Are computers driving real wages down?
Edward N. Wolff*

Department of Economics, 19 West Fourth Street, 6th Floor, New York University, New York, NY 10012-1119, USA

A R T I C L E   I N F O

Article history:
Received 22 March 2007
Received in revised form 18 March 2009
Accepted 23 March 2009
Available online 18 April 2009

JEL classification:
J31
J24
O30

Keywords:
Earnings
Computerization
Skills
Education

A B S T R A C T

The annual growth in mean employee compensation plummeted from 2.6% in 1947–73 to 0.4% in 1973–2003. Using both time-series regression and pooled, cross-section, time-series regression analysis for 44 industries over the period 1953–2000, we find that earnings growth is positively related to overall productivity growth, capital investment excluding computers, and the unionization rate. We find also that computerization has a significant negative effect on earnings growth, but no evidence that the growth of skills or educational attainment has any statistically significant effect on earnings growth. The dominant factors explaining the slowdown in wage growth are decline in the unionization rate, slowdown in both TFP growth and overall capital investment, and acceleration in computer investment.© 2009 Elsevier B.V. All rights reserved.

1. Introduction

The US economy has undergone major structural changes over the post World War II ("postwar" for short) period. First, employment has shifted from goods-producing industries to services. Second, since the 1970s there has been a rapid increase in the introduction of new information-based technologies (IT), which has been accompanied by substantial adjustments in the operations and organizational re-structuring of firms.

In this paper, we consider how these sources of structural change have affected wage movements in the American economy. I focus particularly on the effects of the IT "revolution." We also address a seeming paradox – namely, that while the skill and educational levels of the labor force have continued to rise after 1973, real wages have fallen. The trend changes slightly if we consider mean total work-

* Tel.: +1 212 998 8917; fax: +1 212 995 4186.
E-mail address: Edward.wolff@nyu.edu

0167-6245/$ - see front matter © 2009 Elsevier B.V. All rights reserved.
doi:10.1016/j.infoecopol.2009.03.007
2. Review of previous literature

In contrast to the literature on rising earnings inequality, relatively little work has focused on average wages in the US, and particularly their slowdown since 1973. Levy and Murnane (1996a,b) point to skills as an important determinant of changes in earnings, with one of their major findings being that employers are screening employees for their possession of skills rather than years of schooling or college degree. Using two large sets of panel data on high school graduates in 1972 and in 1980, they examine whether there is a relation between math and reading scores on standardized tests, and earnings six years after graduating. They find that the correlation between earnings and test scores is higher for the 1980 panel than the earlier one, and that high math test scores in particular, are more highly correlated with wages for the later cohort of graduates. They identify several “basic skills” that are being more highly valued by employers: (i) ability to read and perform mathematics at 9th-grade level; (ii) effective oral and writing communications skills; (iii) ability to work effectively with colleagues from different social, racial, and ethnic backgrounds; and (iv) computer skills. The policy message based on these findings is that it is the content of education – that is, what the student actually learns – not the years of schooling, that is crucial to success in the labor market.

Some scholars have identified technology as the main determinant of wage changes. Johnson and Stafford (1993) argue that the erosion of large returns from American technological leadership has been the principal factor explaining the stagnation of American wages since 1973. Acs and Danziger (1993), using Current Population Survey (CPS) data for the period 1979–1989, report that average earnings have declined among male workers. They attribute this decline mainly to increases in the returns to education – that is, what the student actually learns – not the years of schooling, that is crucial to success in the labor market.

2.2. Review of previous literature

دریافت فوری
متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات