

Emergence and Growth of Non-Production Workers: A Historical Perspective

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Abstract:

The present paper discusses the emergence and growth of non-production workers as a distinct class of employees in a historical perspective after the onset of the Industrial Revolution and the decomposition of capital into ownership and control. During the early phase of industrial revolution and mass production this class of employees was considered to be important but unproductive as they did not create any surplus value in the process of production which the production works did it in a conspicuous manner. During the later phase of the industrial development which was characterized by use of modern technology and rise of big corporations, the role of non-production workers which were also known as salaried employees or white collar workers or skilled workers came in prominence. The rise and growth of non-production workers has great significance for labour market processes including the trade unionism and collective bargaining all over the world.

Keywords: Non-production workers, production workers, skilled workers, industrial revolution, decomposition of capital, managerial revolution, technostructure, mass production

Introduction

The concept of non-production workers as distinguished from production workers is a notion with a long history in economic thought. In the United States before World War II, the labels “wage earners” and “salaried employees” were generally used to distinguish the two classes or types of workers. The entities ‘wage earners’ and ‘salaried employees’ were re-designated as ‘production’ and ‘non-production workers’ in the 1940s. The category of non-production workers was generally referred to include those workers who are not involved directly in the process of production like engineers, scientists, managers and personnel related to education, health, administrative and legal services to mention a few. On the other hand production workers may include the workers who are involved in any manufacturing process or in cleaning any part of the machinery or premises used for manufacturing process or in any other kind of work incidental to or connected with the manufacturing process. In Annual Survey of Industries (ASI) framework in India, these categories of employees are known as ‘workers’ and non-production categories of employees are known as ‘other than workers.’ Several scholars

(Gujarati and Dars, 1972) have identified production workers with relatively unskilled and non-production workers with the skilled workers.

Emergence of Non-production Workers

The emergence of non-production workers can be traced back to the event of industrial revolution in Europe. The importance of this category of workers increased after the size of industrial output increased tremendously and there was separation of ownership and control of capital in the industrialized capitalist nations. Further, it has been argued that of all the factors of industrialization, the accumulation and development of a high level of human resources is really a crucial factor along with capital. The development experiences of all the industrialized nations point towards the important role played by the engineers, scientists, professionals and other trained and skilled manpower (Delehanty, 1968).

The emergence and growth of non-production workers is closely linked to the long drawn process of the Industrial Revolution, which took place from the 18th to 19th centuries. During this period the predominantly agrarian and rural societies in Europe and America became industrial and urban. Prior to the Industrial Revolution, which began in Britain in the late 1700s, manufacturing was often done in people's homes, using hand tools or basic machines. Industrialization marked a shift to powered, special-purpose machinery, factories and mass production. The iron and textile industries, along with the development of the steam engine, played central roles in the Industrial Revolution, which also saw improved systems of transportation, communication and banking. This system of mass production based on the use of machines and latest technology increased the demand for not only the shop floor workers which were directly associated with the process of production but also the manpower associated with back office jobs and other non-production activities. During the early phases of industrial revolution the contribution of this class of employees was not recognized as productive as they were not seen to be producing anything visible or concrete. In this connection the famous classical economist Adam Smith (1776; 1937) has observed in chapter III of his book II of "Wealth of Nations" that productive labour was that sort 'which adds to the value of the subject upon which it is bestowed'. Unproductive labour 'has no such effect' and "does not fix or realize itself in any permanent subject or vendible commodity, which endures after that labour is past, and for which an equal quantity of labour could afterwards be produced". The work of those in this class 'perishes

in the very instant of its production.’ Thus, according to Smith, labour engaged in the rendering of the services, does not reproduce its costs or produce profits. However, he states further that such labour has its value and deserves its rewards, yet it represents the consumption and not the production of wealth. Accordingly, he considered the people employed in agriculture, manufacturing, commerce and transportation of goods as productive labour while labour employed in civil and military establishments, the professionals, domestic services and other personal services was considered unproductive.

Marx (1904) has also suggested that labour is considered productive under capitalism, regardless of its content, or the form or nature of its products or the service it rendered, if it not merely reproduced its own means of subsistence but also an excess i.e. a profit for the capitalist. All other modes of labour, no matter how socially desirable or necessary were unproductive in the capitalist sense of the term. In feudalism, by contrast, that labour could be considered productive which merely reproduced its own means of subsistence during the labour process. This is because under feudalism society was not primarily devoted to the expansion of the means of production, and because the profit motive was absent from most economic endeavour. Marx has further distinguished between the functions of transportation, storage and delivery on the one hand, and commerce, or plain buying and selling activity on the other. The first could be considered as part of production; but since employees in the commercial sphere are paid out of surplus value and do not themselves create any value, they are classed as unproductive labourers (Delehanty, 1968).

