

Investigation into the effects of technology changes on labor market



As technology increases, the question that is at the forefront of policies is how Canada can ensure a sufficient level of human capital to meet the demand from a loss of low skilled jobs to trade and automation. Keeping pace with the changes in the market to reach the demand of high skilled jobs is of utmost importance to maintain a stable economic condition within Canada, as trade and automation are decreasing the demand for low skilled jobs-thus raising technological unemployment in the unskilled labor market. Economists are largely in agreement that the market must be transparent. Indeed, the establishment of a transparent labor market is presented as important for the maintenance of stable economic conditions in Canada whereby comparative advantage that high-skilled or high-educated workers have is reflected in technology changes. The effect of technological change (automation) and loss of low skilled jobs has already raised the Canadian government's attention, and the Institute for Research on Public Policy has put productivity and skills into the policy for the Canadian labor market.

At the same time, due to the growth of these activities, it became increasingly difficult to distinguish working time from the time of productivity and free time. The rise of the Internet has affected a large number of activities which confuse certain commonly accepted distinctions between production and consumption, creativity and efficiency, and work and leisure. On a more positive note, a reduction in working time thanks to machines is supposed to free people from the low-skilled manual and repetitive tasks. This point, which is being referred to as the 'end of work' (Beaudry, Green, & Sand, 2016) has not taken place, although it is undeniable that technical

developments have considerably changed the content of work and will undoubtedly do so in the future.

To provide a bit of background, during the 1980s, the reception of economic theories in the field of employment was disrupted, notably because of the abandonment of Keynesian precepts in favor of a plurality of approaches formulated most often in terms of market segmentation and local markets (Van Reenen, 1997). As a result, employment policy changed dramatically with the official abandonment of the goal of full employment and the emergence of subsidized contracts targeted at certain groups, depending on skill and specialization. But before 1990, these changes have little effect on the labor activity which was overwhelmed by job seekers. As such, the demand for employment was no longer simply a macroeconomic aggregate, as the increase in the number of unemployed had a direct impact on the working conditions (Bartel & Lichtenberg, 1987). This also involves qualifying the characteristics of people and jobs.

Recent scientific discussions regarding changes in work structure witness to two seemingly contradictory trends. On the one hand, as a result of pervasive technology and constant connectivity, a growing number of social activities are characterized as work. On the other hand, the traditional structure of work is presented as being on the verge of extinction due to the progress of automation. Indeed, the field of study around the “ spillover effects from industry innovations” (Van Reenen 1997, p. 255) confirms this paradoxical dynamic. New technologies and their ability to process and circulate information raise new hopes for matching supply and demand in the labor market, according to the study conducted on employment as a <https://assignbuster.com/investigation-into-the-effects-of-technology-changes-on-labor-market/>

result of a technical change in the UK. However, the application of these innovations in the fight against unemployment is still being debated, even if micro-econometric research shows different positive effects on innovation after the integration of technical changes.

The other aspect of the question deals more specifically with the notion of productivity. Namely, when the category of productivity is totally detached, not only from the question of employment - which, from a philosophical point of view, does not pose a major problem in an econometric modeling strategy - but also from the criteria of demand expectations and effects, it comes to lose its link to the current context of digital labor and automation. The pressing feature of the situation studied by Van Reenen (1997) is likely to present work as a commodity which is highly dependent on adjustments because of the rapid progress of technological changes could lead to a decoupling of productivity gains and job gains and destroy a large number of trades as they become more and more dependent on innovations. The theories about a system of production going ahead without human capital, however, is far from being imposed on the first generation or evoking fear of the termination of all jobs as a result of technological developments. These anxieties have already been expressed in the nineteenth century during the appearance of the steam engine (Van Reenen, 1997) driven by the progress of mechanization in factories and mass production.

