

The end of jobs: a case of theoretical convergence?

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1. Introduction

This article approaches the theoretical conflict that divides Neoclassical- and Institutional- Labor Economics, and it compares explanations from both approaches on some facts observed in the labor market. The Neoclassical interpretation is based basically on a supply-side approach, while the Institutional explanation stresses the role of labor demand. The paper goes back to the origins of Labor Economics to show that the theoretical conflict is as old as Labor Economics itself, and it has to do with completely different assumptions and ideological values that each group adopts. The differences are thus very deep and one would not expect any possibility of reconciliation.

After offering a summary of the evolution of the ideas from both sides in the debate, and after describing the differences in the interpretation of some basic facts of the labor market, the paper provides a more detailed description of the divergent explanations about wage differentials. Then the paper moves to the relevant and actual issue of the end of jobs.

The idea of the end of jobs may have two meanings, one quantitative (Rifkin, 1995) referêcia) and another qualitative (XXX procurar referêcia). The quantitative meaning would relate to the idea of “jobless growth”, according to which modern economic systems would gradually become less and less work intensive, and unable to create jobs, even with economic growth. According to the second meaning, labor markets would be under a structural transformation as a result globalization and technological progress. The structural change would imply that permanent jobs would be gradually replaced by transitory contracts. The qualitative argument of the end of jobs would argue that old fashioned, paternalistic organizations would be replaced by competitive firms whose employees would share and accept the idea that they themselves are supposed to take care of their careers. The qualitative argument on the end of jobs has become almost a common sense idea within the HR literature. The text focuses on the second meaning and argues that there is a theoretical convergence on the hypothesis of the qualitative end of jobs. Convergence emerges from the explanations provided by both, demand-side labor economics and institutional labor economics to the issue of wage differentials. The text argues that when both approaches try to explain wage differentials, they prepare a common understanding to the hypothesis about the end of jobs. The text then uses the criterion offered by the convergent view to examine some labor market public policies recently adopted in some countries and to extract some concluding remarks.

2. Two basic approaches in Labor Economics

Many of the issues addressed in modern Labor Economics were already under discussion at the time of the classic economists. For instance, David Ricardo had a complete (although primitive) theory for the labor market. He proposed a short run model of wage determination – the wage fund – as well as a long run one – the subsistence wage. If one tries to place Ricardo within one of the sides of the present days debate in labor economics, the result would probably to identify with the demand-side approach, since in his view wages would depend upon capital accumulation (wage fund) and/or size of the economy (subsistence wage). On the other hand, Adam Smith would probably join the supply-side group, with his theory on wage differentials, a kind of precursor model of nowadays supply theories such as the human capital model. Malthus could probably be placed on the supply side, since he believed wages would depend on the size (supply) of the working population. One would place Stuart Mill on the demand-side of the debate, since he suggested that competition in the labor markets would be less than complete, because of hierarchical grouping of workers, a concept familiar to contemporary segmentation theories.

And, of course, Marx would belong to the demand-side group, with his well known concepts such as labor value, plus value, social classes, capital accumulation, technological progress and productive forces.

Labor Economics has gained a push with the English/American institutional economists. Sydney & Beatrice Webb (1920) with their proposal for industrial democracy, and Commons (1973) and the Wisconsin School, with the idea of the "labor problem" were among the main scholars in origins of the field of Industrial Relations, the discipline created upon the development of Institutional Labor Economics. Commons and his group were particularly interested in studying the origins of the labor movement, and the early American industrialization. In that period they observed the impact on workers of the opening up of the markets, a change similar to today's globalization. At the times of the Great Depression of the 1930's, Commons and the Wisconsin School were very influential on the formulation of the social part of the New Deal policies. The Wisconsin School recommendations are valid up to our days: labor market regulation by means of labor legislation, unions, collective bargaining, and social protection. One could include in this group at least two more important names. One would be Perlman, whose concept of "job consciousness" in view of job scarcity, would oppose the Marxist idea of "class consciousness". The second would be Sturmhthal, who made an important contribution to the understanding of union action with his dichotomy of business/pragmatic action versus political action.

Institutional tradition continued with many authors in subsequent generations, and included some economists that were not less influential than the first ones. Dunlop (1958), with his Industrial Relations System, is probably the most important in this second group. More recently, Kochan and Katz (1980) have updated Dunlop's IRS to include actors' strategy as a determined factor in the shaping of Industrial Relations Systems. Bruce Kaufman's (1999, 2004) contribution to the understanding of the labor market from an institutional approach is important, because he has put together traditional- and institutional Economics. Mancur Olson would also be included with his concept of public good, as applied to union services. One could not forget to include Hyman who has proposed a kind of "third IR way", with his view on Industrial Relations Systems and collective bargaining as a mechanism to promote workers' interests and power.

