients of services and their suppliers.

Demographic structure and changes fit well into such a framework. For example, the elderly are likely to be highly responsive to how the government treats them because of their relatively high dependence on government support, which should afford them some protection against the adverse effects of their size. Shocks of the sort discussed here are a natural source of issues. By definition, they create problems relating directly or indirectly to well-defined groups in the population. (Often there is also an interested party of government employees.) The problems associated with a rapidly growing group may become an issue over which that group's support could easily sway, depending on government action. This may make the government's short run 'demand curve' more elastic, i.e., it will make an extra effort to minimize the reduction in the services that it provides. In fact, there are indications here that such a mechanism may make the government _overly_ responsive to major challenges, under the supposition that politically-induced rapid adjustment entails neglect of other, less dramatic issues that the government is supposed to take care of, neglect of less visible aspects of the problem, etc.

The same rationale carries over to the role of government as an employer. When young men or large numbers of women flood the labor market and the government steps in to employ them, this too is open to interpretation on several levels: (a) as the response of a quasi-firm moving along a downward sloping demand curve for the factors it uses to produce services for the population; (b) as the response of a bureaucracy

intent on keeping a claim to certain budgetary allocation slanting demand towards unitary elasticity; (c) as the political concern of a government with the ramifications of sharp declines in relative incomes or the emergence of unemployment in groups that it is concerned about, providing some kind of employment/income insurance through its functions as an employer. This ties in with our earlier comment on the double-barreled effect of expenditures that both serve clients and provide government employment. Certainly the most dedicated opponents of cuts in social budgets include social workers, and the staunchest (if not always successful) defenders of budgets for research and higher learning are university professors.

What happens when the tide ebbs? Is there symmetry in the reaction? Or should we expect the level of services to continue to increase after the number of clients has declined (or growth has levelled off)? The quasi-firm argument probably says yes. The initial pressure on specific factors supplying the services may create lagged supply response shifting relative costs in favor of improvements in areas previously under pressure. Bureaucratic arguments would predict the same – budgets eventually respond to pressures and are certainly downward sticky. The political argument works in the same direction: where government employment was rapidly created to meet the growth in demand, the group of suppliers has been strengthened. This asymmetry in the response to rising and falling needs imparts an upward bias to public sector expenditures. The figures on national expenditure on education are consistent with our conjecture (Table 4): the shares of the different levels change in response to changing pressures, but this is done by upward pressure on total expenditure, accompanied by an increased share of GNP allocated to

education. Ofer (1983) has shown how the real expenditure per student in elementary and secondary education related to <u>per capita GNP</u> rose from 12.9 percent in 1962 to 19.3 in 1978. His figures for the post-secondary level show a slight decline in expenditure per student (deflated by GNP per capita) when the system expanded (from 66.0 to 62.7 between 1962 and 1972, respectively), and a sharp increase afterwards (it reached 73.7 in 1978). As we shall see below, the higher education system also reacted swiftly to the increase in its clientelle.

In the case of the education system, the employment aspect of an expansion in this system should be discussed in conjunction with the increase in women's labor force participation. The tremendous increase in women's participation, particularly through the 1970s, could be viewed as a quasi-shock in its own right (see Ben-Porath, 1983). But unlike the changes in cohort size, there is some ambiguity in ascribing this shock to purely exogenous causes. One hypothesis is that what we observe is largely a long-term increase in demand that encouraged women's investment in schooling, stimulated their entry into the labor force, and led to associated changes in family-planning strategy. Alternatively, one could place the responsibility on various supply-side factors - schooling, attitudes, etc. There may also have been some sort of an income effect from the direction of young men, which would fit in with the decline in fertility observed in the late 1970s, and be consistent with Easterlin's interpretation (1980). Either way, the gestation period of schooling may create excess supply in the short run.

The government certainly played a major role in expanding the opportunities for higher education by financing a large fraction of the growth of that system. More to the point here, is its role on the demand

side: the public sector is the major employer of women, and employs a
large fraction of the growth of women in the labor force. This was
accomplished partly by expanding of employment in public services and
partly by substitution of men. The public sector had a fairly elastic
demand curve and was thus ready to provide employment to the women whom it
helped educate. The growth of employment in the public sector occurred at
a time when it is more naturally interpreted as a response to supply than
to demand phenomena (see Klinov, 1983).

The school system is an important element here. There has been a
strong feminization of the teaching profession, demonstrated in the
following figures: women's share in teachers' posts rose from 52.5 percent
in 1948/9, 58.3 percent in 1959/60, 63.7 percent in 1969/70 to 73.9
percent in 1981/2. The decline in the student/teacher ratio, noted above,
occurred when the student population had stopped growing (in elementary
and secondary schools), and while more and more educated women were
entering the labor market. These are probably connected. There is no
operational difference between the view that the government reacted to the
increased supply of women as a quasi-firm, with a fairly elastic demand
curve, and with the hypothesis that this elastic demand curve was designed
to protect the level of employment and relative wages of an important part
of the population.

A similar phenomenon occurred in another sphere of demographic
change: the increase in the number of the elderly. Here are the rates of
growth of the old-age support per recipient provided by Israel's National
Insurance Institute, and of the number of recipients:

Annual Rates of Growth of Old Age Support

	Population of recipients	Support per recipients in real terms	Total old age support
1960–1966	10.1	-1.4	8.5
1966–1977	8.4	5.8	14.9
1977–1979	3.6	5.2	6.2
1979–1982	2.2	12.4	16.6

Source: National Insurance Institute, Statistical Abstract, various years.
National Insurance Institute, Quarterly Statistics, various
issues.

