

FORECASTING THE WAGES OF YOUNG MEN

Civilian pay opportunities influence the decisions of individuals both to join the Armed Forces and to reenlist. For this reason military manpower planners would like to be able to predict the structure and level of civilian wages so that they may plan to adjust military compensation accordingly. Of particular concern, because of the military's reliance on a large first-term force, is the future wage level for young workers. How will youth wages fare through the next two decades as progressively fewer and fewer youth are available to enter the labor market? Using Current Population Survey data for the period 1967-1980, the Rand researchers group workers by level of schooling completed and relate their average wages to cohort size, work experience, and various macroeconomic factors.

WAGES AND COHORT SIZE

The post-WWII baby boom and the baby bust that followed have dramatically changed both the size and the age composition of the U.S. workforce. This analysis shows that these demographic trends have been accom-

panied by changes in the distribution by age of civilian wages. As members of the baby-boom cohorts entered the labor market in the 1960s and 1970s, their wages fell in comparison to the wages of prime-age workers (those with 23-27 years of experience). The graph considers the example of the working population of white males with a high school diploma. From 1967 to 1978, the percent of this group who were youths with 1-5 years of labor market experience rose from 17.1 to 22.6. Over the same period, in response to the increased supply of young labor, the wages of new entrants fell 11 percent relative to the wages of prime-age workers. As cohort sizes increase, relative wages decrease.

FORECASTING CIVILIAN WAGES

What happens to relative wages when cohort sizes decrease? The proportion of working, male high school graduates who will be new entrants will fall to a projected 17.4 percent by 1990 and to only 15.1 percent by 1995. The study forecasts different sets of wage projections for diminishing cohorts under four alternative scenarios which vary by assumptions about educational attainment, GNP growth, and unemployment.

The results under all scenarios indicate that **relative youth wages will increase as smaller cohorts continue to enter the labor market.** For example, by 1990 the relative wages of new high school graduates will rise 5 percentage points *in comparison with* prime-age workers, and by 1995 the rise will be 8 percentage points. In terms of wage levels, the real (inflation-adjusted) weekly wages of young high school graduates are projected to rise 17 percent by 1990, and over 30 percent by 1995. In contrast, weekly wages of peak earners are projected to rise only 7 percent by 1990 and 14 percent by 1995. Moreover, these wage forecasts are not affected much by plausible changes in future economic conditions.

COMPETING EXPLANATIONS

The Rand researchers also extend their cohort size wage model to evaluate two other explanations for the decline in relative youth wages over the 1967-1980 period.

The first hypothesis suggests that as schooling levels rise, the average ability within a schooling group will fall. As

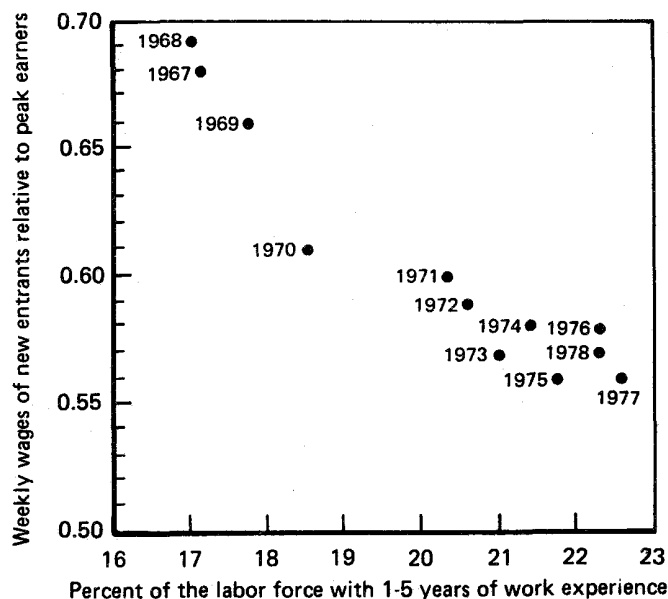


Fig. 1—As cohort size increases, relative youth wages fall (high school graduates)

a result, their wages will decline compared with those of older cohorts of similar education but higher average ability. This effect was found to be insufficient to alter the wage forecasts of the Rand model.

According to the second hypothesis, as more women enter the labor market, they increase competition for entry-level jobs and thus bid down the relative wages of male youth. The Rand study finds some support for this hypothesis. Assuming a continued though lower rise in female labor force participation, forecasted wage increases are somewhat lower for both new entrants and prime-age males. But projected *relative* youth wages are only marginally lower. On net, **cohort size appears to affect youth wages so greatly that it dominates any probable mitigating effects of these other factors.**

IMPLICATIONS FOR MILITARY COMPENSATION

These results imply that declines in the cohort size will raise the future cost of new recruits. And these costs will come on top of projected declines in the number of high-quality male accessions. Because the services rely almost entirely on youth for recruits, they will be hard hit by the rising cost and shrinking supply of youth over the next decade and a half.

