Book Reviews


Claudia Goldin and Lawrence F. Katz’s magnum opus, *The Race between Education and Technology*, was published in 2008 by Harvard University Press. Although many scholars have written book reviews from different perspectives, it is worthwhile to re-read it and rethink the key question addressed in the book that is the relationship between education and technology from the perspective of human capital. Nowadays many worldwide race problems have not been solved through the development of technology. On the contrary, digital divides may become deepened due to inequality in the supply of technology and education among different regions, classes, genders, races and cultural communities (Lemieux, 2008; Hacker, 2009; Rudolph, 2009; Van Reenen, 2010; Brown & Keep, 2018).

The book gets credit for its detailed analysis on the history of American education (Rizzo, 2009) which indicated a possibility of future inequality in education (Ter Weel, 2009). It takes quantitative methods and bridges materials appropriate for two kinds of readerships, including the academic researchers and interested nonacademic readers (Burke, 2009; Guryan, 2009). In short, it provides a descriptive history, explanatory social science, and policy prescription, as Hout (2009) described.

Nevertheless, some critics pointed out the book’s flaws, and they thought the book lacked a more fine-grained analysis of the education process (Wright, 2009; Van Reenen, 2010). Other critics thought it neglected the function of the institution and the power of policy (Wright, 2009; Rizzo, 2009). Furthermore, many reviewers criticized that the last chapter needs more sufficient evidence (Burke, 2009; Kling & Merrifield, 2009; Connolly, 2010).

As noted above, I would like to review Goldin and Katz’ s impressive work, focusing on its implications to education in digital era.
When it comes to the context of the book, Goldin and Katz argue that the twentieth century is both “the American Century” and “the Human Capital”, which is not a historical accident. Economic growth in the modern period requires educated citizens, while modern technologies must have capable workers at the helm. They hold the idea that one of the key links between these two parts of the economic system—technological change and inequality—is educational progress. In this context, the book presents a remarkable century of economic growth, technological change, advancing education and inequality. Therefore, these topics are intricately related to a kind of “race”.

The book consists of three sections. Each section is supported by historical evidence, empirical data, and dozens of interesting statements. The first section of the book discusses the question about “economic growth and distribution”. With an increase in the worldwide schooling rate in the twentieth century, Goldin and Katz find a positive correlation between income and schooling. Because the United States was the leader in education in the twentieth century, the authors discuss the development of the America in the human capital century. They divide the twentieth century into two parts and analyze how does the economy changes with the development of education. Meanwhile, they confirm the rationality of their views through the international comparison. In addition to the numerical evidence, they also give the Iowa State as an example to analyze the process with details. Different from previous studies, they do not end the analysis immediately but find technology might play an intermediary role in society, then focus on the impact of technological change on the demand for labor across the twentieth century. This unique perspective makes their subsequent analysis more attractive and innovative.

The next part is about “the education for the masses in three transformations” which discusses the development of American education in different periods. With the development of the first transformation “mass elementary schooling”, the United States had the most educated youth in the world by the middle of the nineteenth century. Nevertheless, just as Europe began to narrow the educational gap with America at the elementary school level, a second great educational transformation soared, which is referred to as “high school movement”. The authors point out the demand for high-level workers had increased because of the constantly evolving jobs and skill requirement. In this case, education was the ticket to obtain a white-collar position (p169). And it was a form of insurance, allowing the more educated to respond faster to economic change and thereby provide some unemployment protection (p192). Through a series of analyses, Goldin and Katz think the second remarkable transformation of education in America—the high school movement—was an
in institutional response to wide ranging economic changes during the 1910–1940. With the saturation of America’s graduation from high school, Americans were turning their attention to higher education. The “right to a good education”, Franklin Roosevelt said, was among the “economic truths” that have become “self-evident” (p. 247). Higher education in the US expanded at extraordinary rates during most of the twentieth century. Colleges greatly expanded in size and scope, and changed in the knowledge industry, which meant science replaced art in production and the professional replaced the thinker as producer. It’s no doubt that American colleges and universities were the best in the world, and the quintessential American higher education system has greatly influenced on the other nations. However, the authors emphasize the third transformation is unfinished, because the United States is not far ahead of other countries today.

The final section is a question about “the race”. Goldin and Katz highlight the race between education and technology, and make suggestions about how America once lead and can win the race for tomorrow. Firstly, the authors analyze changes in returns to education using the conceptual framework of a race between education (the supply of skills) and skill-based technological change (the demand for skills). Goldin and Katz provide a framework consisting of the supply, demand and institution (SDI), which become a classical model of educational economics. The authors use the model to analyze some social problems caused by the competition of education and technology in the last century, and summarize that the slowdown in education at various levels is robbing Americans of the ability to cultivate together nowadays. What’s more, Goldin and Katz point out that a college degree is no longer a fast ticket to success, but rather a certain degree and the advance training in certain areas. That is also a beneficial enlightenment to the development of higher education.

*The Race between Education and Technology* provides an excellent and compelling overview of the twentieth century labor market developments in the US. While Goldin and Katz’s statements are reasonable, their diagnosis of human capital may be narrow. They focus almost entirely on the quantity, the years of school and the graduation rates. However, we must distinguish between attending school and becoming capable or skillful (Kling & Merrifield, 2009). Furthermore, especially in digital era, the student should not only become skillful, but also have the digital literacy, which means more than the mere ability to use software or operate a digital device, and it includes a large variety of complex cognitive, motivated, socializing, and emotional skills (Eshet-Alkalai, 2004). *The Race between Education and Technology* enlightens us to rethink of the social-economic and cultural environment of education,
the close relationship between education and technology, and the fundamental aims of education.

As the authors said, the factor of race has not disappeared, but intensified. In the digital era, the barriers to accessing learning opportunities are falling dramatically, while the number of approaches to education and training is increasing dramatically because of the advanced technologies (Hanna, D. E, 1998). The educational organization is not only based on the entity institution, but also can be realized by virtual network platform, such as MOOC and Khan college and Coursera, which exactly happened in the past half a year around the world. It seems that the increase in quantity will change the quality of education with the help of technology, but the fact is not always in this way. Just as the authors’ recent article describes, “the most of the recent rise in wage inequality has occurred within, rather than between, education groups” (Goldin & Katz, 2008). The goal of this race has shifted from the competition of education and technology to that of human capital. In digital era, it would be easier for people with digital literacy to gain the competitive advantage. Therefore, how to cultivate a “digital citizen” (Couldry, et al., 2014) has become a new question in education.

The Race between Education and Technology also reminds us of the importance of education, and enlightens us to explore how education and technology promote the development of society through competition and cooperation. For the new race of digital age, education should run with a direction and goals of humanity. The concept of “digital citizen” implies that the education and technology are no longer separated, but closely linked. Rethink and repositioning the education goals and cultivating digital citizens will be the keys to the future success in this ongoing race.

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References