On the other side of the theoretical debate, the neo classical approach to labor issues goes back to Marshall's four laws of labor demand. According to Marshall, labor demand is a derived demand, dependent upon the performance of goods and services markets. Implications of his four laws are relevant to the understanding of union power and union behavior. The neo classical approach sees the labor market in the same way it considers the other markets: labor supply and labor demand interact to determine the quantity (level of employment) and the price (wages) of labor. The outcome is the "equilibrium" quantity and price of labor. In this view, there is no place to any "labor problem", since labor and capital are both production factors, paid according to their respective contribution to production. Any short run disequilibrium would be corrected in the long run. Labor and capital mobility would act and market forces would bring prices and quantities of labor to the long run equilibrium. The neo classical model assumes that the worker chooses either to work or to enjoy leisure. The importance of supply in this model may be assessed with the concept of "reserve wage", the minimum price the worker would accept for his labor. Wage is equal to marginal productivity of labor, which means the contribution to production of the last worker hired. Firm's employment level is determined at the firm's curve of labor demand, while market level of employment is the aggregation individual labor demand of each firm.

When compared to institutional labor economics, neo classical models are objective and able to offer testable hypothesis, while institutional models addresses the issues in a more qualitative way. The neoclassical model has a good performance, mainly to explain

short run stylized facts, but it is not as good to explain long run problems. In order to compare both methods and to appraise the distance and the conflict between them we may choose for instance the issue of modeling unions and union behavior.

Under the neoclassical view, unions are an “imperfection” in the market that would push wages and employment away from their natural equilibrium levels. Neoclassical economics worries about the negative effects of unions on the labor market, and tries to measure their impact on the level of employment. Since unions “artificially” increase wages, there should be a negative impact on the level of employment. Neoclassical economics proposes at least three competing and testable union models: monopoly, efficient contracts, and strongly efficient contracts (Borjas, 1996). By estimating one simple equation, one may test which of the models fit best. The equation and the explanation for the symbols are depicted below, just to demonstrate the neoclassical economics methodology.

The equation to be estimated is: $E_{\text{union}} = \beta w_{\text{union}} + \chi w^* + \text{other variables}$. In the equation, E_{union} represents the level of employment when there is a union representing the workers. β and χ are the coefficients to be estimated. β measures the impact on the level of employment of the union wage, while χ measures the impact of the market (union-free) wage, that would prevail if there was not a union operating. The model is intended to evaluate the impact of unions on both

The hypotheses about the coefficients are:

Monopoly: $\beta < 0$ and $\chi = 0$

Efficient contracts: $\beta > 0$ e $\chi < 0$

Strongly efficient contracts: $\beta = 0$ e $\chi < 0$

Institutional economics also has union “models”, although they are not as testable as the neoclassical ones. For instance, Dunlop proposes a list of factors that determine union power, and includes technology, product market structure, society values and institutions. Kerr and Siegle examined the inter-industry propensity to strike. Chamberlain and Kuhn criticize the neoclassical model of Hicks on strike duration, focusing on bargaining power. Ross stressed the point that union decision making should be examined as a political process within, and less than economically “rational”.

This quick comparison helps to make the point about the differences that divide both approaches. While neoclassical economics works with mathematical formalism, institutional economics prefers more qualitative analysis. Neoclassical economics sees the labor market as similar to the other markets, while for institutional economics, the labor market is a special market, and labor should not be compared to a merchandize. Neoclassical economics considers the labor market with a narrow approach, and the institutional side uses a more holistic view. While neoclassical economics offers testable hypotheses, institutional economics have less testable hypotheses. Finally, when neoclassical approach emphasizes pure supply and demand to analyze the labor market, institutional economics has a broader view that allows for contextualization of the issues under examination. With so deep differences, it would not be surprising that interpretation of the labor market issues would be very different.

3. Some implications of the conflicting approaches: supply x demand

Gender discrimination is one of the more important issues for labor economists. Neoclassical economists would explain the differentials arguing that women would be less committed both to human capital investments and to permanent (lifelong) jobs, thus their productivity would be lower as compared to males productivity. Wage differentials would simply reflect this fact, and thus it would be simply a consequence of labor supply decisions of women. For institutional labor economists, on the contrary, gender discrimination has to be understood in a broader context. For instance, society would establish some jobs as “female jobs”, and women would compete for them, and competition would erode their

wages. Thus, discrimination not only exists but it creates unfavorable demand conditions for female labor.

