

A NOTE ON BARGAINING

By Professor NICHOLAS YANNAKOPOULOS
Piraeus Graduate School of Industrial Studies

1. In a stimulating article Crossley (1973) criticized the present theory of bargaining as deficient because it neglects the possibility of stoppage in which neither side «wins». In his own words : «The present theory of bargaining (as for example in the Cartter-Champerlain model), is deficient in at least one important respect. It envisages each side comparing the costs and benefits of two alternative courses of action, at each moment of the bargaining process. One course of action is to give in and accede to opponents offer, and the other is to hold out for one's own bid even though that may involve a stoppage. For the latter course of action, it is assumed by each side that in the event of a stoppage its own bid or offer would prevail, but one has to arrange the possible outcomes in a [two-by-two pay-off matrix...to see there is a fourth possibility, namely that] there is a stoppage which neither side «wins». *This possibility is neglected by the received theory...*»¹ (Crossley 1973, p. 231). This may be true, although one may observe that the fourth possibility, referred to by Crossley, was used by Nash (1950, p. 157) in his bargaining model, for the determination of the outcome of the bargaining process. Nash explicitly states that «in a bargaining situation one participation is especially distinguished; this is the situation of no cooperation between the bargainers. It is natural therefore, to use utility functions which assign the number zero to this anticipation». Nash selects then a single arbitrated outcome in which the product of the parties' utility is maximized.

It is my intention in this note to point out another drawback of the received theory of bargaining, namely its inability to determine the contract curve in the absence of perfect knowledge of the other party's preferences. In the second part

1. My emphasis.

of this note I survey the method of determination of the contract curve due to Fellner¹ (1945) and in the third part I examine the implications of imperfect knowledge of an opponent's preference for the determination of a single contract curve².

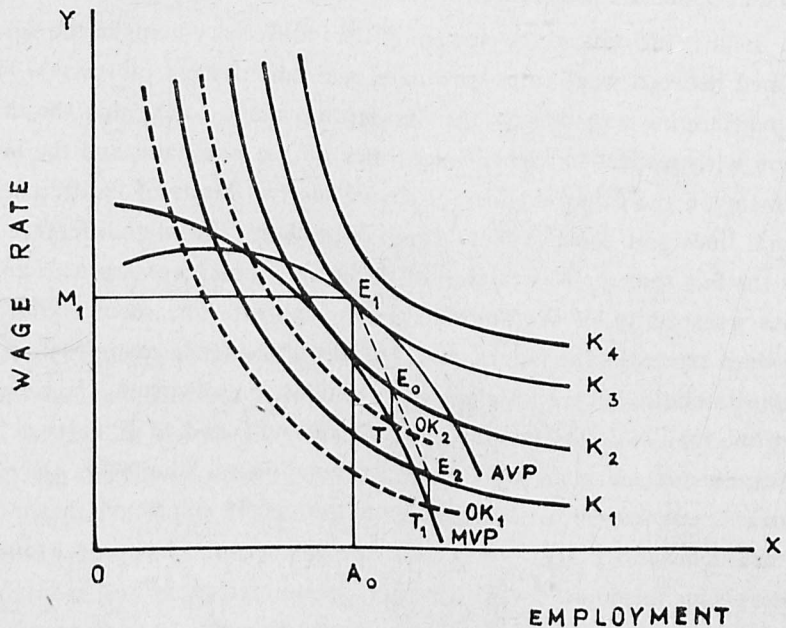
2. Fellner introduced the concept of the indifference maps of the union which are defined between wage rates (ordinate) and employment (abscissa). The shape of the indifference map reflects the assumption made concerning the attitude of the union with respect to higher wage rates on the one hand and the amount of employment on the other. Fellner distinguishes two kinds of indifference maps: horizontal lines and concave from above. The first kind of indifference lines expresses the fact that the satisfaction of the trade union increases with an increase of wages irrespective of the amount of employment. The second kind of indifference lines expresses the fact that the leaders of the trade union realize that they are making a choice between higher wages and less employment. The economic position of the firm is described (see fig. I) by the AVP and MVP curves. The MVP expresses the net marginal value product function of labour for the firm. The AVP curve expresses the net average value product. If we assume that indifference curves are concave from above and that an all or non clause deal (employment guarantee) is included in the wage contract, the union if permitted to set their terms unilaterately, will choose a wage rate corresponding to the tangency of the AVP curve with an indifference curve and will insist on the volume of employment expressed by the abscissa of the tangency. This gives the upper limit of the contract curve. The employers most favourable position along any union's indifference curve can be found by taking the indifference curve in question as a supply curve, that is to say by drawing a marginal curve to the indifference curve and then finding the intersection of that marginal with the MVP curve, and finally finding the point on the indifference curve itself which lies vertically above the intersection of the marginal curves³. According to Fellner all points on the contract curve can be determined by applying the foregoing method to the successive union indifference curves (see fig. I). Given the contract curve the problem is to find a point on it which corresponds to the final settlement of the bargain.

