A REVIEW OF THE CLASSICAL WAGE FUND DOCTRINE
–A Systematic Overview and Comments
古典工資基金理論之探討

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摘　要

古典工資理論中，強調需求層面之「工資基金」理論，自一七五八年至一九四九年名噪一時。至一九六〇年代，少數學者仍時常論及。惟從一九七〇年以後，似乏人過問該理論。在工資理論史上，此一重要理論如何形成？其主要論據何在？爲何該理論無法持續到現在？尚無較具系統之論評。本文特就古典工資基金理論之發軔至息論止（一七五八一一九六六）歷經二百多年內之有關主要論述，作簡明扼要之探討與評論，期能藉此一工資論史之探討，提供更多工資理論改進上有用資料，俾益工資理論之改進。

作者認爲古典工資基金理論，雖已成工資理論之歷史，但其理論之架構似仍可用以部份解釋總體「短期」工資與總體「長期」工資之趨勢。

INTRODUCTION

A wage theory tries to systematically explain how the level of wage is determined, what are the factors affecting the determination of wage level, what are the sources of change in these factors, how these factors interact with each other, how the source of change can be measured, and how the wages differ between various types of labour.

The wage fund doctrine is just one of several classical wage theories. It tries to emphasize the aspect of demand. The fundamental feature of wage-fund doctrine is the capital-wage relation and the rigidity of the source of fund. According to wage fund doctrine, wage depends upon the amount of fund set aside for payment of wage and the number of people who work for hire. The wage rate hence is determined by the proportion of wage fund to number of labour.

The wage fund concept is found to exist as early as 1758 in the writings of Quesnay. But, it was not until 1826 that extensive and systematic treatment of wage fund doctrine was made by McCulloch. Most of the writing concerning this topic appeared in the period between 1826 and 1871 especially from 1866 to 1871 during which the discussion of the doctrine reached its acme. The extensive discussion during this period was partially promoted by the failure to understand and accept the policy implication of the wage-fund doctrine by both the general pbulic and government officials in the settlement of strike case in England in the year 1867.[1] After this period, discussion of wage theories center about another point—marginal productivity.[2] The Austrian school did make substantial discussion on the capital-wage relationship in the writings concerning the general subsistence fund, but the discussion was mainly tied to its interest theory. The wage fund, in this context, is the function of the length of production.

The life of the wage fund was dramatic, encountering many assaults and tortures. Longe and Thornton refuted it. Walker and Sidgwick tried to kill it. Cairnes tried, in vain, to save it.

The purpose of this paper is to bring the bewildered classical wage fund theories into proper, systematic and concise perspect, and to broadly evaluate the theoretical formulation of these theories. It is concerned with the origin, gradual theorization of the wage fund concept, formulation of doctrine, controversy over the doctrine, and comments on the significances of these theories. The conciseness of this paper is achieved by sacrificing examination of many "insignificant" writings in this field, e.g., those of Sismondi, Ganilh, Say, Lord Lauderdale, Thomas Chalmers, Richard Jones, Mrs. Marcet, James Mill, etc., by omitting repetitious version

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1. This view was emphasized by J. D. Miller, but E. M. Winton did not agree with Miller's view. Winton contended that the theoretical discussion on wage fund doctrine was popular at that time. However, the wage fund discussion on the Royal Commission was avoided due to commission policy. For further detail see J. D. Miller, 'Wage Fund Theory and the Popular Influence of Economists," *American Economic Review*, Vol. XXX (March, 1940), pp. 108-12, and E. M. Winton, "Wage Fund Theory and Popular Influence of Economists: A Reply," *American Economic Review*, Vol. XXXI (June, 1941), pp. 343-44.

2. This does not mean that the discussion of wage fund was completely out of sight by that time. It only means that the discussion became "casual." As a matter of fact Menger, Jevons, and many economists later did discuss the wage fund in their analyses.

of the wage-fund concepts and doctrine as found in the writings of those "significant" wage-fund proponents[3], and by avoiding extensive discussion of the works of Longs, Thornton, Walker, and Sidgwick[4]. By doing so, the essence of the wage-fund doctrine will not be altered.

