

**John Elliot Cairnes : Non-competing groups  
and industrial organisation**

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## **Introduction : J.E.Cairnes contribution to labour economics**

John Elliott Cairnes (1823-1875) is often regarded as the last of the Classical economists. In 1856, Cairnes was appointed to the Whately Chair at Dublin. The following year, he published *Character and Logical Method of Political Economy*, a work that appeared as an attempt to outline a future research program for Classical economics in the methodological path laid down by Ricardo and Mill. In 1862, his widely-discussed treatise *The Slave Power* offered a critical analysis of the consequences of slavery for economic development within a Nation. This treatise led to a change in British policy with regard to the American Civil War and a refusal of Palmerston's government to support the Confederacy.

Cairnes has spent the end of his life to defend the Classical doctrine against a series of attacks from Thornton and his wages-fund theory, Leslie and the inductive method in political economy and, lastly, Jevons and the Marginalist Revolution. Despite his reputation as the best economist in England, in 1874, his works and scientific achievement remained controversial among the authors of the next generation, as reminded by Schumpeter (1911): *'After Mill's death, Cairnes was considered England's premier scientific economist (...) He was a natural theoretician, though not a very original one. Although most of his contributions were ultimately fruitless, his works, in terms of their analysis and their methodology, were an important step'* (Schumpeter, 1911, volume II, p.214).

This feeling was shared by many young economists of this period, such as Marshall and Sidgwick who lambasted Cairnes for sometimes being too critical of Mill while also being his most faithful disciple<sup>1</sup>: *'As a controversialist Cairnes, though scrupulously fair in intention, was deficient in intellectual sympathy ; he could hardly avoid representing any*

*doctrine that he did not hold in such a way as to make it inconceivable to his readers that it could possibly have been maintained by a man of sense; and when this treatment was applied to some of his master's most important statements, the expressions of personal regard for Mill by which it was accompanied only made the result seem more damaging to a reader who was convinced by Cairnes's reasoning'* (Sidgwick, 1969, p.5).

These criticisms, which were partly justified, illustrate the ambiguity in Cairnes's reasoning. In fact, Cairnes felt that the coherence of the Classical political economy was threatened not only from outside attacks such as Thornton's theory, but also by certain contradictory lines of reasoning which had developed within (Checklund, 1951; Pribram, 1983; Lipkes, 1999). This concern is clear in his last and most important work, entitled '*Some Leading Principles of Political Economy Newly Expounded*' which was published in 1874<sup>2</sup>, one year before his death and after having resigned from his Professorship in Political Economy at the University College of London due to ill-health. In this work, Cairnes did not propose a complete theory of political economy, as his predecessors had done, but rather undertook a deep and constructive analysis of the fundamental Classical principles on value, production costs, capital and labour. This process displayed Cairnes's will to rebuild Classical economics, by moving away from the fundamentally hypothetical character of the Ricardian doctrine, towards a more pragmatic approach, better suited to interpreting the late nineteenth century's economic phenomena.

This attempt was not isolated: Mill's (1873) analysis of property systems, Senior's (1854) thoughts on non-economic reasons for profit rate differentials between regions and Sidgwick's (1901) study of the role of customs and traditions in price-forming, all belong to this Classical less-known line of thought which led one, by referring to Smith rather than to

Ricardo, to a more realistic economic approach (Winch, 1972; Zouboulakis, 1993). Cairnes followed this line by developing an original analysis of the limits of free competition in the labour market, which led him to a fundamental re-assessment of the Classical theory of value.

This analysis was based on the concept of the non-competing group, whose members belong to the same social class, have the same level of education and compete with each other in the labour market, while remaining ‘protected’ from the competition of people belonging to another social class or with a different level of education. Through this concept, Cairnes introduced the idea of stratification in the labour market, getting closer to Smith’s conclusion that within a society, the differentiation of labour and wages is due to sociological and institutional factors (Cahuc and Zylberberg, 1996).