1. Fellner's analysis forms the basis of Cartter's model (Cartter 1959). Cartter uses the concept of the union's indifference map which was introduced by Fellner.

2. It should be noted that Cartter (1959 pp. 111-113) is aware of the case examined here, but does not mention the implications which arise, in the determination of a single contract curve of imperfect knowledge of an opponent's preferences.

3. Dotted lines show the marginal curves to the indifference curves (see figures I and II).

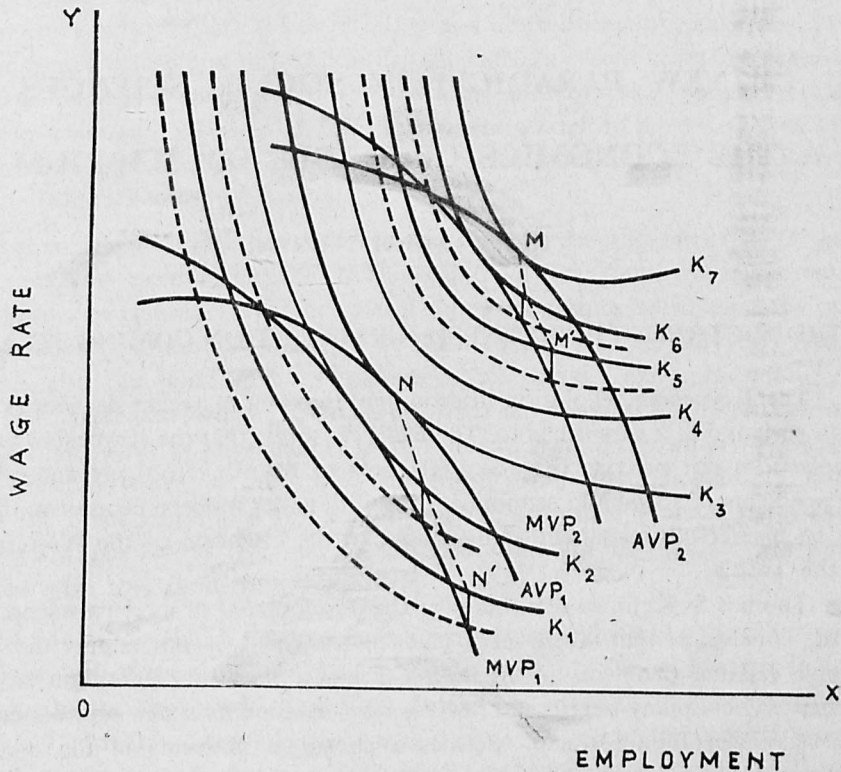
FIG I



3. Fellner's model is based on the implicit assumption that the preferences of the union as expressed by the indifference map are well known to the employers, and that at the same time the employers position, described by the MVP and AVP curves is well known to the union. If this is not the case a contract curve cannot be defined. For example in fig. II. the position of the union as it is described by its indifference map is accepted by employers (so there is a unique set of union preferences) but the position of the employer is not accepted by the union. The employer believes that his position is described by the curves MVP_1 and AVP_1 while the union insists that the employer's «true» position is given by the curves MVP_2 and AVP_2 . As we can see in fig. II, the employer is ready to agree on a point on the contract curve NN' while the union insists that the relevant contract curve is the MM' .

Although this may be too simplistic, I feel it describes very well the fact that disagreement concerning the economic position of each party may lead to more than one contract curves (in our example two) which means that the bargaining parties, or the arbitrator called to settle the dispute, have to decide first which contract curve is relevant, and then to determine the point on the contract curve.

FIG II



In my opinion the received theory of bargaining has paid little attention to the effects of the absence of effective communication on the contract curve. But failure of the bargaining parties to agree on a contract curve means failure to agree on the limits within which bargaining has to take place.

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