THE GENESIS AND GRADUAL THEORIZATION OF THE WAGE FUND CONCEPT

Although the subject of wage was touched upon earlier in the 17th century by Petty, Locke, Franklin, and Mildmay, "these discussions were," as Taussig put it, "casual allusions to wages, usually implying that they are determined by the price of food."[5] A primitive discussion regarding the relationship of wages to capital was made in 1758 by Quesnay in his *Tableau Economique* followed by Turgot in his *Reflections.*

The Origin of the Wage Fund Concept

The earliest wage fund "concept" can be found in Quesnay's *Tableau* where he tried to explain the income circulation. His reference to annual advances by the proprietor to labor, in reality, implies that there is a fixed amount of fund year after year for wage payment although no explicit statement was made on whether

3. The most detailed examination of wage fund doctrine was made by Taussig and published in his voluminous *Wage and Capital.* He would have been considered as synthesizer of wage fund doctrine, had his work appeared earlier, being published in 1897 after the marginal revolution. For his view on wage fund, see F. W. Taussig, *Wage and Capital* (New York: D. Appleton and Company, 1897), pp. 26-98.

Marx's discussion on the "labor fund" is not examined in this paper because it is not significant in the development of the classical wage fund doctrine.

4. For major argument against wage-fund, see Francis D. Longe, *A Refutation of the Wage-Fund Theory*, Jacob H. Hollander Edition (A Reprint in 1866), pp. 22-66. William Thomas Thornton, *On Labour: Its Wonderful Claims and Rightful Dues, Its Actual Present and Possible Future* (London, 1869. This book is not available at present). Francis A. Walker, *The Wages Question: A Treatise on Wages and the Wage Classe* (New York: Henry Holt and Company, 1891), pp. 138-54. Henry Sidgwick, *The Principles of Political Economy*, 3rd ed. (London: MacMillan and Co., Ltd., 1924), pp. 299-318 and pp. 319-337

5. Taussig, *op. cit.*, p. 125.

this fund is part of capital. It was clear that the source of this fund is the products of past labour—the capital. Hence the tie between capital and wage is also clear. In explaining his *Tableau* privately published in 1758 at Versailles, he remarked:

> The expenses furnished by annual advances of the productive class, which are also renewed each year, and of which about a half is spent on food for the cattle and other half in paying wages to men engaged in the work of this class.....[6]

Here, the advances include both raw material and 'wage-fund.' In his static economy, the proportion of wage fund and raw material remain the same year after year, although he indicated that the amount of proprietor's revenue spent in the subsistence or luxury may vary thereby changing the total production of the productive class which, in turn, may affect the annual advances. He did not bother going further to investigate the problem. Again this is due to his static assumption.

His annual advances include the advance for both the productive class and the sterile class. The wage fund, in Quesnay's context, may be interpretated as containing two parts, one from capital, and one from proprietor's surplus revenue. Although Quesnay, like Turgot, Smith, Ricardo, and Malthus, also preached the subsistence theory, it is from this angle of capital-wage relation that later wage fund exponents derived their analysis.

The Gradual Theorization of the Wage Fund Concept

After Quesnay, a more elaborated concept of the wage fund appeared in Turgot's writing. In 1766, Turgot wrote *Reflection on the Formation and Distribution of Riches* for two Chinese students in which he mentioned that the lengthening of the production process necessitated the wage advance, citing the preparation of leather for shoes (the tanner's shop) as an example.[7] He explicitly told that the source of wage is not from the current production. Turgot contributed to the concept by making a preliminary inquiry into the source of change in capital. In Section 80 he broadly pointed out that the spirit of economy is the source of increase in capital.[8] The term "spirit" may be translated as "productivity." Therefore, that augmentation in capital will positively affect the wage fund is clearly

6. Arthur Eli Monroe, *Early Economic Thought* (Cambridge, Mass.: Harvard University Press, 1924), p. 341.

7. His "accumulated movable value". which includes buildings, serfs (labor), raw materials, finished goods, is capital. See *Ibid.*, pp. 357-58.