With the notable exceptions of a few authors such as Edgeworth (1891), Pantaleoni (1898) and above all Taussig (1912) and Davenport (1925), who studied the concept of a non-competing group, the questions raised by Cairnes on the (non-)competitive mechanisms which control the labour market were largely forgotten. They resurfaced however in the substantial and pluralistic economic literature which focused on the segmentation of the labour market, during the second half of the 20<sup>th</sup> century (Kerr, 1954; Dunlop, 1957; Doeringer and Piore, 1971; Baker and Holmstrom, 1995; Doeringer, 1986; Taubman and Wachter, 1986; Blau and Kahn, 1999; Gautier, 2004).

While acknowledging Cairnes’s contribution, this literature does not go beyond a partial interpretation of the non-competing groups, based essentially on the dysfunctional state of competition in the labour market and its consequences on wages. However, for Cairnes this segmentation approach should be incorporated into a global view of the economic system

defined as a network of distinct markets, linked to each other by rules of exchange that do not fit perfect competition. Through the primordial role given to training and skill acquisition in the non-competing groups, Cairnes adopts a historical -or even evolutionary<sup>3</sup>- perspective, introducing along the way an analysis of industrial organisation. This analysis inspired young Marshall, in his writings on industrial organisation and localisation (Becattini, 2000).

This paper intends to revisit the analysis developed by Cairnes on non-competing groups, in the third chapter of the first part of his *Principles*. The first part of the paper studies the limits on free competition in the labour market that Cairnes considered inherent in a modern Nation. The second part aims to show how these limits lead to the formation of non-competing groups. Lastly, the third part is devoted to the dynamic perspective opened by the use of the concept of a non-competing group in the study of industrial organisation, while it also focuses on the connections between the different groups in a global system of production and exchange.

## **Breakdowns in competition in the labour market**

Mill's reading of Ricardo's writings on international trade led him in formalising a dichotomy in the Classical analysis of value, with, on the one hand, a theory of internal trade with free capital and labour mobility, where prices are defined according to the cost of production, and on the other hand, a theory of international trade, which must take into account the relative immobility of the factors of production between countries, where the price of goods depends on reciprocal demand (Ravix, 1979). While broadly following Mill, Cairnes put this position into perspective, arguing that one must choose either a theoretical

view which assumes perfect capital and labour mobility for both internal and international trade, or a more realistic view with imperfect mobility in all cases.

Following Smith's intuition that of all the forms of luggage, labour is the hardest to transport, Cairnes studied the factors that lead to a deviation from a state of free competition in the labour market and prevent the exchange of commodities on the basis of value determined by the principle of cost of production (Becattini, 1981; Blaug, 1985; Dimou, 2002):

- Firstly, Cairnes admits limitations on the perfect mobility of workers, due to the fact that the behaviour of individuals is not solely motivated by the pursuit of personal profit, but is also governed by customs and habits. During his professional life, a person can only progress within a reduced cone of possible choices, determined by psychological, social or educational barriers. Cairnes, thus, partially revives the Catallactic tradition, supported by Whately and Senior, which retained an important role for non-material concerns and moral sentiments, when explaining the concept of self interest<sup>4</sup>.
- Secondly, there are limits to the achievement of Ricardo's natural harmony, due to the conflicts which build up in a society between the different professions, producers or groups of producers. In freely pursuing their own interests, each producer or group of producers try to dominate other producers or groups, by limiting access to their own activities. This is achieved by making this access dependent on a costly or specific education, limited to a particular social or institutional group. This led Cairnes to the progressive extension of the concept of Rent to all situations in which price is not determined by free competition.

These two factors considerably limit the mobility of labour, both from an industrial and spatial point of view. According to Cairnes, *'alike with regard to capital and labour, it is held that either, once embarked in a particular employment, may therefore be regarded as taken out of the field of competition with agents of the same kind engaged in other branches of industry'* (Cairnes, 1874, p.62). This leads one to think no longer in terms of competition of global resources but solely in terms of available resources. However, even available labour is not completely mobile; and while capital is easy to transfer between the productive spheres, this is not the case for labour, because it encounters not only physical barriers, such as distance, but also sociological ones due to industrial specialisation.