This is, however, a tentative picture and should be studied further.
Another case from a different field has to do with defense expenditure.
Berglas (1983), who analyzed the evolution of defense expenditure in
Israel, noted a step function marked by a series of wars. While the
increases may have been inevitable, the absence of downward adjustment is
part of the same asymmetry.

IV. ENTRY INTO ADULT ACTIVITIES

The baby boom of the 1950s had a dramatic effect on the age structure of
the adult population in the 1970s. This can be appreciated by comparing
the Israeli figures with those describing the American baby boom:

Ratio of Age Group 15-29 to Age Group 30-64

	1960	1970	1975
Israel	54.5	76.5	85.3
U.S. (Easterlin, 1980)	50.2	66.3	74.0

Adult activities consist of work and higher education, generally following army service.

This section refers mainly to the male population. For some general background on the role of age changes and participation rates consult Table A-2 and A-3 which show (a) that the ratio of employed persons to the population aged 14+ has been on the decline since 1955, but more emphatically so in 1965-75 and (b) that this was due to the change that occurred in age structure, mostly in the period 1960-70, and to significant reductions in labor participation in 1965-75. The main trends of the employment history of young men are presented in Table 5 and Figure 2. The participation rate of the 18-24 age group dropped in three steps: from 1966 to 1967, from 1968 to 1970, and from 1973 to 1974. Over the whole period 1965-75 the drop was from 52.6 to 34.9 percent, a truly remarkable change for such a short period. The result was that in spite of a 66 percent increase in the mean population aged 18-24 the number employed rose only moderately from 1965 to 1973, and in 1980 was more or less equal to what it was fifteen years earlier.

The most rapid increase in the size of the 25-29 age group occurred between 1970 and 1975. Our data allow us to observe only the group aged

25-34 where we see a significant decline in participation (4.9 p.p.), more pronounced than before 1970 or after 1975.[4] The annual data show that the decline occurred between 1968 and 1975 (7.8 p.p.). This was against a background of some, but milder decline in participation of older men.

Thus, the major part of the story of the demographic shock is that entry into the labor market was delayed. The army played an important role here. Military service is compulsory and universal for both men and women (though exemptions are granted, mainly to women, on religious grounds). There is also a career army, and many conscripts sign up for an extended term of duty before going on to work or study. This is clearly a powerful instrument with which the public sector can affect the impact of changing cohort size on the rest of the system. Two of the sharp declines in the participation rate of the 18-24 group coincide with the wars fought in 1967 and 1973, both of which were followed by increase in the size of the army. While we have no reliable estimates, there is a basis for arguing that a significant portion of the delay occurred through army service. Obviously, the shift in demand by the military was autonomous; the ability to satisfy this demand was, however, certainly enhanced by the demographic context.

The other obvious route to consider is schooling. The universities grew most rapidly in the late 1960s and early 1970s (in 1965-75 the number of students almost tripled). The share of students in the population aged 20-29 increased sharply from 1964/5 to 1972/3, and declined slightly after 1974/5. For the 20-24 age group, most of the increase in the enrolment rate occurred between 1965 and 1969, while for the age group 25-29 it continued until 1972/3. The expansion was strongly reflected in resource allocation: as already indicated, 12.9 percent of the national expenditure

were allocated to post-secondary and higher education in 1962, 16.4 percent in 1965, peaking in 1975 at 25.1 percent, and then slowly declining (Table 4). During the period of highest pressure the ratio of students to academic staff did not deteriorate, and as the number of students stablized the academic staff increased further (Table 6). As in the case of the lower educational levels, the impact was absorbed with an elastic response, and improvement occurred after the pressure subsided, when inputs continued their growth.

It should be noted that the activities described here may have not exhausted the adjustment. Thus, we know that there was an increase in emigration after the 1973 war (Lamdany, 1983). It may well be that extended periods of absence from the country before entering the labor market or university served as a buffer.

In the U.S. between 1960 and 1970 the size of the age group 16-19 increased by 44 percent, the number of employed increased by 11 percent; the age group 20-24 increased by 49 percent and employment by 26 percent. The educational system absorbed much of the excess, but the armed forces were also a significant factor (see Office of Science and Technology, 1983, pp. 50-51).

V. CONTEXT

Before we explore whether the baby boom had any impact on the labor market, we have to clarify the demographic and economic context in which the change took place.

Immigration: We have already noted the large and fluctuating waves of immigration. In Table 7 we break down the sources of growth in the population of Jewish men aged 20-64. We see how the contribution of the young, both Israel-born and foreign-born (lines 4 and 5), to the growth of the adult population rises abruptly between 1965 and 1970, while net immigration falls steeply and the more mature foreign-born grow older. The contribution of the Israel-born to the adult population increases over time and becomes dominant in the 1970s. The foreign-born contribution occurs first through immigration, then the weight shifts to the maturation of the foreign-born young, reaching a peak in 1965-70 when the foreign-born baby boom generation comes in. But at the same time growing numbers exit from the 20-64 category, so that in the 1970s the process of maturation of the foreign-born contributes negatively to the growth of the adult population: as net immigration slows down in the late 1970s, the foreign-born reduce rather than increase the adult population, offsetting part of the very high increase in the Israeli-born. The successive 5 years of growth of the 20-64 age group are less volatile than the rates of change for the total population.

The context of large and changing immigration has broader implications. It means that the system is accustomed to shocks, that the public sector has always had to rapidly alter the level of services that it provides, and that the way it copes with the variety of social issues raised by immigration was a primary criterion by which it was judged.

Women: In assessing the impact on the labor force of the entry of larger cohorts of young persons it is important to note that at the same time there has been a change in women's employment.

