Referee Report for "Why Are There So Many Jobs? The History and Future of Workplace Automation"

Wang Ruiqi, GMAP M1

2018.06.26

1.Summary

In this essay, the author begins by identifying the reasons that automation has not wiped out a majority of jobs over the decades and centuries and offer some evidence on the phenomenon which is about the changes in technology that can do alter the types of jobs available and what those jobs pay.

The author uses the O-ring production function to prove the relationships between productivity improvements in one set of tasks and the economic value of the remaining tasks.Mostly the author uses examples in different period to explain if automation can greatly affect the qualities of jobs available.

This paper reflects on how recent and future advances in artificial intelligence and robotics should shape our thinking about the likely trajectory of occupational change and employment growth. The author thinks that the interplay between machine and human comparative advantage allows computers to substitute for workers in performing routine, codifiable tasks while amplifying the comparative advantage of workers in supplying problem-solving skills, adaptability, and creativity.

2.Major Comments

I don't think this paper has much problem, but there are several aspects of my ideas that I would like to add.

2.1 Less function proving

First of all, this paper lacks certain mathematical functions to prove its own theory, and most of them justify its own point of view through examples. If the author can collect data of recent years for a specific occupation to demonstrate the impact of automation on the productivity of the work may explain in more detail the development of automation in recent years.

2.2 My opinion

The paper tell readers that the offsetting effects of complementarities and rising demand in other areas are far harder to identify as they occur and the author's own prediction is that employment polarization will not continue indefinitely. I agree this idea because many middle-skill jobs still continue to demand a mixture of tasks from across the skill spectrum now.Sometimes they require at least two years of postsecondary vocational training, and in some cases a four-year college degree or more.

The author expects that a significant stratum of middle-skill jobs combining specific vocational skills with foundational middle-skills levels of literacy, numeracy, adaptability, problem solving, and common sense will persist in coming decades and hisconjecture is that many of the tasks currently bundled into these jobs cannot readily be unbundle—with machines performing the middle-skill tasks and workers performing only a low-skill residual—without a substantial drop in quality.

About that I have something to say.

According to the McKinsey Global Institute, automated technologies, including artificial intelligence and robotics, will bring significant benefits to users, businesses and the economy, and increase productivity and boost economic growth. However, the degree to which technology replaces manpower will depend on factors such as technology development, application, economic growth, and employment growth. Now, with the rapid

development of the global economy, it is expected that automation will replace 400 million jobs in the world by 2030, even if the development of automation is relatively modest.

In this paper, there is a clear problem with this prediction, which is not whether the middle class workers are doomed to failure by automation and technology, but human capital investment must become the core of any long-term strategy.Typically neglected in recent dismal prophesies of machine-human substitution, is that if human labor is indeed rendered superfluous by automation, then our chief economic problem will be one of distribution, not of scarcity.

I think that being replaced by automationse does not mean that a large number of people are unemployed, because new jobs will be created and people should improve their job skills to deal with the coming era of great changes in employment. According to McKinsey's prediction, with the rapid development of automation, 375 million people need to change jobs and learn new skills; while under the relatively modest development of automation, about 75 million people need to change their careers.

McKinsey expects that between 2015 and 2030, global consumption will increase by 23 trillion US dollars, most of which come from the consumer sectors of emerging economies. Only the increase in income of the consumer industry is expected to create 250 million to 280 million jobs. As people age, consumption patterns will change, and support for medical and other personal services will increase significantly. This will create new demands for a range of occupations including doctors, nurses and health technicians. McKinsey expects that, by the year 2030, the number of jobs related to health care for the elderly may increase by 50 to 85 million. Between 2015 and 2030, technology-related expenditures are expected to increase by more than 50%, so the demand for work related to technology development is also expected to increase, with about half of them related to IT service-related positions. McKinsey expects that by 2030, this trend will create 20 to 50 million jobs worldwide.

So I think that the trend of automation is inevitable, but human-making is still an integral part of economic development.