Like Mill (1873)<sup>5</sup> before him, Cairnes held that a worker chose his employment subject to the well-defined limits of his education and productive skills: *'Take an individual workman whose occupation is still undetermined, he will, according to circumstances, have a narrower or wider field of choice; but in no case will this be co-extensive with the entire range of domestic industry (...) The barrier is his social position and circumstances, which render his education defective, while his means are too narrow to allow of his repairing the defect'* (Cairnes, 1874, p.65). Each individual's choice for a particular type of activity does not only happen at the beginning of his or her professional life, but well before, through their education: *'The man who is brought up to be an ordinary carpenter, mason or smith, may go to any of these callings, or a hundred more, according as his taste prompts, or the prospect of remuneration attracts him; but practically he has no power to compete in those higher departments of skilled labour for which a more elaborate education and larger training are necessary, such as, for example, engineering'* (Cairnes, 1874, p.66).

Education becomes the source of a social asymmetry in gaining knowledge and skills which is an obstacle to the perfect mobility of factors of production and, as a result, to the adjustment of their yields and remuneration. As Cairnes points out, *‘it is unlikely that, having spent his time and money in acquiring skill and fitting himself for a particular occupation, a workman will desert the line of life he has chosen on the first sign of an advance in remuneration elsewhere (...) We can imagine how extreme the case would be which would cause a carpenter to become a smith, or a smith a carpenter, still more, which would cause either to take to hair-dressing or tailoring. In these cases, the competition which is required for the principle of production costs to operate is not present’* (Cairnes , 1874, p.61).

According to Cairnes, if one admits that workers’ mobility is imperfect, the labour market can no longer be considered as a universal place where supply and demand of labour meet, but rather as a structure with different levels (or markets) superposed, defined according to the degree of qualification required, on the basis of a given hierarchical scale of industrial skill. Within each level, the workers compete with each other, but this is no longer the case between workers on different levels, because they are not seeking the same type of job. These different levels make up non-competing groups in the sense that the prevailing conditions of competition in one group do not affect those in another group.

## **The formation of non-competing Groups**

In his analysis, Cairnes gives a rather crude definition of four large non-competing groups: non-qualified workers, to include farm workers and those with menial urban jobs; craftsmen and retailers, to include a large range of occupations; engineers and businessmen, who engage in productive functions requiring high qualifications; and finally people in the



professions of teaching, the sciences and arts, to include teachers, lawyers, doctors and all other categories requiring long studies to a high level. Cairnes explained that this classification was very broad and that these four large groups could be broken down into several sub-groups, defined according to the basic criterion of job qualification, but also according to secondary criteria such as localisation or the institutional context in which each industrial profession or community evolves. This led to the hypothesis of a strong segmentation or even a '*balkanisation*' of the labour market (Kerr, 1954; Doeringer and Piore, 1971; Marsden, 1989; Guedj-Zajdela, 1990).

Through his description of non-competing groups, Cairnes admits, as Mill does before him, that competition is imperfect in the labour market. Nevertheless, his opinion about the causes and above all the consequences of this situation differs to Mill's. The latter remained firmly attached to the principle of 'cost of production', arguing that the difference in level of qualification in a society is connected to past efforts by certain workers, undertaken voluntarily to obtain apprenticeships and training, in order to acquire the necessary know-how to practice a craft or job. This means that their rewards should be greater than those of unqualified workers, to repay the preliminary long period of studies: *'If an artisan must work several years at learning his trade before he can earn anything, (...), he must have a prospect of at last earning enough to pay the wages of all this past labour, with compensation for the delay of payment and an indemnity for the expenses of his education. His wages, consequently, must yield, over and above the ordinary amount, an annuity sufficient to repay these sums, with the common rate of profit, within the number of years he can expect to live and to be in a working condition'* (Mill, 1873, p.451).

