

On the Theory of Wage Difference: Comparison between Adam Smith and J. S. Mill

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<Abstract>

This paper analyzed the differences between wage differential theory of Adam Smith and that of J. S. Mill. Competition is the ruling force in Smith's theory whereas immobility or monopoly in Mill's. In the sense that immobility or monopoly can be removed as time goes by, Smith's wage theory is a kind of long run analysis. On the other hand, Mill pointed out a new source of wage differences, monopoly or immobility, as a short run factor. Accordingly, Mill's approach is not a substitute for Smith's but a complement.

In addition, we can find a modern implication and importance of Mill's theory from the recent empirical results showing that inter-industry wage differentials are quite significant and persistent.

임금격차이론에 관한 소고: Adam Smith와 J. S. Mill의 비교

이재기
경제학과

<요 약>

본 논문은 Adam Smith와 John Stuart Mill의 임금격차이론을 비교분석한 것이다.

1) I am grateful to the anonymous referee who gave many comments and suggestions.
All remaining errors are, of course, of my own responsibility.

Mill의 Smith의 이론에 대한 비판은 단기적인 측면에서 보면 타당한 것이나, 장기적인 측면에서 보면 시장의 균형을 강조한다고 볼 수 있는 Smith의 이론은 여전히 정당성을 가진다고 볼 수 있다. 따라서 Mill의 논의는 Smith의 이론을 대체한다고 보기 보다는 보완적인 성격을 가진다고 하겠다. 그리고 Mill의 이론은 임금격차의 원인으로 독점 혹은 이동성의 제약을 강조함으로써 최근에 많은 실증적인 연구가 진행되고 있는 산업간 임금격차를 설명하는데 유용한 분석의 틀을 제공하고 있다고 하겠다.

1. Introduction

The modern theory of equalizing wage differences refers to observed wage differentials required to equalize the total monetary and nonmonetary advantages or disadvantages among work activities and among workers themselves. The basic idea originates in the first chapter ten of Book I of *The Wealth of Nations*, which is excellent for the depth and breadth of analysis as well as for clarity of exposition. It remains the fundamental reference work on the subject.²⁾ J. S. Mill, however, was not so satisfied with Smith's work on this subject thus³⁾:

A well-known and very popular chapter of Adam Smith contains the best exposition yet given of this portion of the subject. I can not indeed think his treatment so complete and exhaustive as it has sometimes been considered: but, as far as it goes, his analysis is tolerably successful.
[Mill, *Principles of Political Economy*, p.385]

In this paper, I analyze the differences of their ideas on the subject and their modern implications. In section 2, I show the basic idea of Smith on wage differences. In section 3, Mill's arguments on the subject and his criticism on Smith's exposition are analyzed. Finally, section 4 summarizes the previous arguments and shows that Mill's approach is a complementary one to Smith's and it is helpful to understand current empirical results showing significant inter-industry wage differentials.

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- 2) The topic is important for both theoretical and empirical reasons. Theoretically, it can make legitimate claim to be the long run market equilibrium construct in labor economics. Empirically, it is useful to understand the determinants of wage structure in the economy and to make inferences about preferences and technology from observed wage data.
 - 3) The citations from Mill's *Principles of Political Economy* and Smith's *The Wealth of Nations* are noted by the page numbers if there does not exist any possibility of confusion.

2. Smith's Theory of Wage Differences

Smith's discussion of wage structure deals with constraints on the supplies of labor to particular industries. In each industry, competitive market governs the relative supplies of different types of labor and generates appropriate wage differentials. An equilibrium pattern of wages in Smith is one in which wage differentials reflect the disutility differences attached to the various occupations. Pecuniary wages per hour may differ since disutility per hour, and pecuniary wage per disutility unit tend to equality. He shows five characteristics which compensate for pecuniary wage differentials.⁴⁾

The five followings are the principal circumstance which, so far as I have been able to observe, make up for a small pecuniary gain in some employments, and counter-balance a greater one in others; first, agreeableness or disagreeableness of employment themselves; secondly, easiness or cheapness, or the difficulty and expence of learning them; thirdly, the constancy or inconstancy of employment in them; fourthly, the small or great trust which must be reposed in those who exercise them; and fifthly, the probability or improbability of success in them. [*The Wealth of Nations*, p.112]