As in many other countries, the period under review was one of significant increase in the labor force participation of women. When we examine men alone, the share of men aged 18-34 in the change of all employed men rises sharply after 1965, from approximately 1/7 to between 2/3 and 1.0 (Table 8 line 1). For both sexes the change is quite sharp (line 3) after 1965, but more moderate than for men alone because in the case of women there was significant increase in the number of women aged 25-44. Because of the jump from 1/3 to 2/3 in the share of women in the increase in employment after 1965 (line 5), the contribution of young men to the change in overall employment rises much more moderately than their contribution to the rise in men's employment (line 6). We see in Table 8 that while all women and young men contributed less than half of the net increase in the change in employment before 1965, they contributed 85-100 percent of the change in 1965-80. At the same time the proportion of men aged 35-54 in employment has declined.

Whether the influx of women aggravated or alleviated the position of young men depends on whether they are substitutes or complements in the labor force. Do young men compete with young women? With all women? The ratio of young men to young women and to all women decline dramatically through the 1970s while the relative hourly earnings of young men and young women did not change. As the difference in schooling between men and women both aged 25-34 in the labor force has not changed from 1970 to 1980, a high degree of substitution is suggested.[5]

Arabs from the occupied territories. A direct consequence of the 1967 war was the occupation of the West Bank and the Gaza Strip, and the entry of Arab labor from these territories into the Israeli labor market, increasing the supply of unskilled, manual labor. Again, this effect could

go either way - the obvious substitution with unskilled domestic labor, or a complementary effect opening opportunities for low-level supervisory and middlemen positions for Jews. Amir (1981), who studied the changing returns to education, tends to argue that the effect was positive, i.e., that the unskilled Arab labor improved the opportunities among Jews for domestic low- and medium-schooling labor.

The macroeconomic picture. Israel experienced a continuous period of rapid economic growth until 1965. This was interrupted by a deep recession in 1965-67, with considerable unemployment. The young were hit particularly hard - the rate of unemployment of men aged 18-24 rose from 10.7 in 1965 to 22.5 percent in 1967, and for men aged 25-34 from 2.8 to 7.8; the rate for men aged 45-54 rose from 1.1 to 4.9. The combination of continued slump and influx into the labor force of the young workers could have been disastrous. But, following the 1967 war the country experienced a resumption of rapid growth until 1973. This created an environment that certainly eased the entry of new young cohorts into the labor force. Following the 1973 war and the energy crisis Israel was gripped by stagflation. With rising rates of unemployment towards the end of the decade. The deterioration in the relative position of the young in the late 1970s might reflect this change.

Wages and employment: When we examine the impact on the labor market of a sudden change in cohort size our main concern is with the elasticities of substitution which reflect the uniqueness of particular types of labor. At the same time, unemployment rates are also of interest, particularly for the identification of short-term difficulties (see Welch, 1979, 1983;

Freeman, 1979; and Wachter, 1976). In addition, some groups tend to be more sensitive than others to cyclical variations.

The delay in the entry of people aged 20-24 into the labor force was important enough in itself, but eventually it had its impact on the age composition of the labor force once these people did enter it. In Table 5, Part I, we see that from 1965 to 1970 the share of those aged 20-24 in the population increased by 4.7 percentage points (p.p.) while their share in employment rose by only 1.3 p.p. In 1970-80, however, the change in the population share of the 25-34 age group was 7.5 p.p., and among the employed it was 9.8 p.p.

As is well demonstrated in Table 9, the relative earnings of young men declined sharply during the 1970s. The relative earnings of men aged 25-34 and women aged 18-24 declined more moderately. The relative earnings of older people declined too (sharply for women). The relative number of men aged 18-24 did not increase and the relative number of young women actually declined sharply. It is the 25-34 group and older men whose numbers increased sharply during this period, which probably affected the relative earnings of young men.

Obviously, we have a change in the profile of earnings. This has been confirmed in a comparative cross section study by Amir (1983) who estimated earnings functions for 1970-72 and 1978-80 within education categories and showed that the positive linear coefficient on experience and negative coefficient on experience squared both increased in absolute terms. The question is: what caused that change, and specifically, is it related to the change in the size of the age groups.

The series of regression equations presented in Table 10 reveal the following:

First, the relative earnings of young cohorts are adversely affected by increases in the general level of unemployment (represented by the rate of unemployment of men aged 35-54).

Second, young men's relative earnings are adversely affected by increases in their own share in total employment as well as by the increases in the share of other groups - young women and older men and women. This indicates a fair amount of substitution between these groups. Welch (1983), studying U.S. data, also found that the relative wages of the young react to the proportion of the old. Indeed, fairly good results are obtained when we run relative wages on the proportion of young people of both sexes, and also the proportion in employment of the elderly (65+) of both sexes. It is hard to separate out the effect of different demographic groups when the variables appear simultaneously, but when they appear separately, the reaction of the young men's relative earnings to changes in the proportion of young women or older men are certainly no smaller than to their own numbers.

Third, the age group 18-24 responds adversely to the size of the whole group aged 18-34 rather than to its own size.

Fourth, the response of relative earnings of men aged 25-34 to changes in its share in employment is somewhat weaker than that of the 18-34 age group.

Similar results have been obtained when the dependent variable is hourly rather than annual earnings and where instead of the ratios of the age groups in employment we used as independent variables their ratios in the labor force and (alternatively) in the population both as independent variables and as instrumental variables (see regressions No. 4 and No. 11 in Table 10).

The age group 18-24 seems to have suffered in relative terms not when it was at its peak size but at the end of the decade, when it was smaller and when the whole 18-34 group was at peak size. This means that the vanguard of the larger cohort (aged 18-24 in the beginning of the 1970s), most of whom were the 25-34 category in 1980, suffered much less than the following (somewhat smaller) class that found the entry positions in the labor market crowded with the very large 25-34 cohort.