Cairnes also held that differences in skills and qualifications in the labour market were attributable to individuals' education and training. However, the latter is, to a large extent, due to psychological or sociological factors, such as '*passion, prejudices, solidarity, class issues, love of one's homeland and all the other factors which may prevent people acting in their own best interest*' (Cairnes, 1873, p.246). This leads Cairnes to define a sense of belonging that each person has for his homelan, his employment or his community. The existence of this sense of belonging allows Cairnes to maintain that within the same country, even between two neighbouring regions, labour had no mobility among non-competing jobs.

In his reinterpretation of Cairnes's analysis, Taussig (1912) lends support to this more deterministic view of how non-competing groups are formed, adding to his predecessor's single criterion of education that of property and accumulation: "*Education must be linked here to property and the accumulation of wealth. For example, lawyers, solicitors, doctors or businessmen all hold positions of responsibility and influence which allow them to give their children the very best of educations, which delay both the start of their working lives, and their marriages*" (Taussig, 1912, p.127)<sup>6</sup>. As Davenport points out (1925), by emphasising the social position of the parents rather than their children's education, Taussig maintained that the fragmentation of competition in the labour market was a cumulative process, built up over time by the transmission of skills from one generation to another. This process involves different training dynamics, some of which are common to everyone, while others are more specific, meaning according to the sector, locality, family or even the community (Polanyi, 1962 ; Nonaka, 1994 ; Caroli, 2003).

In this context, each non-competing group appears as the product of a social evolution and brings a heritage and experience accumulated according to the educational opportunities

and subsequent professional openings afforded to its members: *“one must recognise that in general, a typical worker, who belongs to a particular group as a result of his background and above all his education, is in competition only with the other workers of the same group, who have the same background and aspire to a limited number of jobs and positions....such are the limitations imposed on free competition and the labour market by social conditions”* (Cairnes, 1874, p.67).

Labour market's division in non-competing groups introduces the hypothesis of the heterogeneity of the economic agent in Classical economic analysis (Levy and Pearl, 2003). In his short review of nineteenth century political economy, Veblen (1900) considers that with his departure from the strict Ricardian hedonistic premises, while also retaining methodological individualism, Cairnes combined the heterogeneity of economic agents with the Classical theory of value: *‘Since it is conceived that the motives which guide men in their choice of employments and of domicile differ from man to man and from class to class, not only in degree, but in kind, and since varying antecedents, of heredity and of habit, variously influence men in their choice of a manner of life, therefore the mere quantitative pecuniary stimulus cannot be depended on to decide the outcome without recourse. There are determinable variations in the alacrity with which different classes or communities respond to the pecuniary stimulus; and in so far as this condition prevails, the classes or communities in question are non-competing’* (Veblen, 1900, p.244). In Cairnes's analysis, this heterogeneity is by its nature institutional and contextual, in the sense that each individual's education and training take place in a social context conditioned by his entry into working life but also by his mobility chain, which is to say by his potential for advancement or for changing career (Piore, 1972).

When one follows this line of thinking, the next question concerns the delimitation of a non-competing group and the boundaries which define an individual's sense of belonging. Cairnes insisted that the workers are not 'stuck' in some definitive way in their positions, but rather can evolve and move between groups, even if this requires considerable effort: *'It is true, indeed, that in none of these cases is the exclusion absolute. The limits imposed are not such as may not be overcome by extraordinary energy, self-denial and enterprise; and by virtue of these qualities individuals in all classes are escaping every day from the bounds of their original position, and forcing their way into the ranks of those who stand above them. All this, no doubt, is true; but such exceptional phenomena do not affect the substantial truth of our position'* (Cairnes, 1874, p.66).

These boundaries should not be seen as a divide which isolates the group from its surrounding environment (a sort of *insiders* versus *outsiders* situation, Lindbeck and Snower, 2001), but rather as a commuting borderline which allows workers to 'filter' from one group to another, while retaining the group's internal codes and rules of operation (Dimou, 2002). According to Cairnes, *'no doubt the various ranks and classes fade into each other by imperceptible gradations, and individuals from all classes are constantly passing up or dropping down'* (Cairnes, 1874, p.67). This fluidity in the structure and superposition of non-competing groups is essential in order to understand the transformations in the organisation of the labour market.