The above argument is based on several assumptions; that labor movement between occupations is free from institutional restrictions; that the worker has perfect information about available opportunities; that they are long-established because novelty involves disutility for workers who must be compensated in the short run; and that they involve full-time employment because part-time workers are likely to accept a particularly low reward per hour.⁵⁾

The second characteristic, training costs are treated as a form of investment in human capital formation;

A man educated at the expense of much labor and time to any of those employments which require extraordinary dexterity and skill, may be compared to one of those expensive machines. [p.113]

For this human capital formation, at least the ordinary profits of an equally valuable capital[p.114] must be paid. This is the source of wage difference between skilled and common labor. Learning cost includes foregone earning

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- 4) A modern treatment of the compensating wage differentials for a negative job characteristic was established as a name of 'hedonic theory of wages' by Rosen (1974).
 - 5) Nowadays, we can not say this assumption is always true as the ratio of part-time employment dramatically increases.

opportunities, maintenance cost by the individual or by his parents, and payments for training to the master. In this argument, however, he did not really understand the concept of opportunity cost. In addition, there must be a net differential representing a return on investment over the working time of the individual. The wage differential, therefore, includes an interest rate. If we are to take Smith's effort to define an equilibrium wage structure such that pecuniary wages are equal to per unit of disutility, it would have to be the case that interest rate represents compensation for some kind of disutility.

Regarding constancy of employment, though the whole year is considered (so that allowance is made for seasonal variations), there will have to be a net return paid to workers in seasonal industries, to compensate for 'those anxious and desponding moments which the thought of so precarious a situation must sometimes occasion' [pp.115-116]. Cyclical and seasonal fluctuation in an industry is itself upsetting and requires compensation. This argument seems to be intuitively plausible. However, it is not perfect argument since his argument only considers the supply side of wage determination.

The item 'trust' will be a valid consideration in Smith's scheme only if the adoption of responsibility entails a psychological burden. This principle is not the same sort as the other factors. If people enjoy taking on responsibility, then the direction of wage differential can be reversed.

The differing possibility of success allows wage difference. This means risk-taking is not desirable; however, if a person is risk-loving, the proposed direction of wage difference may not be true. Smith also refers to the tendency of people to overestimate their chances of outstanding success and crowd into professions which promise a small likelihood of a very great reward.

Except for the fourth of these reasons for wage difference, the assumption is that men could exercise a choice between the several employments and they are able and willing to move one way to another according to the relative attractiveness of the different occupations. In this situation, the wage rate acts so as to equalize the various attractions. The exceptional factor 'trust', however, gives a clue of different interpretation to Mill.

3. Mill's Theory of Wage Difference

Heterogeneity of labor can refer either to productivity differentials, reflecting natural or learned qualities, or to attitudes to work. In Smith's account of manner in which free competition assures that earnings in different occupations tend to keep in line, the emphasis is upon the characteristics of the job and attitude to them by labor - the 'five circumstances' discussed above relate to the employment themselves; so that different monetary returns in the long run equilibrium merely reflect the varying degrees of attractiveness attached to each

occupation. Nothing is said of natural differences of 'talent or genius'; and skill and productivity are merely implied in the discussion of learning. These characteristics are true for Mill, who in the chapter on 'Differences of Wage in Different Employments' [Book II, xiv], lays out the general principle thus:

There is no difficulty in understanding the operative principle in all these cases. If, with complete freedom of competition, labor of different degree of desirableness were paid alike, competitors would crowd into the more attractive employments, and desert the less eligible, thus lowering the wage in the first, and raising them in the second, until there would be such a difference of reward as to balance in common estimation the differences of eligibility. Under the unobstructed influence of competition, wages tend to adjust themselves in such a manner, that the situations and prospects of the labourers in all employments shall be, in the general estimation, as nearly as possible on a par. [II, p.381-2nd edition]

This summary of 'the operative principle' was withdrawn in the third edition (1852), Mill having grown dissatisfied with the Smithian analysis. Smith has recognized immobility due to 'policy' or institutional impediments to mobility, but his treatment has two deficiencies according to Mill. First, the pure logic of the competitive structure presumed the labor market as a whole to be in equilibrium; in the event of general unemployment the differentials become totally distorted.