Moreover, these remarks testify to a polemical intention of the gradual process of innovation to include all technical progress that is productive, or at least showcases an affirmed desire to question the currently accepted representations of labor input. In many ways, such an intention comes after <https://assignbuster.com/investigation-into-the-effects-of-technology-changes-on-labor-market/>

years where the insistence on the counter-cultural dimension of technology has marginalized any attempt to debate the production and distribution of the value of work. Nevertheless, what is also lost in this denial of thinking of any externality with regard to work is being questioned, especially the effects on the labor market in Canada if analyzed according to the analyses of the UK situation as provided by Van Reenen (1997).

Developed to criticize the econometric modeling strategy, ethical innovation also constitutes a new stage in the extension of the category of work to various skills and econometric work. This extension includes under the same notion very heterogeneous modalities of participation in the production, pricing, and demand of employment across different industries (Van Reenen, 1997). For example, when apprehending the contributors of the direct correlation, these constitute activities which no one doubts are work-related, even if they are taking place in a relatively new technological, economic, and social context. Because the approach to these services is still innovative and unfamiliar, the modalities are being criticized, especially if they result in slow growth (Van Reenen, 1997) or affect the labor market or if the new approaches cannot garner protection and regulation of the labor market. However, it is different when these activities generate more jobs - such as alliances, start-ups, or work collectives that would not come about without the help of technological innovations.

Some activities, including those which produce value or challenge the process of capital accumulation, could be a question of resisting any form of activity as part of the capital. These forms of contribution seem little taken into account by the theorists of the new capital, even though they claim the <https://assignbuster.com/investigation-into-the-effects-of-technology-changes-on-labor-market/>

influence of theories of the various types of economic models. For example, when one affirms the infinite extension of exploited labor, one does not paradoxically run the risk of renewing the economic logic that is at the heart of technological opportunities, that is to say, to support the tendency to make all technological opportunities and cognitive tasks of simple moments of the process of accumulation, and ignoring empirical evidence (Van Reenen, 1997). Recognizing that the participants of labor market trends, sometimes without realizing it, generate value, is obviously crucial. But, in spite of that, the activities of particular groups on skill price changes force the tasks to be adjusted, and the economy to remain a carrier of heuristic and important turning points.

The notion of adopting new technology for productivity purposes presented as the continuation, or even as the pinnacle of the trend, can help broadening of the spectrum of the “ different skills [which] shift their supply of labor across tasks as a means of adapting to the changes in demand” (Beaudry, Green, & Sand, 2016, p. S203). The concept has certainly embraced activities that are commonly already accepted across all industries, which qualifies as a contribution to the market, including the type and volume of outputs, even if they are only a response to the temporary demand or consist of the simple consumption of services offered by others.

With regard to employment and skill development, it is then a question of challenging the distinction that comes from policy implications that serve to affirm that activities that contribute to the employees’ ability to adjust to specific demands of the labor market. In other words, the goal is to

emphasize - as a result of several approaches shows - that it is possible to <https://assignbuster.com/investigation-into-the-effects-of-technology-changes-on-labor-market/>

measure outputs based on the qualification of work through levels of education attained (Bartel & Lichtenberg, 1987). The stakes are still different since production functions generate at every moment data valued by certain economic actors, as any form of the econometric variable has an output. It is also a question of presenting measures of experience with given technology and skills, independently of any conscious productive activity.

The study acknowledges that the notion of production environment contributes to the effects that signal towards the outputs and capacities of mechanized processes as a result of new technology. Evidently, the overarching idea is that technical progress which contributes in some way to the social production can be viewed as a comparative advantage, as they contribute to creating businesses value (Bartel & Lichtenberg, 1987). The study results are enough to argue that new technology was effective in the way it embraced very different things: the precariousness of certain professions, the exploitation of primary inputs produced by labor demands, or still the valuation of skills and achievement of highly educated employees. As such, any form of participation in the production of value in the economy tends to be considered as capital intensive, even if in the new technology era, this participation does not correspond to the traditional model of wage employment. The socio-economic configurations would naturally fluctuate, however, the dependence between variables and conditions was not as easily estimable. The intermediation economy between offerors and applicants, in which collaborative and sharing-economy platforms excel, are clearly quite different from the advertising economy in terms of structure and productivity. Above all, the study in question is not the same across all

industries or sectors, and far from being comparable to the classic distribution of labor in the market. But by broadening the spectrum of covariates, and the concept of technological change as the main driver encompasses a wide variety of transformations related to production techniques.