## From market segmentation to industrial organisation

In considering that the segmentation of the labour market is due to skill and qualification acquisition, Cairnes introduces time into economic organisation. Each non-competing group appears to be the result of a dynamic mobilisation, transmission and exchange of skills within a system of rules, more or less well defined.

Such an organisation implies that the conditions of competition as well as the remuneration of labour are not the same in every group. Between two non-competing groups, exchange cannot therefore take place on the basis of value determined by the cost of production. The relative prices of goods produced by each group are, on the contrary, determined by another principle, that of reciprocal demand: *‘The determination of the relative prices of goods under the current conditions of industrial production is extremely complex; it is therefore necessary to further clarify the situation. The value of a manufactured item is determined according to a single principle, that of production cost or that of reciprocal demand. The exchange of commodities produced by labourers belonging to the same industrial group, or competing circle, will be governed by the principle of production cost. This results necessarily from the fact that competition is effective within such groups or circles; but the exchange of commodities produced by labourers belonging to different groups or competing circles will, for the opposite reason, not be governed by this principle, but by that of reciprocal demand’* (Cairnes , 1874, p.69). This leads him to the conclusion that *“contrary to current economic theory, the principle of production cost is not universally applied in determining value, even with the same country”* (Cairnes, 1874, p.73).

By admitting that reciprocal demand often fixes the exchange value of merchandises, Cairnes wondered what the consequences on industrial organisation were. Independently of its internal state of competition, each non competing group tries inexorably to over-evaluate the value of the skills of its members whenever two goods, produced by two different groups, must be exchanged or, even more, when a combination of different skills (assuming the cooperation of workers from different groups) is needed in order to produce a more sophisticated good.

This can lead to the appearance of a specific rent for the members of certain groups, which is neither a matter of chance, nor a simple advantage of technical opportunities connected to their activity. It is, on the contrary, related to these groups capacity for negotiation with other groups, as laid out by certain contemporary theories of segmentation of the labour market (the efficiency wage models, Yellen , 1984; the theory of collective bargaining, Farber, 1993). This also may be the result of coalitions of producers, within each group or even between different groups (Doeringer, 1986; Lindbeck and Snowers, 2001; Gautié , 2004). But most of all, this is the result of the setting up of various idiosyncratic training processes and skill acquisition, within a group, which allow its members to build up specific permanent advantages, in order to capture a dominant position, during the exchange (Krueger, 1980).

This idea demonstrates the importance of the ‘costs of opportunity’ which appear when one worker wishes to move from one sector to another, or even more from one non-competing group to another. These costs of opportunity illustrate the productive advantages intrinsic to each group, as well as the more or less irreversible nature of the training processes undertaken by each worker. Indeed, the more specific skills, within a group, generate specific

rent revenues, the less its members are inclined to leave it in search of other professional opportunities. As Davenport (1925) pointed out, in his pragmatic analysis of Cairnes's work, this leads to a vertical separation of non-competing groups, according to sector of activity, as well as a horizontal one, according to level of qualification.

In his youthful works, Marshall described Cairnes's writings on non-competing groups as a '*lost opportunity for a great scientific revolution*' (Whitaker, 1975; Becattini, 1981). A few years later, through his work on industrial districts, he identified the sense of belonging to an "*industrial atmosphere*" in the English districts, a term which designates a state of competition in a particular and spatially determined labour market which involves specific processes of training and skill acquisition among the local workforce. By admitting that these processes can lead to the appearance of external technological economies and increasing returns to scale which condition, in a retroactive way, the setting up of new training dynamics, Marshall integrated this reasoning into an evolutionist approach.