The data for the labor force extend over longer periods. For the period 1955-80 there is a significant negative correlation between the employment rate of persons aged 18-34 (the ratio of employed to population) and the share of that age group in the population. For the period 1965-80 we can distinguish between age groups 18-24 and 25-34, finding large negative correlations for the latter. For the period 1965-80 we find that the rate of unemployment of the 25-34 age group (relative to age 35-54) is positively correlated with its share in the population and in the labor force, and negatively related to its rate of labor force participation. Several regressions show that the unemployment of the young rises more in absolute terms and less in relative terms than the rate of unemployment of men aged 35-54. In different variations it is also positively associated with the relative weight of the young (18-34) and of the old (65+) in the labor force (Table 11).

In principle, the change in the age structure could have affected demand. Some indication of this is seen in the regressions where the proportion of the population aged 20-29 has a significant effect on investment in dwelling.[6] But it is quite clear that the net effect is supply effect.

CONCLUSIONS

The entry of large cohorts into the labor market affected both relative wages and unemployment. What merits attention is the larger role that the government played in meeting the baby boom. This was demonstrated here by following the evolution of the school system as it coped with the uneven arrival of students at different levels. The entry of the large cohorts into the labor market was delayed because of the expansion of the army, another silent role of government. We presented some tentative ideas on what could explain the behavior of the public sector, suggesting that governments may be keen on responding quickly to big shocks, but unable to adjust downward once the pressure subsides. Whatever the correct model, it is important to unravel the role of the public sector and to pay more attention to its behavior.

FOOTNOTES

* This paper was written while I was visiting the National Bureau of Economic Research and supported by a grant from the Mellon Foundation to the NBER. I draw here on work which was done at the Falk Institute as part of a project on the Israeli economy after 1967, and also some work I did while visiting the Population Council. N. Sicherman, Y. Yacob, J. Lotan, and R. Sendek provided research assistance and programming at various stages of this work. I thank M. Eisenstaedt for her valuable editing and Richard Freeman, Robert Gregory, Zvi Griliches, Simon Kuznets and Ron Lee for useful comments on an earlier draft.

1. CBS, Statistical Abstract of Israel, 1982, p. 95.

2. The 1950 figures for EA are: age 0-4, 27,400; age 5-9, 11-242; age 10-14, 18,095; age 15-19, 35,856; age 20-24, 51,124. The 0-4 category does not include children born to EA women after immigration. While the figures are also affected by the selectivity of immigrants by age and family status, the large 0-4 group relative to the 5-9 group most likely reflects the effect of the war.

3. The inertia may be a result of the infra-marginal commitment because of ideology or interests, or it may reflect lack of information and care. See Olson (1982).

4. Within the 25-34 age group the weight of those aged 25-29 changed in the following manner: 1965 - 51.0; 1970 - 53.0; 1975 - 61.7; 1980 - 53.7. The change in weights by itself could account for participation rates for the whoel group (92.0, 91.7, 90.8, 91.7), for the corresponding years (assuming that the LFPR of men aged 3034 was 97 in

1965, and for men aged 25-29 - 87). The sharp decline observed in 1970-75 is thus not just a matter of weighting.

5. The expected hourly earnings using the earnings of men by schooling in 1980 were (only the ratio matters):

	Men		Women				
	25-34 (1)	35-54 (2)	25-34 (3)	45-54 (4)	All women (5)	1/3 (6)	1/5 (7)
1970	11.6	11.0	12.3	11.0	11.5	0.94	1.0
1980	12.7	11.7	13.3	11.6	12.5	0.95	1.0

6. The dependent variable (DWELINV) is the ratio of gross investment in dwelling to the capital stock in dwelling, for the period 1951-82.

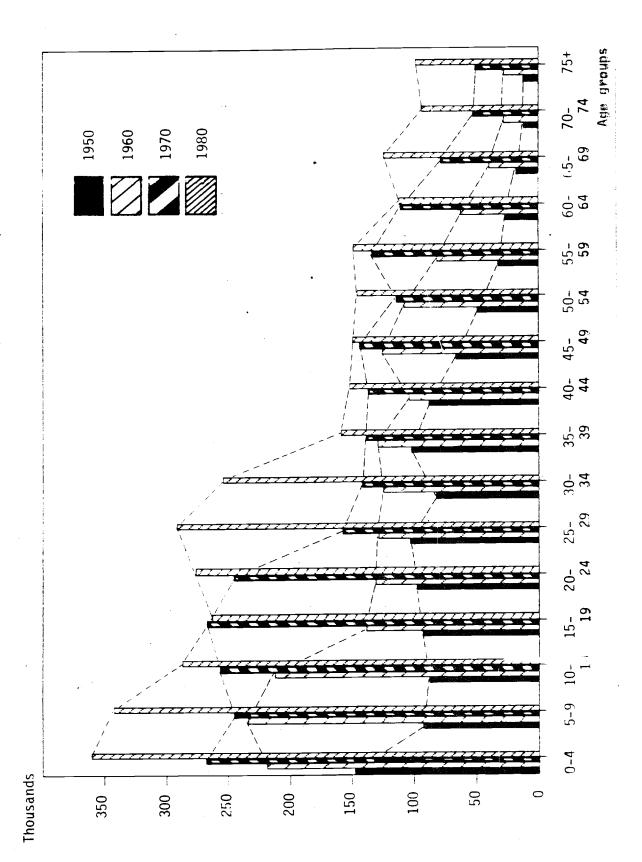$$DWELINV = -2.6 + 0.22\ RGNPPC + 0.69\ IMMIG - 0.58\ EMIG$$
$$(1.3)\quad(5.2)\qquad\qquad(2.9)\qquad\qquad(1.3)$$
$$+\ 0.215\ AGE(20\text{-}29) + 0.68\ DWELINV(t\text{-}1)$$
$$(2.0)\qquad\qquad\quad(9.4)$$

$$\bar{R}^2 = 0.856$$

RGNPPC - rate of growth of per capita GNP.