But when the supply of labor so far exceeds the demands that to find employment at all is an uncertainty, and to be offered it on any terms a favor, the case is totally the reverse. Desirable labourers, those whom everyone is anxious to have, can still exercise a choice. The undesirable must take what they can get. The more revolting the occupation, the more certain it is to receive the minimum of remuneration, because it devolves on the most helpless and degraded, on those who from squalid poverty, from want of skill and education, are rejected from all other employments. Partly from this cause, and partly from the natural and artificial monopolies which will be spoken of presently, the inequalities of wages are generally in an opposite direction to the equitable principle of compensation erroneously represented by Adam Smith as the general law of the remuneration of labour. [*Principles of Political Economy*, p. 388]

Interestingly, this constitutes an aspect of the linkage of macro and microeconomics of the very first importance. Mill's reference to 'natural monopolies' involves the second point of difference. Here, we note Mill's observation that only the first, third, and fifth of Smith's circumstances involve cases in which inequality of remuneration is necessary to produce equality of attractiveness, and are examples of the equalizing effects of free competition. [p.

390] Smith erred regarding 'trust' by implying that the adoption of responsibility is a burden; Mill suggested that a pecuniary differential is paid as a monopoly not a compensatory payment; if all labourers were trustworthy, it would not be necessary to give extra pay to working goldsmiths on account of trust. The degree of integrity required being supposed to be uncommon, those who can make it appear that they possess it are able to take advantage of the pecuniarity, and obtain higher pay in proportion to its rarity. [Mill, p.391] Thus, against Smith's list of competitive factors, Mill set the opposite situation of monopoly.

Mill clearly commented that there is another factors which cause wage differentials different from Smith's explanation by training cost.

There is a natural monopoly in favor of skilled labourers against unskilled, which makes the difference of reward exceed, sometimes in a manifold proportion, what is sufficient merely to equalize their advantages. If unskilled labourers had it in their power to compete with skilled, by merely taking the trouble of learning the trade, the differences of wage might not exceed what would compensate them for that trouble, at the ordinary rate at which labour is remunerated. But the fact that a course of instruction is required, of even a low degree of costliness, or that the labourer must be maintained for a considerable time from other sources, suffices everywhere to exclude the great body of labouring people from the possibility of any such competition. [pp.391-392]

From the above statement, we can guess that Mill had an idea to rationalize the theory of occupational mobility. He recognized that restriction on mobility, which is different from Smith's legal and institutional restriction, is a very important factor of ruling wage differential. Moreover, he referred on the concept of non-competing industrial group to reflect the social and financial obstacles to upward mobility:

So complete, indeed, hitherto has been the separation, so strongly marked the line of demarcation, between the different grades of labours, as to be almost equivalent to a hereditary distinction of caste; each employment being chiefly recruited from the children of those already employed in it, or in employments of the same rank with it in social estimation, or from the children of person who, if originally of a lower rank, have succeeded in raising themselves by their exertions... Consequently the wages of each class have hitherto been regulated by the increase of its own population, rather than of the general population of the country. [p.393]

It is significant that Smith emphasizes mobility and Mill points to the difficulties of movement. Probably it is true that movement has tended to become

more and more difficult as industrial occupations have become more specialized. However, if in the long run, labor mobility is free from institutional restrictions and workers have perfect information about available opportunities, we can not deny the long run tendency of equalizing wage differentials; therefore, we can think that Mill emphasizes short run phenomena of wage differentials.

4. Concluding Remarks

The wage differential theories of Smith's and Mill's that have been outlined have two opposite principles in sharp juxtaposition. In Smith, where labor can and does move readily in response to wage differences, it is supposed that relative wages reflect only the varying attractiveness of the different occupations. On the other hand, in Mill, where mobility does not exist or is restricted, relative intensities of demand and supply determine wage rates. Competition is the ruling force in Smith's theory whereas immobility or monopoly in Mill's theory. In the sense that immobility or monopoly can be removed as time goes by, Smith's wage theory is a kind of long run analysis. On the other hand, Mill pointed out a new source of wage differences, monopoly or immobility, as a short run factor. All in all, Mill's approach is not a substitute for Smith's but a kind of complement.

Moreover, we can find a modern implication and importance of Mill's theory from the recent empirical results showing that inter-industry wage differentials are quite significant and persistent.⁶⁾ (See Krueger and Summers, 1988)

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6) Mill's theory not only emphasizes the influence of short run factors but also supplies a framework to implement empirical analysis. In addition, Mill's concept such as non-competing industrial group is very useful to understand quite persistent inter-industry wage differentials, racial wage gaps, etc..

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