The Prominence

Burnham (1941) has coined the term ‘managerial revolution’ for the emergence and growth of non-production workers. He has included within this category the ‘managers’- the “operating executives, production managers, plant superintendents, and their associates”, who “have charge of the actual technical process of producing”, and thus are the beneficiaries of the ‘managerial revolution.’ Elaborating the significance of this unique revolution the scholar predicted that the managers would exercise their control over the instruments of production and gain preference in the distribution of products, not, directly through property rights vested in them as individual, but indirectly, through their control of the state which in turn would own and control the instruments of production.

Drucker (1950) has included within non-production workers a new industrial middle class of technicians, professionals, foremen, accountants, middle managers, etc. a class enjoying both considerable power and great social prestige, yet employed, dependent and subordinate.

Schumpeter (1954) also recognised that there is a difference between services of those directly involved in the operations of firms producing goods on the one hand and services of such persons as servants, teachers and physicians on the other. He considers former as productive labourers who reproduce the value of the capital that employs them with a profit motive and latter as unproductive labourers who either sell their services or else produce something that does not yield profit.

Dahrendorf (1959) argues that during nineteenth and early twentieth century a new form of industrial and business organisation known as 'joint-stock companies' gained wide recognition and expanded into all branches of economic activities around the western world. The enterprises owned and run by an individual or even a family has long ceased to be the dominant form of economic organisation. This development has led to the decomposition of capital into ownership and control which gave rise to a new group of managers who are utterly different from their capitalist predecessors. He further states that the process of transition from capitalist enterprises to joint-stock companies could be described as a process of role differentiation. The roles of owner and manager originally performed by the capitalist alone are separated into two positions – stockholder and executive.

The scholar further speaks of the decomposition of labour into three skill groups: a growing stratum of highly skilled workmen who increasingly merge with both engineers and white-collar employees, a relatively stable strata of semi-skilled workers with a high degree of diffuse as well as specific industrial experience, a dwindling stratum of totally unskilled labourers who are characteristically either new comers to industry or semi-unemployables. The latter two categories of workers are not significantly different from each other with regard to educational qualification and training. However the semi-skilled workers are supposed to be little bit more efficient and capable of taking more responsibilities so they earn higher wages than the unskilled workers. The skilled workers are often salaried and they enjoy white-collar status. Along with the decomposition of both capital and labour there emerged, both within and outside

the industrial structure, a new stratum of employees consisting mainly of salary earners which were collectively termed as the 'new middle class' by Dahrendorf (1959).

Veblen's (1961) view has split occupations into two groups. The first one was referred to as the business or pecuniary class, who enters the economic life process through the pecuniary side. Their main objective is the diversion of purchase and sale into some particular channel, commonly involving a diversion from other channels. The second one is the industrial class who enters the economic process from the material side. Their attention is directed to turn men and things to account for the compassing of some material end. The scholar has further stated that in the classical division of economic theory into Production, Distribution and Consumption the pecuniary employments do not properly fall under the first of these divisions.

Berle and Means (1967) have described the developments in the American economy through which the process of decomposition of capital into ownership and control in the large corporations in different fields of utilities, services and later on in manufacturing started. According to scholars: The translation of perhaps two-thirds of the industrial wealth of the country from individual ownership to ownership by the large, publicly financed corporations vitally changes the lives of property owners, the lives of workers, and the method of property tenure. The divorce of ownership from control consequent on that process almost necessarily involves a new form of economic organisation of society. They further observed in this connection that the two attributes of ownership that is risking collective wealth in profit-seeking enterprise and ultimate management of responsibility for that enterprise – had become divorced. The scholars have stated that like the industrial revolution, which established the factory as a predominant form of production and separated the worker from control over the instruments of production, the *corporate revolution* separated ownership from control over the instruments of production under the emerging situation. This separation of ownership from the control of an enterprise under the new corporate system led to the emergence of a new class of employee, the "Managers" who were distinguished primarily by the fact that they operated an enterprise, presumably in the interests of the owners.

However, J.M. Keynes observed in this context that when stockholders are almost entirely disassociated from the management, the direct personal interest of the latter in making a profit becomes quite secondary. The difference between ownership and management was thus in

part one between position and action. The position of the owner had been reduced to that of having a set of legal and factual interests in the enterprise while the group which the scholars have called control, were in the position of having legal and factual powers over it.