8. For brief interpretation of Turgot's *Reflection*, see *Ibid.*, pp. 349-75.

implied. This point inspired the thought concerning the wage differences among different industries; as productivity and the rate of growth in different industry vary, the wage level will also vary among the different industries. This was a truism never questioned by his followers.

The Adam Smith version of the wage-fund concept can be traced from his chapters on the wage of labour, on money, and on the division of stock. Smith inherited from Quesnay and Turgot the idea of the capital-wage relationship and the causes of change in the capital stock, although he did not cite their contributions.[9] However refinement and expansion of the concept was made by Smith. First, he began the exploration into the meaning of "capital" and hence "wages-fund." He defined "capital" as those goods which will produce revenue and classified it into two categories–fixed and circulating capital. Smith never analyzed in this context the relationship of capital to wages. "Wages-fund," to Smith, is the fund "destined for payment of wages."[10] Talking about what the fund consists of, Smith said:

> These funds are of two kinds: first the revenue which is over and above what is necessary for maintenance, and secondly, the stock which is over and above what is necessary for the employment of their masters.[11]

"Stock" here means capital, and "revenue" means the surplus which is used to hire services–the unproductive labour. If this is so, then, the rigidity of the fund destined for payment of wages should depend upon both stock and flow–flow in the sense of current product. This leads to the problem of whether wage fund is rigid–rigid in the sense that it is both predetermined and inelastic. For the reason that capitalists plan ahead (with their budgets) and allocate their capital goods for different uses (such as raw material and as wage goods) the wage is predetermined. From the fact that capital goods can not be increased within a short period of time, the fund is extremely inelastic. But if "capitalist surplus revenue" is included in the fund, such rigidity is questionable for capitalist may consume less or more, and hence the wage fund becomes elastic.

Secondly, Smith tried to show two aspects of wage–the real wage and money wage and its relative importance. This point can be seen from his discussion on

9. Smith visited France for an extensive period during which he contacted many physiocrats–Quesnay, Turgot, DuPont, etc.

10. Taussig contended that term "fund destined for payment of wages" is a mother word of wage-fund. Taussig, *op. cit.*, p. 145.

11. A. Smith, *An Inquiry into the Nature and Cause of the Wealth of Nation*, Edwin Cannon's 4th Edition (London: Methuen and Co., Ltd., 1925), pp. 70-71.

revenue. In his words, "The revenue of the person to whom it is paid, does not so properly consist in the piece of gold, as in what he can get for it, or what he can exchange for it."[12] In wage-fund context, the wage means real wage, and hence the wage fund must be real fund–wage goods. However, it is interesting to see how Smith defines circulating capital. Smith included money, raw materials, building, and inventories of finished goods. Aside from money, the rest of the items of circulating capital could not be paid out as wages. He further pointed out "that the money is the mean of all other circulating stock."[13] This implies that the fund consists of "money" Hence the wage fund is a money fund and not a real fund. Smith is very inconsistent in this regard.

However, Smith's exploration and refinement in the two abovementioned areas did open the door for an inquiry by later economists. In Smith what was so ambiguous was later remarkably clarified in the hands of both Malthus and Ricardo. Malthus's earlier wage theory was tied closely to his population principle, being a subsistence wage theory. His wage fund concept was the outgrowth of contact and communication with Ricardo which often brought a change in his attitude.[14] As a matter of fact, Malthus contended that demand and supply of labour determine price of labour service. But his enthusiastic discussion of the demand of labour in his later years led many economists to consider him as the strong proponent of the wage-fund.[15] Malthus believes the population (supply) is constrained by the wage-fund (demand). In his own words Malthus postulated:

> What is essentially necessary to a rapid increase in population is a great and continued demand for labour, and this is proportioned to the rate of increase in the quantity and value of those funds whether arising from capital or revenue, which are actually employed in the maintenance of labour.[16]

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12. *Ibid.*, p. 274.

13. *Ibid.*, p. 265.

14. This point was held by Professor Ambirajan. See S. Ambirajan, *Malthus and Classical Economics* Bombay, India: Popular Book Depot, 1959), pp. 134-25.