## **Conclusion**

In the first part of his *Principles*, Cairnes introduced an original approach to the fragmentation of the labour market, by combining the impact of market forces with institutional and social ones. This approach opened up the way to an analysis of industrial organisation and imperfect competition. It moved Classical economics in a more pragmatic direction, allowing a convincing description of the economic phenomena appearing at the end of the 19<sup>th</sup> Century, which is marked by the second industrial revolution and its consequences, such as workforce specialisation, concentration of production, and trade union conflicts.

Cairnes's approach led to the development of a theory of segmentation of the labour market nearly a century later. The 'lack of interest' on the part of his immediate successors, with the exception of few authors mentioned above, could be explained by two further reasons. Firstly, in the academic context, the history of economic thought, at that time, was dominated by Schumpeter, who attached little importance to analysing labour market segmentation. Secondly, in the political and social context of the end of the 19<sup>th</sup> century, the organisation of the labour movement and the mounting pressure for social rights in Europe and the USA led to a single, common view of the working class, which was obviously contrary to the idea of its fragmentation.

## Notes

1. The correspondence between Mill and Cairnes is representative of this filiation. See G.O'Brien, (1943), "J.S.Mill and J.E.Cairnes", *Economica*, vol.10(40), November, pp.273-285.
2. The same concern can be found in another work published by the author in this period : J.E.Cairnes, 1873, *Essays in Political Economy: Theoretical and Applied*, McMillan, London.
3. An article published in 1875 in *Fortnightly Review*, a few months before his premature death, includes a deep critical analysis of Spencer's evolutionary philosophy and shows, at the same time, Cairnes's new interest in industrial dynamics. See J.E.Cairnes, (1875), "Mr.Spencer on Social Evolution", *Fortnightly Review*, vol.17, p.63-82.
4. The Catallactic tradition in Classical economics began with the analysis by Smith of sympathy, developed in his treatise of 1759 on the *Theory of Moral Sentiments*. See A. Smith (1759): *Theory of Moral Sentiments*, Ed. Raphael and Stein (1976), Oxford. One should note



that Ricardo himself, despite the abstract nature of his analytic approach, accepted the existence of social classes characterised by different psychologies, ways and customs. However, as Mitchell (1937) points out, in his re-reading of the history of economic thought, “*this excursion into institutional economics was not strictly part of economic theory; it appeared to be more of an application of the period’s social philosophy*” (Mitchell, 1937, pp.362-363).

5. Mill studied the differences which develop in the remuneration of workers from different classes, in Chapter XIV of Book 2 of his *Principles of Political Economy*, 7<sup>th</sup> Edition, Guillaumin, 1873.

6. In his *Principles of Political Economy*, Taussig (1912) described a primary stratification of the labour market into five non-competing groups, rather than Cairnes’s four. Taussig divided the second group, that of craftsmen and retailers, in two depending on whether they have access to property.

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## RESUME

Dans la première partie de ses *Principes d'économie politique*, J.E.Cairnes développe une approche pionnière de la segmentation du marché du travail. Cette approche met en avant le concept de groupe non concurrent qui définit un ensemble dont les membres, par leur appartenance à une même classe sociale et/ou par un même niveau d'éducation, sont en compétition entre eux sur le marché du travail, tout en restant « protégés » de la concurrence de personnes appartenant à une autre classe sociale ou ayant un niveau d'éducation différent. En accordant un rôle primordial aux processus d'apprentissage et de formation des compétences dans les groupes non concurrents, Cairnes confère à cette approche une perspective historique, voire évolutionniste, qui conduit directement à une analyse de l'organisation industrielle et de la concurrence imparfaite.

## ABSTRACT

### **J.E.Cairnes : non-competing groups and industrial organisation**

J.E.Cairnes developed an original analysis of the segmentation of the labour market in the first part of his *Principles of political economy, newly expounded*. This analysis is based upon the concept of a non-competing group which can be defined as a group whose members, by their education or social position, are in competition with each other in the labour market, but not with members of another group. By according an important role to education and learning-by-doing in the constitution of such groups, Cairnes accepts an historical or even evolutionary view of the segmentation of the labour market, which leads directly to the modern analysis of industrial organisation and imperfect competition.

## **Biographical note**

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