There is a similar theoretical conflict to explain another important labor market fact: labor turnover. Neoclassical economics would raise the hypothesis of labor heterogeneity, according to which some workers are more likely to move from job to job, due to their personal traits. Institutional economists would rather understand labor turnover as a “negative dependency” problem, meaning that workers attached to less qualified jobs would be more exposed to firings and quits. Again, the conflicting explanations: supply versus demand.

Theoretical conflict is present even to explain labor force participation. Neoclassical economics would raise the hypothesis that at least part of the unemployment rate should be attributed to workers' decisions. According to this idea, some workers decide not to work in some times of their lifecycle, when they decide to acquire more human capital, and they come back to the labor market later, to benefit from higher productivity and higher earnings. According to the inter-temporal hypotheses, at least part of the unemployment rate could be explained by supply side decisions. Similar debate does exist over the effects of unemployment insurance on job search efforts. Neoclassical economists would disapprove generous benefits because they would reduce incentives to job searching, and thus, would increase unemployment rates.

Discrimination against minorities is another topic with high level of theoretical conflict. On the neoclassical side, discrimination would reflect employers' “taste”, an hypothesis raised by Becker (1961) in the 1950's. According to Becker, discrimination would vanish because discriminatory firms would be less competitive and would be either expelled from the market or abandon discrimination. The fact that discrimination has remained gives strong arguments to institutional interpretations of the problem. One of them would be that discrimination would be part of management strategies to divide workers, and to increase competition and to reduce wages.

From the labor relations perspective, perhaps the most important debate between the two sides is the conflict about the union wage-effect. Freeman and Medoff (1984), two prominent institutional economists, estimated that unions raise wages by about 10% to 15%. The wage effect would be compensated with lower labor turnover, higher productivity; higher job satisfaction, plant level democracy, and a better balance of power in the society at large. On the neoclassical side, there is a critical assessment of the institutional wage-union effect estimate. Neoclassical economists tend to raise an econometric criticism, arguing that there is simultaneous causation. According to this view, there could be some union impacts on wages, but simultaneously, and as a consequence of the wage impact itself, workers would choose union-firms to enjoy the union effect. When the union-effect equation is corrected for simultaneous causation, the union-wage effect disappears.

4. Productivity –linked wage differentials: the great debate

The main task of labor economics is probably to explain earnings differentials, and mainly to explain earnings differentials produced by differentials in workers' productivity. As mentioned in the beginning of this text, this issue was first addressed by Adam Smith, and his contribution has been enlarged by the neoclassical model of human capital. In this model, education is considered as an investment. The idea was first proposed by Schultz, as an explanation for the surprisingly fast returns of the Marshall Plan, soon after Second World War. Mincer contributed to formalize the model, and Becker (1961) has improved the model to enlarge the concept of knowledge investments. The message of human capital model is that wage differentials are mainly caused by labor productivity differentials, and productivity depends on the intensity of human capital. The model has provided explanations to several

stylized facts such as female wage differentials, lifecycle earnings curve, schooling levels differentials, labor turnover, etc. The model allows even to estimate the rate of return of education and/or training. It allows estimating the increase in earnings due to one additional year of schooling and/or of training. The model suggests that with improved access to education, income inequalities should decrease (although not disappear). Being a genuine neoclassical model, the human capital theory also provides an equation to estimate the rate of return of investments in human capital such as schooling. The usual equation would have the following specification:

$$\ln w = \beta \text{ Schooling} + \text{other variables}$$

In the equation, $\ln w$ represents the natural logarithm of the worker earnings, and β represents the percentage increase in earnings attributable to one additional year in schooling. It is important to stress that human capital model, in accordance with the neoclassical tradition, would attribute earnings differentials essentially to lifelong decisions of workers. As such, again, it is a genuine supply-side theory.