Galbraith (1967) while discussing changes in the industrial system of the world had very rightly corroborated the observations of the earlier scholars that with the rise of modern corporation and the organisation as required by modern technology the ownership of capital has been divorced from the control of the enterprise and that the entrepreneur no longer exists as an individual person in the mature industrial enterprise. It replaces the entrepreneur, as the directing force of the enterprise, with management. Galbraith has called it the collective and imperfectly defined entity which includes all who bring specialized knowledge, talent or experience to group decision making. This is the guiding intelligence or the brain of the organisation, the scholar has termed this organisation, 'The Technostructure.' He further observed that in the mature industrial enterprise, the power to make decision lies with the group called technostructure because this group has the information that is required to make the optimum decision. Though the constitution of the corporation places power in the hands of the owners, the imperatives of technology and planning remove it to the technostructure.

It may be observed from the writings of some of the great scholars like Adam Smith, Karl Marx, J.A. Schumpeter, Thorstein Veblen and Peter F. Drucker that the emergence of non-production workers has been viewed in a different perspective i.e. division of workers into productive and unproductive one. The views of some of the above scholars appear to undermine the role played by the so called non-production labour in the whole process of production.

However, Delehanty (1968) has tried to trace the emergence of these two categories of workers as distinct entities in the course of evolution and revolution in the industrial sector. He has underlined the importance of this category of labour by pointing towards the advantages of specialization and division of labour. He has further expressed his concern for the underdeveloped countries where, on the one hand, the bureaucracy is entrenched with vested interests and resistance to change and on the other, there exists a great need for a cadre of trained technicians and administrators for achieving a high level of economic development. In the process of emergence of joint stock companies and decomposition of capital into ownership and control as a necessary consequence of the system of mass production role of non-production

workers became quite conspicuous. It is appropriate to reiterate here that the development experiences of all the industrialized nations point towards the important role played by the engineers, scientists, professionals and other trained and skilled manpower.

The Empiricism

Rostas (1948) presented the results of an exploratory investigation into variations of prices, costs and efficiency in different- sized firms in British industry in 1935. He calculated and used the ratio of salaried staff to operatives for measuring the overhead cost of administration in four industries: pig-iron, tinsplate, cement and margarine.

Rostas has defined *operatives* as employees who are wage earners, including foremen, van and lorry drivers and warehousemen, employed in or about factory or works, or in outside works of construction or repair. On the hand *salaried staff* covers the office and management staff including working proprietors, managing directors, managers, designers, salesmen, travelers, clerks, typists and other persons engaged primarily in office work. The study did not produce any definite conclusion regarding variation in the above ratio with change in size of the firms. In some industries the ratio of salaried employees increased with the increase in the size, in some industries it remained stable and in some it showed a declining tendency. For example, in pig- iron and tinsplate industries there were very little variation and no definite tendency. In the cement industry there appeared to be a definite trend for salaried staff to increase as the size of unit increased. The explanation for this might be either that bigger and more efficient firms were using considerable extra staff for production planning and similar jobs (i.e. that their type organisation were different), or that their gross margin allowed an expansion of overhead costs. In the margarine industry, on the other hand, big firms were using less administrative staff than small firms, although the number of firms in this trade was too small to draw definite conclusions (Rostas, 1948).

Drucker (1950) while discussing the anatomy of enterprise in his book entitled, “The New Society, The Anatomy of the Industrial Order” had observed that this group of employees (the new middle class consisting of technicians, professionals, foremen, accountants, middle managers, etc.) is growing the most rapidly and will continue to grow rapidly. With the onset of the mass production system he argued that as the older industries are modernising – and the process is running along at high speed – they too would employ proportionately fewer wage

earners and more salaried middle – class men. Also within the working class a new shift from unskilled to skilled labour had begun since then reversing the trend of last fifty years.

Bendix (1956) has used the proportion of salaried employees to workers as an index of internal bureaucratization of economic enterprises of countries like United States, France, Great Britain, Germany and Sweden for selected years between the period 1899 to 1950. The bureaucratization of economic enterprises is said to have begun with the Industrial Revolution which resulted into increase in the proportion of salaried employees in the occupational structure of a country. While it is clear that bureaucratization in this sense is a characteristic trend in all industrialized countries, it is noteworthy that there exist marked differences between them over time as well as between enterprises of different types and sizes today.