New technologies applied in the labor market across industries is based on an automated matching, which allows data codes to offer matching qualifications, and all employers to search to fill the necessary skills according to industry codes. The challenge is to offer the employees maximum opportunities. Making the market robust requires making the hiring process robust by providing employees with information on a number of hires (Beaudry, Green, & Sand, 2016). Intervention in the labor market is dissociated between two ways of relating supply and demand, by either circulating information or bringing expertise directly to the recruiters. To understand the importance of this turnaround, it is necessary to have in mind the structure of performance indicators and its effects on the work of advisers. The desired level of automaticity is based on the process of identifying the recurrent needs of employers in the temporary employment sector and then registering the unemployed to identify the adjusted profiles. More generally, the transparency of the labor market involves a whole set of assessment, classification and selection procedures which are related to the way the company has the internal capacity to make the selection.

Beaudry, Green, and Sand (2016) apprehend experiences with technology and skills that are possessed in the context of productivity responses. Such a theoretical framework creates an explicit relationship with the approaches <https://assignbuster.com/investigation-into-the-effects-of-technology-changes-on-labor-market/>

mentioned above as “ a clear upper bound on the potential effects of the reversal of cognitive demand” (Beaudry, Green, & Sand 2016, p. 243). As the critics of tech bust, they challenged the intact relevance of the category of skill-intensive jobs as they reaffirm the centrality of the question of labor exploited within a field of research where the stakes of policies have often been neglected. They are also critical of the cognitive tasks behind the results produced as a result of new technological opportunities that were suddenly reflecting the cyclical economic elements. Due to the rapid changes, work takes place in a context where the demand for skills and routine tasks required the labor force to understand the processes behind it. For example, even if one takes the example of the work that is very material, algorithmic automation is still a part of it in some way. Namely, its activity could not exist in this form without computerized planning, dynamic pricing, and the aggregation of information about drivers and customers (Beaudry, Green, & Sand, 2016). The role of computerized information processing is even more obvious when considering skill-based technological advancements as a simple data tool for productivity. The study in question then no longer consists of producing the data, a process whose essential operations are performed by computers, to be programmed by someone having the cognitive skills to do so. It is thus the transformation of skills by a mechanism of aggregation, calculation, comparison, filtering, classification or recommendation which confers on them a meaning for the labor force, and a value for platforms which makes the whole production function more involved.

Criteria for defining employment dynamics can also include value creation, business activity, and tangible output. With some simplification, it could be argued that this is the way labor retains the dual nature of concrete and model implications (Beaudry, Green, & Sand, 2016). Namely, the exchange value of a personal input could be considered as the achievement of a determined value by the amount of simple and socially necessary work that these inputs incorporate. One can, therefore, make some reservations about the tendency of analyzes in terms of digital labor to interpret as work any form of participation of users in the production of value. In this case, the category of work is defined as an activity whose output is measured according to the utility in the goods-producing industries (Beaudry, Green, & Sand, 2016).

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This mechanism is a process of algorithmic automation, in which the user is a provider of data, as well as an agent for the improvement of the algorithms. The criteria for defining employment dynamics can also include value creation, business activity, and tangible output. With some simplification, it could be argued that this is the way labor retains the dual nature of concrete and model implications (Beaudry, Green, & Sand, 2016). Namely, the exchange value of a personal input could be considered as the achievement of a determined value by the amount of simple and socially necessary work that these inputs incorporate. One can, therefore, make some reservations about the tendency of analyzes in terms of digital labor to interpret as work any form of participation of users in the production of

