

## Book Review

Baldwin, Richard. London: “The Globotics Upheaval – Globalization, Robotics and the Future of Work.”, Weidenfeld & Nicolson, 2019, 292 pages, ISBN: 978-1-4746-0901-2, 22.50, EUR

Digitalization is one of the major questions and phenomena of our modern times, be it in banking and finance, transportation, or its effects on the labor market. In his book, Richard Baldwin, Professor of International Economics at the Graduate Institute in Geneva and Founder of VoxEU.org (the CEPR’s policy portal), focuses on the last part. How will the further rise of information technology and the digitalization of our world influence the biggest part of our daily routines and major source of income: our jobs?

Throughout his book, he focuses on three great transformations in modern economics and capitalism. The first one was the industrial revolution starting in the 1700s in Great Britain. After two World Wars and prosperous thirty years of post-war rebuild and wealth, a transformation from manual labor to the service industry took place in the 1970s. What we experience now is the third great transformation away from service industries to jobs sheltered from robotics and telemigrants. This tidal wave is coming for good stable office workers, which are totally unprepared and will face competition from other well educated but much cheaper workers hundreds of miles away. Modern communications enable them to be part of every office in the world, while language barriers are overcome through the same modern technology. The second part of the new competition on labor markets are AIs that are smart and recognize human behavior in doing formerly mundane tasks.

In the first part of his book, Mr. Baldwin revisits the first two big changes in our economic environment. Before the industrial revolution Malthus’s Law actively enforced misery, since every new part of land, new crop or new technology rose living standards only up to a certain level at which the increasing population were only one or two failed harvests away from another famine. With the agricultural revolution, new technologies like the steam engine, and more efficient transport due to railroads this changed, and the industrial revolution increased live expectancy and incomes. However, not for all, and also increasing inequality became a problem, what lead to social unrest and upheavals resulting in communism and Italian style fascism. Only when innovations made labor more productive and two World Wars reduced the labor supply, wages increased, and inequality went down, with strengthened unions.

This first transformation benefited manual labor, while starting in the 1970s, people working with their brains were advantaged. Mr. Baldwin describes this post-industrial service transformation with the example of the London Docklands. It was one of the most important British trading hubs until its closure in 1981. Today, a major financial center is situated there, trading financial services. This established new elites, and also a second upheaval. The Brexit referendum and the election of Donald Trump as US president show a backlash against the establishment stemming from regions which were hit

especially hard by the service transformation. The rise of information technology will then lead to a third transformation.

This globotics transformation constitutes the second part of Mr. Baldwin's book. Rising computing power (following Moore's and Gilder's law of doubling computing speed paired with growing data transmission) enable AIs and machine learning algorithms to automate processes (following Metcalf's law of valuable networks and Varian's law of free digital components but valuable digital products). White collar robots will then take over jobs, but not occupations. While robots are way faster in, e.g., scanning legal documents for keywords compared to a paralegal, humans need four skills to shelter their work against the robotic overtake. Algorithms are just as good as the training data and correlations that calibrated them. Once the environment changes, people are still superior in communicating, critical thinking and social and physical skills. This opens up possibilities for new online and phone-based service jobs or in managing the exploding amounts of data and free services. Mr. Baldwin's final prediction is that globotics will do what they can do, while humans will do the work that globotics can't do.

All in all, Mr. Baldwin paints a very detailed picture of the historic and future upheavals on labor markets. Many real-world examples from historic events and quotes of politicians and CEOs combined with a very straightforward style of writing makes for an interesting and easy read. The style of writing of this book is similar to the likes of Michael Lewis (Flashboys, The Big Short, Moneyball, ...), but his "story-telling" behind the economic dynamics he explains is more subtle, while he gives in depth analyses without getting lost in details or technical terms.

However, he is very uncritical of other important questions, such as data protection and possible remedies for the media and news due to robo-journalists. He describes services such as Amazon's Alexa, Apple's Siri or Google Maps as free, while in fact people pay with their data. Telemigrants are also solely positive in his descriptions, since they supply cheap labor to markets without geographical restrictions. Questions about social benefits for these telemigrating workers or about taxation, which might render their competitive advantages smaller and need to be regulated, remain untouched.

Furthermore, the picture he paints is sometimes very dark. Economics is the dismal science, but Mr. Baldwin sometimes dips even further into the darkest shades of ink with predictions of violent riots of unionists and the anti-globalization movement as a backlash to job destruction by automation and digitalization. Economists have been very conservative in their predictions of the development of the labor market, while the actual data went in a very different direction. In the 25 May edition of the Economist, the marvelous development of employment and labor markets has been reported, with extremely low unemployment numbers across many OECD states, although, digitalization has been widely expanding in the recent past. Thus, we still might be far from an upheaval and backlash as Mr. Baldwin predicts but, nevertheless, beside climate change, changes on the labor market and jobs as we know will be the major challenge for policy makers in the future. For such decision makers, I can highly recommend this book, with its detailed description of past developments and possible future scenarios.

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