IMMIG - ratio of immigrants to Jewish population.

EMIG - ratio of 'emigrants' to Jewish population; 'emigrants' is the difference between immigrants and the net migration balance.

AGE 20-29 - share of their age group in the population.

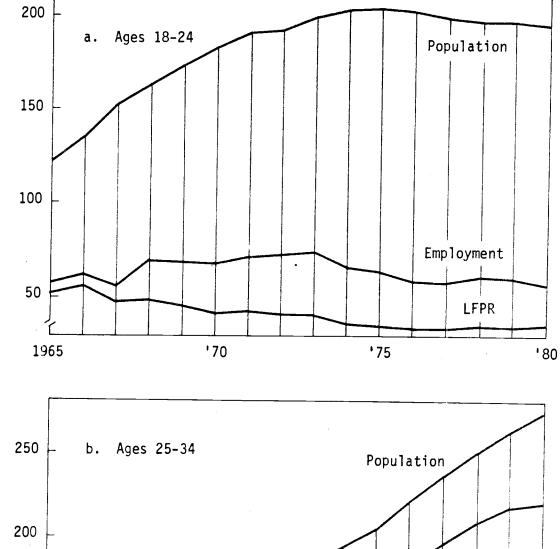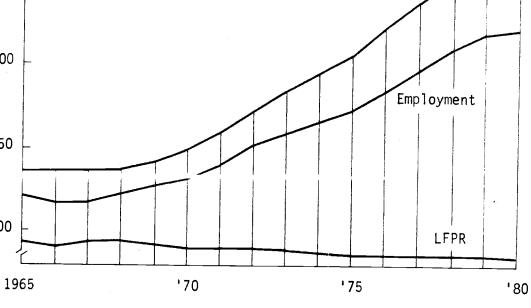FIGURE 1. MEAN JEWISH POPULATION (MEN AND WOMEN)

FIGURE 2. LABOR FORCE PARTICIPATION, JEWISH MEN: 1965-1980

Table 1

The Jewish Population by Age Group: 1950-1980

percentage change

	1950-55	1955-60	1960-65	1965-70	1970-75	1975-80
0-34	41.0	21.2	20.6	11.3	16.0	10.8
0-4	45.2	1.7	10.0	11.7	24.8	7.6
5-9	101.7	25.4	4.0	0.8	15.2	21.1
10-14	39.2	73.9	22.5	-1.0	0.0	11.7
15-19	26.7	18.1	72.4	12.5	0.3	-2.0
20-24	22.6	9.3	19.4	58.1	17.5	-4.0
25-29	13.1	9.9	9.9	12.1	61.1	15.4
30-34	45.4	4.5	10.6	2.9	12.1	60.9

Source: Appendix Table A-1.

Table 2

Changes in the Birth Rate of the Jewish Population

	1955-60	1960-65	1965-70	1970-75	1975-80
1. Actual change	-3.20	-1.07	1.32	1.08	-3.02
Contribution of:[a]					
2. Age-specific birth rates	-2.35	-1.07	-0.32	-0.29	-3.12
3. Age structure of women 15-49	-0.80	-1.36	0.19	2.04	0.50
4. Share of women aged 15-49 in the population	-	0.07	0.97	-0.12	-0.46
5. Origin	1.84	1.20	0.20	0.14	0.44
7. Marriage rate	-	-	-1.26	0.14	-0.65
8. Age specific birth rates of married women	-	-	0.28	-0.43	-2.41

[a] The contribution of each variable to the change in the birth rate from period t to $t+5$ ($B_{t+5} - B_t$, line 1) was calculated in the following manner: B_{t+5} is the predicted birth rate for $t+5$, if x were not to change from t to $t+5$. The contribution is $B_{t+5} - B_{t+5}^{\cdot}$. In this way, the interactions are included with the partial effect.

Table 3

Students, Teaching Posts, and Classerooms in the Hebrew Education System

Year	Students Per Teaching Posts	Classrooms	Annual Rates of Growth of Students	Teaching Posts	Classrooms
A. Elementary schools					
1948/9	21.9	--	} 29.8	31.4	--
1951/2	21.2	29.4^c	} 6.2	6.2	5.9^c
1963/4	21.2	29.2	} -0.7	4.2	0.8
1969/70	{ 15.9^b / 16.3^a	26.8^a / 26.7^b	} -0.2^b	3.4^b	0.8
1975/6	12.9^b	25.1	} 2.6^b	4.0^b	1.8^{b,d}
1981/2	11.9^b	25.8^d			
B. Secondary schools					
1948/9	10.8	--	} 34.7	33.2	--
1951/2	11.2	27.1^c	} 12.0	8.5	6.4^c
1958/9	14.0	36.9	} 14.5	15.6	14.9
1963/4	13.3	36.3	} 2.9^b	7.2^b	7.7^b
1969/70	10.5^a / 10.3^a	27.8^b / 28.0^a	4.0^a / } 4.6^a	8.5^a / 6.7^a	8.6^a / 4.6^a
1981/2	8.1^a	26.2^d			

^{a} Including new intermediate school (in a 6,3,3 system).
^{b} Excluding intermedidate schools.
  Figures for 1969 and subsequent years with slightly different coverage.
^{c} 1953/54.
^{d} 1981.