15. Professor Ambirajan even thinks that Malthus is the father of wage fund doctrine. Ambirajan agrees with Dr. Bonar when he said that "Malthus, without knowing it, was certainly father of the theory of a wage-fund." *Ibid.*, p. 136. But I do not share this view for the reasons which will be discussed in the later part of this paper.

16. Thomas R. Malthus, *Principles of Political Economy*, 2nd Edition (New York: Augustus M. Kelley, 1964. A reprint of Economic Classic. The original edition was published in 1836), p. 234.

One will wonder if Malthus meant both money and real fund for, the term "quantity and value" of fund has strong implication. However he went ahead and pointed out without any hestitation that the wage-fund come from circulating capital and this capital consists mainly of a real fund. He stated:

> It has been generally considered that the demand for labour is proportioned only to circulating not the fixed capital of a country....[17]
>
> These funds consist principally in the necessaries of life, and in the means of commanding food, lodging....[18]

Since it is real wage that counts, the price will not affect demand for labour. For as prices go up, money wage will go up proportionally. Money, as a medium of exchange, serves only to facilitate the transferring of commodities. Store of value (store of purchasing power) as another function of money was unknown to Malthus, as well as the other classical economists. This is why Malthus and his followers did not bother to discuss money wage fund, although they were quite aware of money and price impact.

Ricardo, Malthus's contemporary, asserted that there were two kinds of wages—a natural wage and a market wage. It is to this market wage that the wage-fund is related.[19] His long-run wage theory was that of subsistence—the Iron Law of Wages.[20] Much of the reasoning in the wage-fund theory is generally like that of Malthus. "His chief contribution to the wage-fund doctrine was" as Taussig put it, "in the precision with which he stated it, and in the example of unqualified statement which he set for his successors.[21] For example, Ricardo stated:

> Capital is that part of the wealth of a country which is employed in production and consists of food, clothing, tools, raw material, machine, etc. necessary to give effect to labour.[22]

Taussig has translated boldly this paragraph into a formula with capital as the

17. *Ibid.*

18. *Ibid.*

19. Ricardo's version of wage fund can be found mainly in his chapter on wage and chapter on taxes on wages.

20. Wermel credited Smith as a great synthesizer of the subsistence theory of wage and credited Ricardo as the formulator of the "Iron Law." For detailed discussion see Michael T. Wermel, *The Evolution of the Classical Wage Theory* (New York: Columbia University Press, 1939), Chapters VI and VIII.

21. Taussig, *op. cit.*, p. 166.

22. David Ricardo, *The Principles of Political Economy and Taxation* (Georgetown, D.C.: Joseph Milligan, 1819). p. 69.

numerator and number of labour as denominator that determine wage definitely. As a matter of fact, Ricardo's concept of proportion of capital to population which set the rate came later in the chapter on wages which read:

> It has been calculated that under favourable circumstances population may be double in 25 years but under the favourable circumstances the whole capital of a country might possibly be double in a shorter period. In that case the wage during the whole period would have a tendency to rise....[23]

Ricardo's other point is considered to be important in wage-fund discussion. It is his inverse wage-profit relation. In Ricardo's mind, profit includes interest which is the cost of capital. This threw a light on the possibility of determining the wage share in total capital. The mechanism of determining the share was later touched by Wood but no substantial progress was made.[24]

From the birth of the wage fund concept up to Ricardo, the wage fund analysis was found to exist here and there, and refinement and expansion of the concept were scattered in different topics. The wage fund concept started to gain its theoretical recognition in the short-run macro case. Although the picture is clear, there was a lack of systematic and special treatment.

FORMAL FORMULATION OF THE WAGE FUND DOCTRINE AND THE DIFFERENT VERSIONS

The systematic and special treatment of wage-fund theory was first made by McCulloch in 1826. The wage-fund doctrine hence is formally formulated. Later Senior and Hermann came out with slightly different versions. These are to be discussed separately.

As mentioned in the beginning of this paper, a wage theory is an attempt to explain, among other things, the differences in wage level among different labor

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23. *Ibid.*, p. 73.