The rise in relative youth wages also has implications for estimating civilian and military pay comparability. At present comparability is maintained by linking across-the-board military pay increases to changes in broad indices of civilian wages. But these would neither detect changes in the age structure of civilian wages nor offer any guidance on how military compensation should be structured in response. Over the next decade, across-the-board military pay changes would maintain rough pay comparability for careerists, but would make starting military pay increasingly less competitive with civilian wages. However, targeted pay increases could overcome this.

To gain some idea of the extent of targeting required, the figure shows the future military pay increases necessary to keep pace with the private sector. These would maintain accessions of high school graduates at current levels under the most likely scenario. The figure also assumes comparability of starting military and civilian pay in 1983, the base year. The bottom bar represents military pay adjustments required simply to keep up with real increases in civilian wages due to economic growth. Two additional entry-level pay increases will be required because of future declines in entry cohort size.

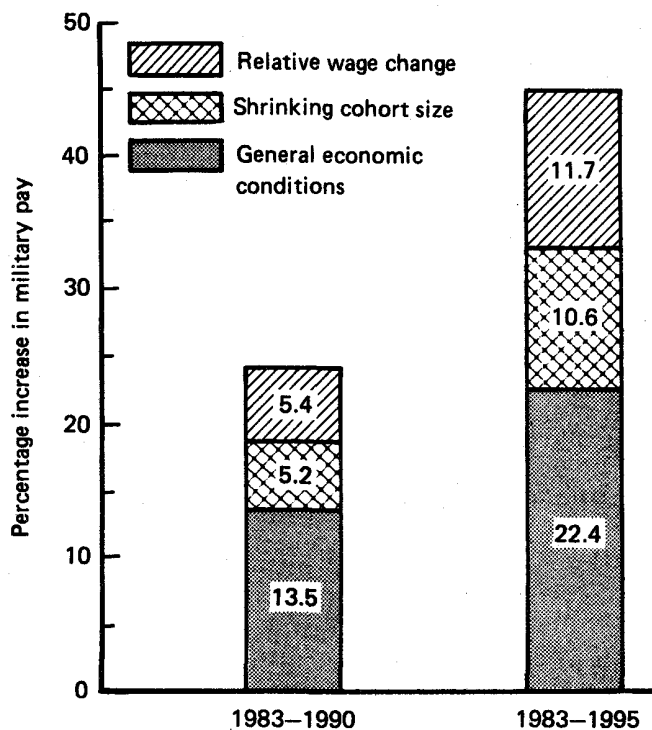


Fig. 2—Entry-level military pay increases required to maintain current accessions

The middle bar represents the pay increase required just to offset the projected decline in the accession pool and recruit the same number of high school graduates. The size of this adjustment is debatable and currently a topic of research, but for the illustration we have chosen what may be a high value, namely, that a one percent increase in military/civilian pay will be needed to offset a one percent decline in the male youth population. The top bar is the adjustment necessary to compensate for the projected increase in youth wages over and above the civilian average wage. Taken together, these cohort-size adjustments add 10.6 percentage points to entry-level military pay increases by 1990 and 22.3 by 1995.

IMPLICATIONS FOR FORCE STRUCTURE

How the nation responds to these forecasts depends in large part on the desired personnel force structure and desired accession quality mix. If the services continue to rely on a large, high-quality first-term enlisted force, targeting of military pay increases and bonuses at the enlistment point may be necessary to meet future accession requirements. Alternatively, if the force should become more senior and less first-term oriented, then other compensation structures may be needed to enhance the retention of career personnel.

Rand's Defense Manpower Research Center, established in 1976, conducts interdisciplinary research into the manpower problems facing the armed services. The Center's primary sponsors are the Office of the Assistant Secretary of Defense for Manpower, Installations, and Logistics, and the Office of the Assistant Secretary of Defense for Reserve Affairs. The research reported in this brief was funded by the Department of the Army. For more information about the research summarized here, see R-3115-ARMY, *Forecasting the Wages of Young Men*, Hong Tan and Michael Ward, The Rand Corporation, May 1985, or contact Dr. Tan, The Rand Corporation, 1700 Main Street, P. O. Box 2138, Santa Monica, CA 90406-2138, (213) 393-0411.