According to Bendix bureaucratization may be interpreted as the increasing subdivision of the functions which the owner- managers of the early enterprises had performed personally in the course of their daily routine. These functions may be divided into labour management, technical staff work, administrative management and mercantile functions of purchasing, sales and finance. It has also been observed by the scholar that a new category of salaried employee called ‘foreman’ emerged in many large scale enterprises replacing many subcontractors associated with them. Subcontracting disappeared completely from industries which required heavy capital investments, the concentration of operations in single plants and highly technical long-run planning of production. Most of the functions performed by subcontractors were assigned to separate departments under the direct supervision of the foremen. These foremen later on came to occupy an important position in the department of contract negotiations, personnel, training and recruitment in an enterprise.

Mack (1959), while examining inflation and quasi-elective changes in cost in the U.S. manufacturing sector for the period 1947 to 1958 suggested that large scale mechanization and consequent rise in the number and compensation of the non-production employees has been a major contributory factor in rising inflation in the U.S. economy at that time. She found that manufacturers had added hundreds of thousands of workers engaged in marketing, advertising, administration and research with buying vast quantities of automatic machines. During the period the number of non-production workers rose by 55 percent while that of production workers rose only by 2 percent in the U.S. manufacturing. Payments to non-production workers

were a major factor in causing the compensation of all workers in manufacturing to increase almost twice as fast as payrolls for production workers alone.

Thus, the cost structure of the manufacturing sector tilted substantially in favour of the expenditure on purchase of machines and compensation to the non-production workers. Such costs were termed as *quasi-elective* costs by her. She considered the possibility that these changes in the structure of costs may not have been efficient, and this contributed to the inflationary process during the period (Mack, 1959: 230-231). Thus from the point of view of cost structure of manufacturing firms, the distinction between production and non-production workers is also quite relevant.

Delehanty (1968) has analysed the nature, causes and implications of the structural changes in the U.S. manufacturing labour market for the period 1947 to 1963. He has computed the percentage changes in N/P^1 in several two digit industries and relates them individually, using the technique of rank correlation, to percentage changes in wholesale prices, output, output per- man hour and capital. Now it is well known that the coefficient of rank correlation, or for that matter the simple correlation coefficient, merely indicates the degree of association between two variables without indicating the direction of causation, if any. The scholar does not really explain changes in N/P but merely studies its movement in relation to the above variables one at a time. He has found that substantial part of the variation in N/P ratio could be explained by industry differences in employment of R&D personnel, scientists, engineers and technicians etc.

Further, weak but statistically significant relationships were found between N/P levels and measures of capital intensity, concentration, unionization, the proportion of employment at multi-unit establishments and profit rates. However, the most significant relationship was the strongly positive association between N/P ratios and the wages of production workers.

Gujarati and Dars (1972) while examining the composition of production workers (P) and non-production workers (N) in U.S. manufacturing industries over the period 1949-1965 have suggested that the distinction between the two labour inputs rests on either or both of the following attributes:

- (a) *Skill level*- It is generally believed that production workers are unskilled or semi-skilled and non-production workers are skilled workers, but a close examination of the definition

¹ N/P refers to the ratio of non-production workers to production workers.

of non-production workers given above shows that this category includes several kinds of workers besides professional and technical workers, who are generally regarded skilled workers. Therefore, unless professional and technical workers represent a substantial proportion of non-production workers, it would be inaccurate to assume that non-production workers are essentially skilled workers. However, they have assumed that non-production workers are largely skilled workers and the ratio N/P may be treated as a measure of technology in an industry.

- (b) *Variability with respect to output*- It is generally believed that employment of production workers is directly related to the level of output whereas that of non-production workers is loosely related to the level of output. Therefore, non-production workers have been regarded as quasi-fixed factor by some scholars.

Goldar and Seth (1975) have identified the bulk of factory management and personnel employees, engineers, scientists, accountants, typists, clerks, salesmen, payroll workers and employees engaged in similar activities as the non-production workers in the Census of Manufacturing (CMI) and Annual Survey of Industries (ASI) data in India.

Singh (2010) has also observed that the restructuring of workforce, especially in terms of production and non-production workers has been a worldwide phenomenon, particularly after the onset of industrial revolution and the emergence and growth of large corporations which in turn, created circumstances for the decomposition of capital into ownership and control. On the basis of his analysis of ASI data from 1973-74 to 2005-06 it has been found that the relative employment of non-production workers has increased significantly over a long period of time and particularly after the period of economic reforms (July, 1991)

To conclude, the study of the emergence and growth of this new category of workers (non-production workers) is very important in the light of the fact that the increased relative employment of this category of workers in modern production structure would give rise to several issues related to the working of labour market and labour market institutions. It influences political and economic institutions and the labour market outcomes in a way that is different from the production workers category because both categories of workers have their interests which is quite different from each other.

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