

The Age of Human Capital

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Human capital refers to the knowledge, information, ideas, skills, and health of individuals. This is the “age of human capital” in the sense that human capital is by far the most important form of capital in modern economies. The economic successes of individuals, and also of whole economies, depends on how extensively and effectively people invest in themselves.

Studies suggest that capital invested in men and women constitutes over 70 percent of the total capital in the United States. The total invested in schooling, on-the-job training, health, information, and research and development is surely over 20 percent of gross domestic product. Technology may be the driver of a modern economy, especially of its high-tech sector, but human capital is certainly the fuel.

An economy like that of the United States is called a capitalist economy, but a more accurate term is *human* capital or a *knowledge* capital economy. While all forms of capital are important, including machinery, factories, and financial capital, human capital is the most significant.

STOCK MARKET CRASHES AND HUMAN CAPITAL

More than a decade ago, I used the significance of human capital to make one of my more useful short-term business forecasts. You may recall that on October 17, 1987—so-called Black Monday—the value of the stocks listed on the New York Stock Exchange fell by 22 percent. On one day alone, equity wealth declined 22 percent. There was chaos in Washington and in the media. Financial magazines were predicting another Great Recession like the one in 1929, when the stock market also crashed.

I happened to be working on my regular monthly *Business Week* column during the day of the 1987 crash. So on Black Monday, I scrapped the column I was preparing and wrote one that predicted no major recession for the United States. This column ran about the same time as an issue of *Business Week* in which the cover story focused on a possible major depression due to the crash.

My argument was very simple. I began by emphasizing that human capital is three-fourths, or so, of the wealth in the United States, and that the value of human capital did not seem to have been much affected by the stock market crash. It is known that financial returns and human capital returns generally vary largely independently of each other. If so, the crash would only affect the value of the nonhuman capital, a fraction of all wealth. By multiplying the fraction of wealth that crashed in value by the size of the fall, I showed that the total wealth of the economy declined by only a few percentage points, perhaps as little as two percent. That could cause trouble, but not by itself a major recession. This is why I predicted difficult times only for luxury goods and the like—which did happen. Three months after the crash, the economy was back on course, and quarterly time series on stock prices show little evidence of the crash.

THE GROWING RETURN TO HUMAN CAPITAL

The modern economic environment places more of a premium on education, training, and other sources of knowledge than was true even fifty years ago. This can be inferred from

changes in the relation between education and earnings. In the United States during most of the past forty years, college graduates earned on the average about 50 percent more than high school graduates, and the latter earned about 30 percent more than high school dropouts. (See Figure 1 for the college–high school earnings gap.)

Wage differences between typical college and high school graduates increased from 40 percent in 1977 to 60 percent in the 1990s. The gap between high school graduates and persons with at least a college education grew even faster, from 50 percent in the late 1960s to about 75 percent in recent years. These are probably the largest increases in U.S. history.

Similar trends are found elsewhere toward greater demand for more skilled workers, although in Europe this has taken the form of increased unemployment of less educated and less trained workers. The gap in wage differentials by education is large in European nations for both men and women.

The global economy cannot succeed without considerable investment in human capital by all nations. Richer countries specialize in high-knowledge products and services, while poorer nations specialize in lower-skilled and raw material-intensive products. Still, investments in human capital are also necessary in poorer nations if they are to have a chance of growing out of poverty.

Almost without exception, studies of the economic growth of different nations show a close relation during the past several decades between economic performance and schooling, life expectancy, and other human capital measures. In particular, although on the average Third World nations grew a little less rapidly than richer ones, poorer nations with more educated and healthier populations managed to grow faster than average. Especially important for these nations are their investments in elementary and secondary education.

