

Backward bending supply of labour



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Introduction

In the traditional Law of Supply and Demand, if the price increases, the supply will also increase. But it may actually have the opposite effect on the labour supply if there is a backward bending supply of labour. That is, increase in wage intends to increase the supply of labour. This essay will focus on the reason that causes the supply of labour bends backward by focusing on income effect and substitution effect. The essay firstly explains the reason why increase in wage intends to increase the supply of labour. The discussion carries out by viewing supply of labour as the opposite of leisure demand and wage as the price of leisure. That is, explanation of the backward bending supply of labour can covert to illustration of the upward sloping demand of leisure. It then illustrates some assumptions of the backward bending supply of labour. The essay finally discusses the applications of the backward bending supply of labour. Moreover, the discussion of this essay also covers different opinions of scholars on the applications of the backward bending supply of labour.

Explanation of the Backward Bending Supply of Labour

Labour supply curve has a distinct characteristic that it has a backward-bending part. When the wage is low, as wages rise, the individual will be attracted to higher wages and then reduce time for leisure, so labour supply increases. At this stage, the labour supply curve is rightward sloping.

However, the attractiveness of the higher wage is limited. When wages rises to a certain limit, the labour supply does not increase but reduce. Thus, the labour supply is going to bend backward.

Why does the labour supply curve bend backward? To answer this question, this essay considers the labour supply, wage, and the relationship between them from a different perspective. For that, the increase in labour supply means less demand for leisure if hours a day is limited, and vice versa. There is an opposite changes between labour supply and leisure demand. Second, wages actually is the opportunity cost of leisure. So wage can be seen as the price of leisure. Therefore, the explanation of the backward bending supply of labour can be done by explaining why the demand of leisure is upward sloping.

Demand for leisure goods is affected by two aspects which are the substitution effect and the income effect. Demand for leisure has reverse changes with the price of leisure because of the substitution effect. If the price of leisure increases, leisure will certainly become more expensive than other commodities, which also means that the opportunity cost of leisure increase. As a result, the individual would need less leisure and look for other substitutions instead. However, demand for leisure has the same changes with the price of leisure when considering the income effect. Increase in

leisure price means that the actual income is raised, since the individual will get more income with the same level of labour supply, which is to say, he could work fewer hours to maintain the same consumption patterns of goods and services. Considering both of the substitution effect and the income effect, the change of demand for leisure with the increase in wage depends on the power of these two effects. Since most of the individual's income probably comes from his labour supply, that increase in wage will increase, ceteris paribus, the income of the individual remarkably. Thus the income effect from the changes of leisure price is much greater. If wage is all ready on a higher level with larger scale of labour supply, increase in wage will lead to significant increase in labour income. As a result, the income effect dominates the substitution effect that makes the supply of labour bends backward.

In short, wage increases that can make the individual well off to a certain degree, so he will prefer more leisure time. Therefore, when wage reaches a certain height and continues to improve, the individual's labour supply does not increase but decrease. That is the reason why the supply of labour bends backward.

Assumptions of the Backward Bending Supply of Labour

The backward bending supply of labour is based on some important assumptions. Firstly, the supply of labour being discussed above focuses on the individual scale, though it includes three different scales: the individual, the industry and the economy scale (Wallace and Myles S., 1981). This is because that the individual can handle his working time freely according to

his interest. Besides, working hours and work effort are treated as the same thing.

Secondly, work is an inferior good with weak elasticity. This means, there is an opposite changes in the demand of labour and the income. Leisure is the substitution of labour. Thus, wage can be viewed as the price of leisure.

Since the individual intends to maximize his utility within a fixed number of hours (only 24 hours a day). So, the individual has to decide the hours spent on work and the hours spent on leisure, which is so called opportunity cost of leisure. Then the utility he gains from buying goods with the income he earns in the last hour will equal the utility he would get from the last hour of leisure time.

Finally, the income effect of a higher wage is stronger than the substitution effect. A rise in wage is viewed as generating both an income effect and a substitution effect (T. Aldrich Finegan, 1994). With the substitution effect, when wage increases, the individual will spend more time in work, and the labour supply increases. With the income effect, when wage increases, which means that the individual is much better off, and he will actually provide less working time, thus the supply of labour decreases. Moreover, most of the individual's income probably comes from his labour supply. Under this circumstance, increase in wage will increase the income of the individual remarkably. As a result, the income effect dominates the substitution effect. However, Chung-cheng Lin (2003) held that the supply of labour would bend backward in the absence of an income effect. This is because that working hours and work effort are treated as distinct variables which is different from the conventional assumptions that see them as being the same thing. An

increase in wage tends to increase two direct substitution effects that motivate the individual to provide more effort and hours. When the work effort is greater enough to reduce the working hours, the supply of labour may bend backward without the income effect.

Applications of the Backward Bending Supply of Labour

Based on the above assumptions, the backward bending supply of labour is “widely considered applicable in particular labour markets in any economy” (Harold G. Vatter, 1961, p. 579). The backward bending supply of labour applies to nearly all forms of labour and this phenomenon is worldwide (P. J. D. Wiles, 1962). There was a backward sloping supply curve of labour in Africa for that Africans were rational and wanted to maximize their individual welfare (Elliot J. Berg, 1961). Especially, in small farms where labour plays a larger part in the farmer lives, the application of backward bending supply of labour is more apparent (Kenneth Boulding, 1955). For example, at the beginning of Industrial Revolution of late 1900s, many farmers did spinning and weaving at home to earning more money, so at that time, there was a great increase in their wages and incomes. Therefore, the high level of income made many farmers to cut their time for work so as to enjoy more leisure time. This empirical experience can prove that the supply of labour is backward bending (Karl E. Case, Ray C. Fair and Sharon Oster, 2008).

However, some scholars held different opinions on the application of the backward bending supply of labour. The backward bending supply of labour indicates that, at lower wage, the supply of labour will decrease as wage declines. Yet the American experience from the 1970s to the mid-1990s, fails to support it (Robert E. Prasch, 2000). For that, during these periods, wage

was falling or stagnating, but the labour supply actually increased. In fact, aside from the individual's desire for his paid holidays and paid vacations there is no evidence in recent experience that he wants shorter working time (T. Aldrich Finegan, 1994).

Conclusion

In conclusion, under certain assumptions, there is a backward bending supply of labour showing that when wage increases, the supply of labour may actually also increase, which is opposite to the effect in traditional Law of Supply and Demand. The explanation of the backward bending supply of labour can be done with the illustration on the upward sloping leisure demand. It is mainly the fact that the income effect generated by higher level of wage is stronger than the substitution effect causes the supply of labour bending backward. However, the backward bending supply of labour is based on some important assumptions, such as individual scale of labour supply, substitution between labour and leisure, significant income effect and so on. Moreover, the backward bending supply of labour is applicable under these assumptions. It is widely accepted that there is a backward bending supply of labour in Africa and in small farms during the early periods of the Industrial Revolution. However, there are also some disagreements on application of the backward bending supply of labour.