24. Mr. Wood, in his article, "A New View of the Theory of Wage," had extensive discussion on this same line of argument. For further detail, see Stuart Wood, "A New View of the Theory of Wage," *Quarterly Journal of Economics*, Vol. 3 (1888-89), pp. 60-86 and pp. 462-480.

Professor Hahn did itegrate Ricardo's profit-wage relation into his short-run macro flow analysis and proved that the wage share is constant (and also rigid in his second special case), but the wage share in his context cannot be identified with wage fund in the classical sense. See F.H. Hahn, "The Share of Wage in the National Income," *Oxford Economic Papers*, N.S. Vol. III (June, 1951), pp. 107-57.

types. For this paper this aspect of the wage-fund theory has been ignored simply because the classical writines concerning this area were of so general a nature as to be applicable to any one of a number of various wage theories.

Formal Formulation of Wage Fund Doctrine

As editor of Smith and Ricardo's works, McCullough was thoroughly indoctrinated by both Smith and Ricardo. In 1826 he published the first book devoted mainly to the wage fund analysis. The book is entitled *A Treatise on the Circumstances Which Determine the Rate of Wage and the Condition of Labouring Calss.* He synthesized both Smith and Ricardo's concepts and firmly spelled out the doctrine, leaving no doubt on the analysis of the wage fund. To McCulloch the wage is the amount of wage fund divided by the quantity of labor. He remarked "on one hand is quantity of necessaries and convenience, on other is the working people among whom they are to be divided."[25] Therefore, the change in either the numerator and denominator, or both will cause a change in wages. In his words, "wages do not really rise except when the proportion is diminished."[26]

The source of change in wage-fund depends upon the productivity of industry, for whenever the industry is most productive, accumulation of capital is the fastest. To him the capital consists of the accumulated product of past labour. It is stock, not flow. Here he dropped Smith's Revenue Concept, thus making the fund rigid. As to the change in denominator, McCulloch indicated that the habits of the working class and immigration can affect the quantity of labor.

Other Versions of the Doctrine

Senior's special issues on the wage fund doctrine came out four years later in 1830.[27] In the preface of his *Three Lectures on the Rate of Wages,* Senior firmly stated his "elementary" proposition: "The rate of wages depends on the extent of the fund for the maintenance of labour, compared with the number of labour to be maintained."[28] Here Senior did not use the word capital at all, for he believed

25. J. R. McCulloch, *A Treatise on the Circumstance Which Determine the Rate of Wage and the Condition of Labouring Class* (New York: August M. Kelley Book Seller, 1963, A Reprint of Economic Classics of McCulloch, 1854 edition. His First Edition was published in 1826), p.4.

26. *Ibid.*, p. 6.

27. His Three Lectures, according to Taussig, contain almost everything that he ever siad on this subject. Taussig, *op. cit.*, p. 198.

28. Nassau W. Senior, *Three Lectures on the Rate of Wages* (London: John Murray, 1830), pp. iii-iv.

that the wage-fund consists of the real fund of the community which is for maintenance of labour and their immediate dependents. From this concept Senior seemed to contend that any increase in commodities or goods will cause an increase in wages. Importation of machinery, if used or consumed by labor, was thought beneficial by Senior: the importation of luxury goods and services was considered harmful. Senior tried to explain the determination of the factors affecting the real-fund by proposing his "Seven Inconsistencies" but this analysis was futile, being ambiguous and repetitious. Senior exhibited the difficulty of exploring the fixity (or rigidity) of the wage-fund, an area in which his followers tried to complete the analysis.

In Germany, the Hermann version of the wage fund is different from that of McCulloch and Senior. The Hermann wage-fund concept was also influenced by the English school. But on two points there is a difference. First, the real source of the fund comes from income which is used to purchase labour-made commodities. Hermann contended that the amount of labour paid directly out of the income of the consumer is "too large to be overlooked."[29] Hermann saw that part of capital (wage-fund) is continuously replenished from the current sale; therefore the purchasing income is where the wage comes from. Evidently in the Hermann analysis there is a wage fund, but the fund is not rigid. Although Hermann did not bother to connect the wage-fund to capital, later he classified capital into producers capital and consumer capital. It was without doubt that Hermann's wage fund is connected to consumer capital. From this later attitude, he can be classified as a wage fund proponent, instead of opponent.