Source: CBS, Statistical Abstracts, various years.

Table 4

National Expenditure on Education

	As percent of GNP	Share in current expenditure				
		Total	Kindergarten	Elementary schools	Secondary schools	Post-secondary
1962/63	6.0	100.0	6.4	38.7	25.8	12.9
1964/65	6.7	100.0	6.8	36.3	27.3	13.6
1969/70	7.3	100.0	6.2	32.3	27.0	21.9
1974/75	8.3	100.0	7.3	31.3	26.4	24.2
1979/80	8.8	100.0	8.8	25.6	25.9	23.3

Source: Central Bureau of Statistics, Statistical Abstract of Israel, 1982, p. 618.

Table 5

Men Aged 18-34, Population, Labor Force, and Employment

(Jewish Men)

	1955	1960	1965	1970	1975	1980
I. LEVELS						
Share in population						
18-34	38.4	35.2	32.9	36.7	39.2	41.0
18-24	–	–	15.5	20.2	19.5	17.0
25-34	–	–	17.4	16.5	19.7	24.0
Share in employment						
18-34	37.8	34.6	31.3	33.3	36.2	39.9
18-24	–	–	10.0	11.3	9.9	8.1
25-34	–	–	21.3	22.0	26.3	31.8
Labor force participation rate						
Total	80.3	78.3	75.5	68.5	64.2	63.5
18-34	79.7	77.7	73.5	63.5	60.4	63.4
18-24	–	–	52.6	41.8	34.9	34.7
25-34	–	–	92.0	90.5	85.6	84.0
Unemployment rate						
Total	6.7	3.5	3.3	3.4	2.4	4.0
18-34	7.3	4.6	5.5	5.3	4.1	6.8
18-24	–	–	10.7	10.9	8.9	16.2
25-34	–	–	2.8	2.1	2.2	4.1
35-54	4.6	2.2	1.2	1.3	1.0	1.9

Table 5
Continued

	1955-60	1960-65	1965-70	1970-75	1975-80
II. CHANGES					
Percent growth of population					
Total (14+)	17.0	24.5	14.6	15.4	9.3
18-34	7.5	16.2	28.0	23.2	14.6
18-24	--	--	49.2	11.4	-4.4
18-19	--	--	32.5	0.8	-5.8
20-24	11.1	20.3	58.1	16.2	-3.9
25-34	5.0	12.0	9.0	37.6	33.4
25-29	11.9	11.3	13.5	59.9	16.0
30-34	-1.6	12.9	4.5	12.9	61.7
Percent growth of labor force					
Total (14+)	14.1	14.5	4.0	8.1	8.2
18-34	4.8	6.0	18.2	24.6	23.4
18-24			18.4	-7.0	-4.8
25-34			6.7	30.8	30.9
Share of age group in net addition to employment					
18-34	16.3	14.9	88.0	67.1	97.4
18-24	--	--	46.7	-6.1	-19.1
25-34	--	--	41.3	73.2	116.5

Source: All data are based on Labor Force Surveys except the breakdown for age 20-24 and 25-29, which are from the population estimates, and the date for age 18-19, which are the difference between 18-24 as in the Labor Force Statistics and 20-24 in the population estimates.

Table 6

Students and Teachers in Academic Institutions

	1964/5	1969/70	1972/3	1974/5	1977/8-8/9
Percent university students in the Jewish population					
Both sexes	3.8	6.3	71	7.2	6.8
Men	5.4	7.0	7.9	8.0	7.3
Women	2.8	5.6	6.2	6.3	6.4
All students in academic institutions	18,368	36,246	45,365	51,000	55,360
Academic staff	2,628	5,977	7,681	8,281	9,680
Student/teacher ratio	7.0	6.1	6.5	6.2	5.7

Source: Central Bureau of Statistics, <u>Statistical Abstracts of Israel</u>, various years.

Table 7

Sources of Growth of the Population Aged 20-64

(Jewish Men)

		1950-55	1955-60	1960-65	1965-70	1970-75	1975-80
1.	Total change in percent:						
	All	39.2	20.8	20.1	10.9	15.2	10.6
2.	Total change in percent:						
	20-64	28.5	15.9	16.0	13.0	16.4	9.6
3.	Total change	100.0	100.0	100.0	100.0	100.0	100.0
4.	Israel born	13.3	31.6	32.0	59.2	87.0	130.4
5.	Foreign born: maturing in	35.0	52.8	51.9	96.9	37.0	43.7
6.	Foreign born: maturing out	-12.6	-29.6	-38.0	-56.6	-51.6	-82.9
7.	Net maturing	22.4	23.2	13.9	40.3	-14.6	-39.1
8.	Net migration and mortality	64.3	45.2	54.0	0.5	27.5	8.7

Line (4): Change in the Israeli-born age 20-64.

(5): Foreign-born aged 15-19 at the beginning of each period.

(6): Foreign-born aged 60-64 a the end of each period.

(7): (5) - (6).

(8): 100.0 - (4) - (7).