The model has been challenged under several arguments. For instance, Spence argued that schooling does not improve productivity, and it is just a signal of existing productivity. Naturally, there is also strong criticism against the human capital model among institutional economist. Doeringer and Piore (1971) provided the institutional alternative interpretation, stating that the structure of the labor market is the cause of wage differentials. They stated that the labor market is segmented. There are two segments, the primary and the secondary. The good jobs are located in primary segment, where firms are large, and use advanced technology, and may offer good working conditions. In the each firm of the primary sector, there is an Internal Labor Market, with entry jobs, job structures, career ladders, and internal recruiting. In the other segment, the secondary market, jobs are not as good, firms are much smaller, technology is not advanced, and working conditions are poor. As a result, workers in this segment do not enjoy long term jobs, and turnover is high. Wages in the secondary market are very low. The message of the segmented labor market theory is that wage differentials are not result of workers human capital. Rather, they are established because of differences in firms operating in the segments of the labor market. Thus, are result of demand forces rather than supply choices.

Since the 1970's, when Doeringer and Piore proposed their ILM concept, the two approaches have competed to explain wage differentials. On the one side, the emphasis is on demand factors, and on the other side, the emphasis is on the supply side of the labor market. The demand side models have been improved to include for instance the idea of efficiency wage. On the supply side, improvements have also been added, such for instance the idea of the wage bond.

5. Becker's seminal contribution: general training and specific training

Among the authors who have developed, Gary Becker (1961) has suggested the very interesting insight about that distinguishes two kinds of knowledge: General and specific knowledge. Both kinds of knowledge would be acquired by means of on-the-job training. General knowledge would comprise those abilities that are useful in any firm, while abilities that belong to a group of specific knowledge would be useful just in one single firm. The existence of the two kinds of knowledge may help to understand some important features of the employment relationship. Of particular importance is the relationship between knowledge in the job content and employment duration. Becker has argued that when on-the-job training involves specific knowledge a mutual commitment emerges. Both sides – the firm and the worker – engage in reciprocal investment under either implicit or explicit job security rules. The firm would agree to invest in the worker and pay him/her a wage greater than his/her marginal productivity in the period of training, and in turn the worker would agree to a long term commitment, even if his/her the wage would less than

his/her marginal productivity, after the training period. In the case of general training, since the knowledge involved can be used in any other firm, there would not be any guarantee of job security, and the market wage would prevail. The cost of general training would be borne by the worker, and his/her wage would be less than marginal productivity during the training period. In sum, although the main objective of the human capital model is to explain wage differentials, Becker's insight would have important implications for the understanding of the employment relationship. With his proposed dichotomy on on-the-job training, he has concluded that job content and job knowledge would determine the duration of the employment relationship.

Surprisingly, a similar idea may be found in the institutional side of the debate over wage differentials. Doeringer and Piore clearly show that the Internal Labor Market would be a rational choice of firms in order to assure knowledge sharing among workers. By offering length-of-service privileges, older workers under ILM rules would not fear the threat of newcomers, and would transmit to them their accumulated specific knowledge in the job. This is how Doeringer and Piore explain the low rates of turnover under ILM, as opposed to high rates in the secondary labor market. In the institutional field, the ILM concept has received important improvements, such as Thurow's proposition on queues and specific training costs, and with Okun's proposition on career labor markets.

More recently, important insights have been added in the debate over the employment contract from the so called New Institutional Economics. NIE starting point is the work of Coase (1937), who offered the idea of positive transaction costs in all economic transactions. For him, the firm would be an efficient arrangement to decrease transaction costs. This idea is relevant to the labor economic debate, since employment contracts are part of this arrangements. If there were no firm, the labor market would be a kind of spot market. The employment contract rather the spot labor market is the natural consequence of the existence of the firm. Coase's proposition has originated a series of NIE contributions and improvements, such as Williamson's (1975,1985) ideas on hierarchies and idiosyncratic exchanges. NIE has used the well known agency problem to explain the existence of long run incentives and long run relationships in labor contracts. Putting all together, both institutional economics and new institutional economics would see hierarchies and bureaucracy as part of the management strategy to build coordinating structures and to reduce transactions costs, including labor costs. Each firm would then have some particularities (or idiosyncrasies), and would operate under some set of specific knowledge.

At the same time as the Institutional and New Institutional Economics have improved the Doeringer and Piore's concept of ILM, Lazear (1998), in the neoclassical side, has developed his new discipline of Personnel Economics. Lazear acknowledges the rationality of long term employment relationships when job content is of a specific nature, and stresses the role of employer's sponsored pension plans, and other benefits to assure the duration of the employment relationship, in these cases. Lazear also recognizes and uses some NIE concepts, such as employer's reputation as part of the needed basis for the existence of long run labor contracts.

The discussion briefly summarized in this session has shown that, although institutional and neoclassical economists have disagreed on explaining labor market features, there is some surprisingly common ground when both sides come to explain the rationality of long term employment relationships. Both sides seem to recognize that job content and job knowledge would be a critical factor to understand the duration of the employment relationship.