CONTROVERSY OVER THE DOCTRINE

After the publication of Mill's *Principle of Political Economy* in 1848, the discussion of the wage-fund intensified. Mill's extensive discussion of the doctrine was found widely scattered in his chapters concerning wages, labour, and capital.[30]

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29. F. W. Taussig, "The Wage-Fund Doctrine at the Hand of German Economists," *Quarterly Journal of Economics*, Vol. 9, Oct., 1894, pp. 5-7.

30. I do not agree with Miller about Mill being the one who gave the wage fund doctrine its generally accepted treatment. For one thing, Mill's wage fund was discussed in several different chapters on capital and labor and wage at random. For another, Mill's propositions on capital, as the source of the fund, causes the biggest controversy over the doctrine which is to be discussed in this chapter. Above all, Mill's wage fund doctrine is neither "concise" nor "generally acceptable." For Miller argument see Miller, *op. cit.*, p. 108.

His examination of the wage-fund was mostly along the line of his predecessors except his view on capital and hence the determination and source of the wage fund, a view which aroused much criticism. In explaining how the capital is determined, he wrote:

> The distinction, then, between capital and noncapital, does not lie in the kinds of commodities, but in the mind of capitalist—in his will to employ them for one purpose rather than another, and all property, however ill adopted in itself for the use of labour, is a part of capital as soon as it, or the value to be received from it, is set apart for productive employment.[31]

Evidently Mill was really uncertain about the rigidity of the fund. Since the employer or capitalist may, at his own will, spend "more" or "less" for different purposes, then, the fund is very flexible even in the short-run. This is fatal weakness which causes him to surrender to Thornton in his "Recantation" published in the May issue of the 1869 *Fortnightly Review* where Mill admitted the validity of Thornton criticism.[32] Thornton's attack on Mill appeared in his book *On labour* in 1869.[33] Taussig pointed out that Mill was aware of both Longe and Thornton, but his surrender to Thornton was due to his friendship with him and also at that time Mill was interested in social-ethical aspect of union activities.[34]

Thornton questioned the existence of a fixed fund or inelastic fund and asked Mill whether the capitalist or employer may not spend more or less for a dozen different purposes. To this, evidently Mill could not answer. In fact this fatal question was proposed by Longe in the first of his three pronged attacks. Briefly speaking these are: 1) a flexible wage fund, 2) competition in supply of labour, and 3) competition of the buyer and seller of labour in a free market.[35] Since this paper does not intend to appraise the validity of the doctrine, no further discussion will be made.

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31. John Stuart Mill, *Principles of Political Economy*, Vol. I, 3rd Edition (London: John W. Parker and Son, 1852), p. 70.

32. As a matter of fact, Longe's criticism appeared 3 years before Thornton's, but no credit was made to him either by Mill ar Thornton. For Longe's lengthy refusal, see Longe, *op. cit.*, pp. 4-60. No further discussion will be made in this paper for it is beyond the subject of this study.

33. The full title is On labour: *Its wonderful claims and rightful dues, Its actual present and possible future*, published in 1869 in London (No information concerning publisher is available, for this book is not catalogued).

34. Taussig, *op. cit.*, pp. 246-47.

35. Longe, *op. cit.*, p. 27.

Another source of controversy centered around the question of the source of fund. In Mill's mind it came from the wage good. In his fourth fundamental proposition on capital, demand for commodities is not demand for labour. He proposed:

> What supports and employs productive labour is the capital expended in setting it to work, and not the demand of purchasers for the produce of the labour when completed. Demand for commodities is not demand for labour.[36]

This idea of capital destined for payment of wage was rejected by Longe and Thronton alike. Longe's argument is as follows: What employer buys is labour's work, and this labour work is embodied in the commodities that purchasers buy. What purchaser pays includes wage. Therefore, wage fund comes from purchase and demand of consumers who buy the article labour made. A purchaser's fund comes from his wealth. In the final analysis, as Longe put it, "the wages of all labourers employed in a country, come out of one common stock of wealth."[37]