Table 8

Men and Women in the Growth of Employment

		1955-60	1960-65	1965-70	1970-75	1975-80	
(1)	$\dfrac{\Delta YM}{\Delta EM}$	16.3	14.8	87.9	67.3	97.4	
(2)	$\dfrac{\Delta YF}{\Delta EF}$	33.4	53.0	54.5	61.8	53.7	
(3)	$\dfrac{\Delta Y(M+F)}{\Delta E(M+F)}$	22.0	29.0	66.5	64.0	68.8	
(4)	$\dfrac{\Delta YF}{\Delta Y(M+F)}$	52.0	68.0	53.6	56.4	51.0	
(5)	$\dfrac{\Delta EF}{\Delta E(F+M)}$	34.5	37.7	64.9	58.5	65.3	
(6)	$\dfrac{\Delta YM}{\Delta E(F+M)}$	10.6	9.2	30.8	27.9	33.7	
(7)	$\dfrac{AM}{E(M+F)}$	$\dfrac{1955}{33.9}$	$\dfrac{1960}{33.8}$	$\dfrac{1965}{30.1}$	$\dfrac{1970}{27.3}$	$\dfrac{1975}{26.2}$	$\dfrac{1980}{23.1}$

M - Male, F - Female, Y - 18-34, A - 35-54, E - Employed.

Table 9

Young and Old Wage Earners[a/] Relative to Age Group 35-64

	Annual earnings			No. of wage earners		
	1970	Turning point	1981	1970	Turning point	1981
Men 18-24	0.59	–	0.39	0.20	*1972* 0.22	0.17
25-34	0.90	*1972* 0.95	0.86	0.42	*1980* 0.67	0.61
65+	0.57	*1972* 0.64	0.48	0.06	*1978* 0.09	0.08
Women 18-24	0.67	*1975* 0.75	0.62	0.84	–	0.39
25-34	1.03	*1971* 1.09	1.06	0.47	*1979* 0.83	0.78
65+	0.79	*1974* 0.96	0.56	0.02	–	0.02

[a/] The data refer to all wage earners, Jews and Arabs. These are ratios where the denominator refers to the age group 35-64.

Source: Central Bureau of Statistics, Survey of Income, 1981, Table 16.

Table 10

Equation of Relative Earnings of Young Men 1970-1982

Age

Independent	18-24				25-34		
	(1)	(2)	(3)	(4)[c]	(5)	(6)	(7)
Rate of unemployment of men 35-54	$-0.078_{4.2}$	$-0.089_{4.3}$	$-0.079_{4.3}$	$-0.078_{4.2}$	$-0.039_{3.1}$	$-0.042_{3.7}$	$-0.039_{3.2}$
Relative size:[a] 18-34 M+F	$-0.465_{3.5}$				$-0.138_{1.5}$		
65+ M+F		$-3.211_{2.8}$				$-1.413_{2.2}$	
(18-34) + (65+) M+F			$-0.422_{3.5}$	$-0.457_{3.7}$			$-0.132_{1.6}$
$\bar{R}^2$	0.74	0.67	0.75		0.51	0.59	0.52

Independent	18-24				25-34		
	(8)	(9)	(10)	(11)[d]	(12)	(13)	(14)
Rate of unemployment of men 35-54	$-0.069_{3.1}$	$-0.083_{4.2}$	$-0.055_{3.4}$	$-0.046_{2.3}$	$-0.036_{2.6}$	$-0.039_{3.4}$	$-0.032_{2.4}$
Relative size:[b] (18-34) M	$-0.365_{2.7}$			$-0.522_{4.0}$	$-0.111_{1.3}$		
65+ M		$-2.164_{3.1}$				$-0.872_{2.1}$	
18-34 F			$-0.416_{4.9}$				
65+ F							$-0.124_{1.8}$
$\bar{R}^2$	0.67	0.71	0.83	0.78	0.48	0.58	0.54

Footnotes to Table 10:

a/ The ratio between size of the group of employed persons to the age group 35-64.

b/ The denominator in his regression is the number of men aged 35-64.

c/ Identical to (3) with an instrumental variable ratio of the age groups in the labor force.

d/ Identical to (8) with the ratio in the labor force rather than employment.

Table 11

Rate of Unemployment of Young Men, [a]
1965-82

	Age group			
	18-24		25-34	
Constant	1.620 _7.53_	1.650 _6.8_	-0.060 _0.2_	-0.097 _0.3_
Rate of employment of men 35-54	0.598 _11.0_	0.602 _10.4_	0.838 _10.5_	0.847 _10.5_
Ratio in labor force of men: $\frac{18\text{-}34}{35\text{-}64}$	0.0090 _2.9_		0.012 _2.6_	
$\frac{65+}{35\text{-}64}$		0.0574 _2.5_		0.083 _2.6_
D.W.	1.564	1.436	1.211	1.480
$\bar{R}^2$	0.877	0.863	0.866	0.864

[a] The dependent variable is the logarithm of the rate of unemployment.

APPENDIX

Table A-1

Mean Jewish Population, 1950-80 (Men)

	1950	1955	1960	1965	1970	1975	1980
Total	567,482	789,705	954,264	1,146,175	1,270,745	1,464,236	1,619,484
0-4	76,075	110,231	112,270	123,305	136,627	171,783	185,257
5-9	47,487	96,080	119,924	124,892	125,707	144,564	175,091
10-14	44,936	62,738	109,509	133,164	128,288	132,101	147,085
15-19	47,508	60,059	71,166	123,243	137,181	138,139	134,934
20-24	48,202	59,544	66,135	79,567	125,838	146,196	140,494
25-29	53,515	56,148	62,836	69,937	79,415	126,962	147,255
30-34	41,043	59,849	58,916	66,523	69,495	78,500	126,903
35-39	50,917	46,452	63,943	63,214	66,477	73,648	78,243
40-44	46,830	57,350	51,050	69,320	63,524	72,116	74,052
45-49	35,784	53,427	61,733	55,399	69,726	67,984	71,845
50-54	26,237	41,607	56,776	66,456	55,444	72,321	67,133
55-59	17,192	31,802	42,633	60,231	65,228	55,541	70,359
60-64	12,792	21,260	31,530	44,061	57,178	62,790	52,648
65-69	8,289	15,106	20,094	30,540	39,720	53,283	57,674
70-75	5,001	9,159	13,325	18,161	25,405	34,877	45,396
75+	5,674	8,893	12,424	18,162	23,492	33,431	45,115

