AI and Employment*

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The fundamental issue raised by Hollywood writers when they had gone on a strike against being replaced by artificial intelligence, somehow receded to the background after the resolution of that particular conflict; but it remains a fundamental issue. Much has been written about the various problems associated with the introduction of AI; but the one that concerns us here relates to the massive unemployment it would generate.

This problem, it must be noted, relates exclusively to the application of AI under capitalist conditions; but, capitalism being the reality over much of the world, the threat of AI to the working people remains extremely serious. In any society that follows a work-sharing, product-sharing ethic, such as a socialist society, the introduction of AI that reduces human work-load cannot be objected to on grounds of destroying employment, no matter what ethical and other objections one may have against it; but the modus operandi of a capitalist society is far-removed from a work-sharing, product-sharing ethic.

The difference between capitalism and socialism in this respect can be illustrated with a simple example. Suppose with the help of AI, or any labour-saving innovation for that matter, a given output of 100 can be produced with half the labour force that was required earlier, by 50 workers in the new situation compared to 100 earlier. In a socialist society, each worker will work half the time that she or he was working earlier, but will get the same wage rate as earlier; the net effect of the labour-saving innovation would be to increase the amount of leisure that each worker enjoys while having the same access to goods and services that she or he was having earlier.

Alternatively, the entire work-force of 100 will work the same length of time as before but produce double the output, that is have no greater leisure than before, but would get double the wage-rate compared to earlier. In a socialist society in other words, an innovation involving a halving of labour input per unit of output, would make the workers better off, either through having greater leisure even with the same access to goods and services, or increasing the access to goods and services for the same amount of effort as earlier.

In a capitalist society however, any such labour-saving innovation would immediately entail a reduction in employment: in our example 50 workers will be thrown out immediately in order to cut costs and raise profits through the introduction of the new process; and since the additional unemployment of 50 would increase the reserve army of labour, reducing workers' bargaining strength, the wage rate would certainly not increase; if anything it would also fall. Under capitalism therefore the availability of a labour-saving innovation, makes workers worse off both by increasing unemployment and also by reducing real wages. An innovation that has the potential for reducing human drudgery and improving human happiness, which it actually does under socialism, ends up under capitalism making workers actually worse off. It is within the capitalist social arrangement that the introduction of AI will cause havoc for workers.

To argue in this manner would appear at first sight to subscribe to the erroneous argument of the Luddites, a group of textile workers in early nineteenth century Britain, who had gone around breaking machines because they believed that machines caused unemployment among workers. But the Luddite argument was not wrong in seeing machinery as causing unemployment; the Luddites just did not see this phenomenon as arising because of capitalism. They mistook a social phenomenon as one caused by and inherent to technology; but they were not wrong in identifying the phenomenon, whatever their mistakes in identifying its causes. As a matter of fact, it is those economists who saw machinery as being beneficial for employment who were theoretically wrong.

The most prominent among these economists was David Ricardo. He argued that, assuming wages always remained at a subsistence level, machinery, displacing labour and causing additional unemployment immediately, would raise profit-margins and hence the profit rate. Ricardo, a believer in Say's Law that there could never be a deficiency of aggregate demand in a capitalist economy, then argued that since all wages were consumed and all unconsumed profits were saved and invested, an increase in the rate of profit would raise the rate of investment per unit of capital stock, that is, the rate of growth of capital stock, and hence the rate of growth of output and employment.

This means that while the introduction of machinery causes some unemployment immediately, it also raises the rate of growth of employment, so that after some time not only is the additional unemployment temporarily created, eliminated, but the time-profile of employment becomes greater than it would have been in the absence of the introduction of machinery. Machinery, it follows, no matter what temporary aggravation of unemployment it causes, causes higher employment in the long-run than what would have prevailed in its absence.

To this day Ricardo's argument remains the main counter to trade unions' claim that the introduction of machinery is inimical to employment.; but his argument is wrong for two obvious reasons. The first is that it refers to a single shot of introduction of machinery; if the introduction of machinery (or of labour-saving innovations) is a continuous process, then the generation of transitional unemployment caused by each such introduction would also be a continuous process; the promised day when the time-profile of employment would be higher than what it was to start with, may not arrive within any meaningful time-horizon. Over any specific period, the actual employment profile would have been lower than it was before the continuous introduction of machinery.

The more important point however relates to the following. Capitalists invest when they expect the market to expand, not when the profit-margin, and hence the profit-rate, is higher because of a lower unit labour cost arising from labour-saving. Now, consider the period when the machinery is introduced. Since employment, by Ricardo's own admission, would fall immediately, with real wages fixed at the subsistence level, the wage bill and hence workers' consumption, would fall compared to what it would have been otherwise; capitalists consume a small proportion of their profits (in fact for simplicity let us assume that they save their entire profits). The total consumption in the economy therefore would have gone down in that period; and there is no earthly reason why investment should increase at all. It follows therefore that aggregate demand and hence output would have fallen in that period. In such a case, the time-profile of investment, instead of being higher than earlier, as Ricardo had argued, would be lower. The time-profile of employment too would therefore be lower.

The old, workers', argument that the introduction of machinery is harmful for employment, both in the short and in the long run, thus remains valid. Why is it then that we do not actually find a steady increase in unemployment in Europe owing to the introduction of machinery, as our argument against Ricardo would suggest? There are two obvious reasons for this: one is the massive emigration from Europe to the temperate regions of white settlement where the migrants dispossessed the local inhabitants and took over their land. This kept the level of unemployment low in the European economies and wage rates higher than they would otherwise have been. According to W Arthur Lewis, 50 million Europeans emigrated to Canada, US, Australia. New Zealand and South Africa in the "long nineteenth century", that is in the entire nineteenth century plus the period before the first world war.

The second reason why unemployment did not become acute in Europe is the incursion of European goods into pre-capitalist markets in the tropical colonies and semi-colonies like India and China, where they displaced local craftsmen. This amounted in effect to an export of unemployment: the export of goods from Europe that caused "deindustrialisation" and hence unemployment in these pre-capitalist economies, was simultaneously the generation of employment within Europe.

These particular safety-valves that imperialism provided to metropolitan capitalism, apart from being oppressive and hence obnoxious, are no longer even available to metropolitan capitalism, let alone to the capitalism in the periphery. In fact even State expenditure that, Keynes thought, could create demand for the capitalist segment, just as pre-capitalist markets had done earlier, and thereby boost domestic employment within the metropolis, no longer works under neoliberal capitalism, as is evident from its current protracted crisis. Under these circumstances, large-scale adoption of AI within the capitalist segment would generate massive unemployment, both in the metropolis and in the periphery. It is not just the writers and voice artists, who have been vocal on the issue, that are faced with unemployment; ordinary workers too face dire prospects. It is important that workers' struggles, raising suitable demands, get launched to prevent the realisation of these dire prospects.

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