Cairnes, in order to save the doctrine, points out that fixation of the wage fund can be explained by the habits and desires of capitalists, who are guided by the nature of economic law, to maintain accumulation and investment at a certain rate; hence the proportion of this fixed investment which must go to wage is also fixed. But according to Taussig, "In Cairnes, the assumed fixity of wage at last becomes only a remote possibility, not dwelt on at all in the treatment of concrete questions."[38]

Later on, Walker, Sidgwick, and Pigou voiced their refutations on the wage-fund doctrine but it was long after the theoretical discussion moved from the wage-fund to the marginal productivity theory of wages.[39]

In concluding this discussion it is to be reminded that Mill, after his "recantation," did not give up his wage fund doctrine. As Miller pointed out, "In the seventh edition of Principles, published in 1871, two years after his review of Thornton's book, he did not alter his previous observation on wage."[40] However, the wage fund

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36. Mill, *op. cit.*, pp. 97-98.

37. Longe, *op. cit.*, p. 46. This same point was also questioned by Pigoue. For further detail, see A. C. Pigou, "Mill and the Wage-Fund," *Economic Journal*, Vol. LIX (June, 1949), pp. 171-80.

38. Taussig, *op. cit.*, p. 265.

39. Pigou attacked on many fronts, such as composition of fund, flow vs. stock concepts, its impracticability in the real world, etc. See A. C. Pigou, "Mill and the Wage Fund," *Economic* Journal, Vol. LIX (June, 1949), pp. 171-80.

40. Miller, *op. cit.*, p. 112.

discussion had declined yielding its way to marginal analysis.

CONCLUSION

The genesis of the classical wage-fund doctrine was the result of increased interest in the functions of capital and the gradual awareness of the importance of labour by economists and the general public.

From the birth of the concept in the mid-eighteenth century to the end of the nineteenth century when the theoretical discussion of wage opened its new era, the rise of marginal school, the discussion had centered on three major questions concerning (1) the capital-wage relation, (2) the source of change in the wage fund, and (3) the relationship between money and real wages. After examining the development of wage fund doctrine, it can be shown that there are three discernable stages: (1) The period from Quesnay to Ricardo, during which the gradual theorization of the wage fund doctrine was evidenced. In this period, the capital wage relationship, the source of change in the wage fund, and the relationship between money and real wage question are gradually affirmed. (2) The period from McCulloch to Hermann during which a synthesis and modification of the concept is made. McCulloch was the first to synthesize the preceding and prevailing concept. (3) The period from Mill to Cairnes is the period of controversy. The controversy mainly sprund from two fronts–the question of the existence of the fund and its rigidity, and the source of fund.

There is no doubt that the classical wage fund doctrine was developed at the macro level. For the fund in question has been meant to be an agregate sum. It was rather a short run case, for the rigidity in strict classical context can only exist at a given period during which population is fixed and demand for labour (the fund) emerged as a dominant force in the course of wage determination. In the long run case, the wage will stay at the subsistence level due to population pressures, the supply of labour becomes a dominant force. Therefore, in fact, wage fund doctrine and the "Iron Law" complement each other.[41]

The validity of the classical wage fund doctrine is higed upon its implicity

41. Samuelson's point is different in this regard. He contended that wage-fund doctrine is the result of failure of subsistence theory, and hence emerged to fill the gap between Iron law and marginal productivity theory. See Paul A. Samuelson, "Economic Theory and Wages," in Stiglitz, Joseph E. (ed.), *The Collected Scientific Papers of Paul A. Samuelson*, Vol. II (Cambridge, Mass.; MIT Press, 1966), pp. 1557-87.

assumptions: (1) a fixed production period, (2) a fixed level of technology, (3) money served only as a medium of exchange, and (4) the stationary state of economy.

The failure of the wage fund doctrine lies not in the lack of reality within the implicity assumptions, but in the failure to provide useful conclusions as to the determination of the wage fund size and the recognition that under the continuous process of production, part of the wage good that labor consumes may come from current product. These reasons predistined the death of the wage fund doctrine. For these same reasons the wage fund doctrine eventually could not renew its membership to the club of wage theory in the cuckoo-land of economic analysis.

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