Of course, machines and other physical capital are important. But alone they are far from sufficient to produce growth because skilled workers and managers, and innovative entrepreneurs, are needed to operate complicated machinery, to

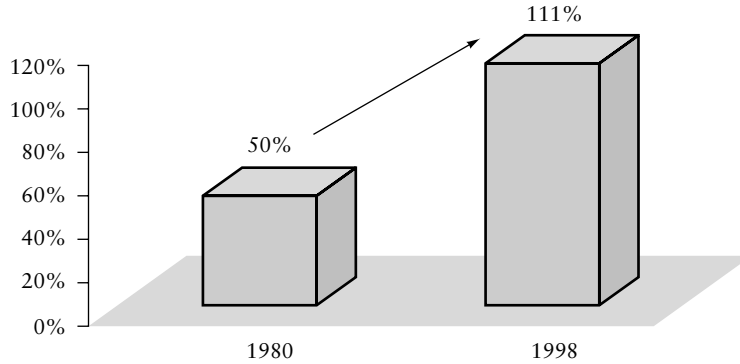


FIGURE 1. Widening Pay-Gap Between High School and College Graduates

(SOURCE: 1980: U.S. Census Bureau. 1999: ML Growth Stock Research)

produce efficiently, to develop new products and processes, and to utilize innovations from other countries. Neglect of human capital and world markets by most economists after World War II, and their emphasis on import substitution and protected markets, was a seriously distorted view of the growth process. Ultimately it was a failed vision of what is essential to achieve economic progress and reductions in poverty.

DISTANCE LEARNING

Modern economies require that people invest in the acquisition of knowledge, skills, and information not only when young but throughout most of their lives. Yet the basic methods of acquiring human capital have hardly changed since the time of Socrates. For 2,500 years, teachers and students have met face to face for lectures and discussions. However, the growth of the Internet will revolutionize the system of teaching and learning by allowing “distance learning,” where teachers and students may interact closely even though they are separated physically and in time.

The key economic advantage of distance learning over traditional on-site learning is that it saves students time.

Studies show that the value of time spent learning is the principal cost of investment in human capital among teenagers and adults with even moderate actual or potential earnings. It is especially important for executives and highly skilled employees. Web-based instruction eliminates regular commutes to schools and other teaching facilities, which can amount to more than an hour each way for persons with jobs. On-line instruction also allows greater time flexibility for students to interact with course materials, “chat” with other students, take quizzes, and submit reports. People with full-time jobs can choose the most convenient time to do their coursework, including during weekends, before work, and after.

Thousands of Internet students could take a single, popular course, instead of the small numbers in a typical classroom. The spread of faster and, ultimately, broadband access to the Web enables the use of colorful graphics and attractive simulations. On-line instruction may well widen the market and raise the popularity of superstar teachers who command high audiences and very high salaries.

Distance learning appeals mainly to adults who want to take courses toward a bachelor’s or master’s degree or maintain and upgrade job skills that have grown outdated. Highly skilled professionals, such as doctors, have always had to keep up with change in their fields by reading and by taking short courses. But the continual introduction of new technologies makes skills obsolescence a serious prospect for all professionals and for many other working adults.

On-the-job training and learning offer a particularly promising on-line market. Companies have long invested in employee education, although mostly in-house to eliminate travel time to off-site schools. Distance learning offers an opportunity to outsource teaching to specialized companies without taking employees away from their work. Web-based courses are rapidly developing in information technology, finance, accounting, marketing, management, the global economy, and many other subject areas.

How well companies manage their human capital is a crucial factor in their success. Bill Gates said, “Take our 20 best people away and . . . Microsoft would become an unimportant company.”

Unfortunately, the huge amounts invested by companies are not on their balance sheets because typically they are costed as current spending rather than capitalized. They are part of “goodwill” and other residual accounting categories. Increased investments in human capital and knowledge by companies partly explains the enormous rise in the ratio of market price to book value of the assets of publically traded companies.

CONCLUSIONS

I conclude by listing several main points of this essay:

1. Human capital is of great importance in the modern economy.
2. Human capital has become of much greater significance during the past two decades.
3. Human capital is crucial to the international division of labor.
4. Much unmeasured learning goes on in companies and by adults.
5. People need to invest in themselves during their whole lives.
6. Distance learning will become of crucial importance to the teaching and learning process.
7. Human capital stimulates technological innovations and the high-tech sector.