6. Labor Economics and the end of jobs

How would each of the two approaches interpret the idea of the qualitative end of jobs? As stated earlier, the hypothesis of qualitative ending of jobs would mean that long

term employment relationships in the labor market would disappear. If the hypothesis is to be considered as correct, then both sides would have similar interpretations. Let us take the hypotheses literally, and let us suppose that all remaining jobs in the labor market would be short term jobs. For neoclassical economics and for institutional economics as well the end of jobs would mean the end of any specificity in the employment relationship. Both, neoclassical specific knowledge, and institutional idiosyncratic structures and processes as well would vanish. It would be mean the end of specific knowledge (supply) and the end of firms and a zero-transaction costs labor market (demand).

To continue with the literal understanding of the end-of-jobs hypotheses, one would than conclude that the labor market without long term jobs would be spot-kind of market. Product and service markets would become a web of contracts, and firms would concretely disappear and be transformed into virtual organizations. All knowledge needed to perform tasks would be of the general knowledge type. This would be the conclusion that both groups of economists would reach. It would be a logical conclusion for both sides in the debate, and if its reasoning looks like somewhat exaggerated, it was reached because of the exaggeration with which the hypotheses was taken. Even though, this conclusion deserved some elaboration.

One must recognize that there are many new signs of changes in the labor markets, and the signs point into the direction of the qualitative ending of jobs. One sign would be the emergence and the growing of the so called "new economy", made of virtual markets and virtual relationships. Knowledge needed to perform tasks in this new segment of the economy would not be labeled as specific. Many tasks are remotely performed, and relationships end with the finishing of tasks. The firms are virtual organizations, and they operate with intensive usage of the internet. In sum, this new part of the economies operates in markets that could be designed as spot markets. To reinforce this sign, one could mention other trends, such as labor and production outsourcing, and globalization of production. These trends would also point into the transformation of jobs from specific- to general content.

However, the new types of employment relationships are probably yet far from being the predominant category of jobs. Many authors still find evidence of the existence of internal labor markets and of specific knowledge. Modern management theory would endorse in general the hypotheses of the end of jobs and would claim that give-and-take relationships are increasingly replacing organizational paternalism. At the same time, however, management theorist would advise organizations to stress goals such as "talent retention", and "knowledge sharing". All this together could be interpreted as signs of permanence of the "old" organizational models.

All this would bring us to the conclusion that the new economy, globalization and the advance of IT are transforming the labor market in the 21st. century into an increasingly complex web of work arrangements. New kinds of jobs would coexist with old type ones. In the new jobs, specific knowledge would be less important than in the old ones. If so, several issues could be raised. One of them could be about the design of a new system of labor market regulation. Could the concept of industrial relations system still be applied? Which would be actors in the new labor market? What kind of new "web of rules" would be desirable in the new context?

To find some possible answer for those questions, a good start would look for similar situations at some points in the past or even in the present. Is there any case of labor market in which the general knowledge is the dominant form of knowledge? If we can find these similar cases, the policies adopted in those situations could inspire the formulation of new policies today. Actually, there are at least two concrete examples of situations in which specific knowledge is the predominant form of knowledge: the work performed in harbors would be one example, and the construction industry would be the other. In both cases, jobs

are of short length, knowledge needed to perform tasks is of the general-type, with very little if any specificity. In both industries, in some countries, unions and management developed mechanisms to adjust the industrial relations system to the operation of those two markets. Unions were given some important roles, as operators of the hiring system, and AS THE the agents to recruit from the pool of organized workers. The hiring system operated externally to the firms. In some cases, training programs are provided by the entire set of firms, as a way to share and reduce the risks of investing in human capital. In both cases, the shared system of recruiting and allocating labor would enable some sort of occupation-oriented commitment to replace specific knowledge and firm-oriented commitment.

The past experience in the harbor and in the construction industries would show a possible path to public policy formulators. If changes in the labor market do indicate that specific knowledge is in decrease public policy should adjust the focus of labor market regulation. Rather than focusing on the firm and on the employment relationship to provide specific protection to workers, public policy could focus on general protection. In some way, the experience with Flexicurity in Europe may be regarded as an attempt in this direction. Under Flexicurity, some European countries are implementing new policies that tend to replace the emphasis on job security with mechanisms that aim to provide labor market security. It remains to be seen if diagnosis theoretical convergence will make both groups of economists to agree on the formulation of public policies.

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