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The term 'robustness' refers directly to the conditions of the perfect market of the standard economy: availability of actors, homogeneity of products, freedom of entry and exit, free movement of factors of production and, therefore, transparency of the information economy. These five hypotheses have structured economic reflections for more than a century in terms of market imperfections and recommendations to improve their functioning. In this framework of thought, the exchange of work is perceived as a market but an imperfect market. Behind the notion of 'robustness', this strategy is based on a very particular conception of the economy and work. For example, the low mobility of workers and wage rigidities make the market uncompromising, preventing the emergence of self-regulating mechanisms to achieve balance. In this situation, unemployment is also perceived as discordant, in the sense that it results from the time needed to gradually adjust supply and demand. By raising the less realistic assumptions of the model of pure and perfect competition, traditional economists have long sought to provide a theoretical framework for thinking about the distribution of jobs and workers as an imperfect market for their own mechanisms. Thus, labor economics from the second half of the twentieth century has been largely concerned with the market mechanisms in employment.

In a context in which national employment policies have gradually converted to a market-based concept of labor exchange, public investments have been tasked with making the market more transparent by circulating the collected <https://assignbuster.com/investigation-into-the-effects-of-technology-changes-on-labor-market/>

information. The development of new technologies has helped reinforce the scope of these normative discourses. For proponents of econometric models, transitioning to the high-tech industry is a powerful lever for reducing the types of operational procedures – through its ability to speed up communication and generate more structure in labor demand. In other words, in some cases, not keeping up with technology and not gaining experience can result in economic restructuring and upset the available positions and the qualification of the available workers.

The question of labor market robustness, even in its narrowest sense cannot be considered without taking into account concrete arrangements of circulation of information, and the practical conditions of the intervention of the agents mandated to make the labor market robust. Robustness as conventional work is comparable to a set of tasks organized in order to make offers and applications for employment. However, these are not theoretical reflections on the functioning of the labor market but management considerations that lead to the circulation of information.

In addition to institutional issues, the issue of information output also strongly mobilizes the public investment. As such, the focus is on the different criteria and parameters shared, and not on the specificity of each. The transitional approach to the pervasive use of new technology can be reinforced by the notion of competence has taken center stage in the discourse on the characteristics of employment and tasks that need to be accomplished.

Historical and philosophical modernity has seen the emergence of a conception of work as an activity that organizes society through efficiency and improves society through productivity. What is unique in labor, that is not the results or even the complexity of operations that have benefitted from technological advancement (Beaudry, Green, & Sand, 2016), but the fact that it presents itself as a cognitive task, directed towards a goal and producing a desired modification outcome. While thinking about productivity and output has greatly enhanced since the 19th century, no definition today makes a real consensus in the human sciences, one can think that this approach captures something that still remains valid, even in the face of all the changes as a result of new technology.

Although new approaches are emerging, observers and reformers of the labor market have in the long run pursued the goal of centralizing the labor market. Many innovations before new technologies have also been criticized for the changes that have resulted but also celebrated for facilitating the efforts of employers and unemployed workers to come into contact in more efficient ways and fill the vacant employment positions. However, it is notable that, for the proponents of the information approach, the diffusion of information constitutes a means of activating competitive mechanisms, nothing assures that the process of formatting is neutral (Van Reenen, 1997). Analyzing the transparency of the labor market by a public institution is, therefore, in line with traditional surveys of economic sociology and all social practices that support the establishment of the perfect market possible. The effects of new technologies on the notions of supply and demand of work, as well as the notion of market robustness, in a perspective

of a critical discussion with the economy of work, is structured by the image of the neoclassical market reacting to the use of technology (Bartel & Lichtenberg, 1987).

The challenge of economists is to show that the policies of the commodification of the exchange of work are in fact based on operations of convention and organization structured by social theory (Van Reenen, 1997). In this new framework - marked by the opening of borders and the restructuring of the industry - the employment policies tend to move from a quantitative approach to the workforce to a more qualitative approach to the labor market. Finally, a renewed employment policy must make it possible to adjust the available workforce to the emerging technical characteristics, to the requirements of economic development and international competition.

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