Table A-1 Continued

Mean Jewish Population, 1950-80 (Women)

	1950	1955	1960	1965	1970	1975	1980
Total	535,523	765,606	928,291	1,123,634	1,256,941	1,466,979	1,626,915
0-4	71,631	104,243	105,946	116,838	131,692	163,138	175,108
5-9	44,892	90,102	113,634	118,006	119,142	137,536	166,466
10-14	42,489	58,285	102,126	126,091	128,569	125,023	140,062
15-19	44,623	56,662	66,680	114,472	130,227	130,212	127,961
20-24	48,660	59,214	63,691	75,463	119,337	141,877	135,881
25-29	48,985	49,760	64,570	70,072	77,496	125,819	144,371
30-34	40,282	58,424	64,707	70,174	71,178	79,277	126,995
35-39	50,635	47,231	64,431	70,960	71,231	76,367	79,677
40-44	40,231	58,615	52,051	71,827	72,297	76,569	77,261
45-49	29,803	47,657	62,311	57,214	73,377	77,409	76,861
50-54	22,743	37,206	50,343	67,432	57,851	77,311	77,834
55-59	15,097	29,601	38,292	54,042	67,138	59,282	77,506
60-64	13,522	19,832	30,196	40,538	52,675	68,317	58,487
65-69	9,466	16,335	19,363	30,425	38,167	53,155	65,297
70-75	6,370	19,605	14,674	18,495	26,517	36,220	47,764
75+	6,184	11,904	15,306	21,585	26,537	38,869	52,384

Table A-2

Percent Growth of Population and Employment, 1955-1980 (Jewish)
Contribution of changes in Age Structure, Labor Force Participation,
and Unemployment Rate

	1955-60	1960-65	1965-70	1970-75	1975-80
		MEN			
Increase In:					
1. Population Aged 14+	17.03	24.53	14.63	15.43	9.28
2. Employment	18.04	20.04	3.89	9.20	6.41
Difference (2)-(1)	1.01	-4.49	-10.74	-6.23	-2.87
a. Age Structure	-0.74	-5.05	-3.72	0.70	1.63
b. Labor force participation Rate	-2.12	0.42	-7.30	-7.72	-2.63
c. Unemployment Rate	3.91	0.19	-0.14	0.62	-1.85
Interaction between: b and c	0.05	0.34	-0.11	0.19	-0.04
a, b, c	-0.09	-0.39	-0.42	-0.02	-0.02
		WOMEN			
Increase In:					
1. Population Aged 14+	16.19	26.89	15.43	17.76	10.29
2. Employment	28.24	33.75	17.70	28.06	22.38
Difference (2)-(1)	12.05	6.86	2.27	10.30	12.09
a. Age Structure	-1.39	-4.87	0.95	0.55	0.01
b. Labor force participation Rate	10.13	9.98	1.52	11.18	15.23
c. Unemployment Rate	3.44	1.32	-0.66	-0.45	-2.00
Interaction between: b and c	-0.24	-0.11	-0.02	0.31	0.14
a, b, c	-0.13	0.43	0.48	-0.98	-0.47

Table A-3

Rates of Labor Force Participation by Age and Sex, 1955-1980 (Jews)

	1955	1960	1965	1970	1975	1980	1955-60	1960-65	1965-70	1970-75	1975-80
Men (All)	80.3	78.3	75.5	68.5	64.2	63.5	-2.0	-2.8	-7.0	-4.3	-0.7
14-17	39.4	38.8	35.8	25.2	15.9	12.9	-10.6	7.0	-9.9	-10.0	-3.0
18-34	79.7	77.7	73.4	63.5	60.4	63.4	-2.0	-4.3	-9.9	-3.1	3.0
18-24			52.6	41.9	34.9	34.7			-10.8	-6.9	-0.2
25-34			92.0	90.1	85.6	84.0			-1.9	-4.5	-1.6
35-54	96.8	95.9	96.7	95.1	93.3	91.3	0.1	-0.2	-1.6	-1.8	-2.0
35-44			96.8	94.8	93.8	91.3			-2.0	-1.0	-2.5
45-54			96.6	95.4	92.9	91.4			-1.2	-2.5	-1.5
55-64	83.6	85.8	92.0	80.4	85.6	84.0	2.2	6.2	-2.6	-3.8	-1.6
65+	39.2	33.2	41.7	35.0	30.3	29.1	-1.0	3.5	-6.7	-4.7	-1.2
Women (All)	27.9	29.5	31.3	32.0	34.7	39.2	1.6	1.8	1.7	2.7	4.5
14-17	34.3	33.4	28.1	20.1	12.5	12.3	-10.9	4.7	-8.0	-7.6	-0.2
18-34	34.0	36.4	41.1	43.4	47.0	52.1	2.4	4.7	2.3	3.6	5.1
18-24			48.9	48.7	44.7	44.2			-0.2	-4.0	-0.5
25-34			34.7	37.3	49.3	57.6			2.6	12.0	8.3
35-54	27.4	31.7	32.5	35.7	42.3	51.3	4.3	0.8	3.2	6.7	9.0
35-44			31.9	35.4	45.1	56.9			3.5	4.7	11.8
45-54			33.2	36.0	40.0	45.8			2.8	4.0	5.8
55-64	17.9	19.7	23.9	23.4	23.6	27.6	1.8	4.2	-0.5	0.2	4.0
65+	5.3	8.1	6.3	6.5	6.4	7.0	2.8	-1.8	-0.8	0.9	0.6

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