

Optimal labor and capital income taxation without commitment

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Commitment issue in the dynamic Mirrlees economy In most “New Dynamic Public Finance” (NDPF) literature, one of the important assumptions is full commitment. Under this assumption, time-inconsistency problem appears as commitment issue. Therefore, in this paper, this assumption is relaxed. I consider two period economy with aggregate shock, that there exist two skill type agents and their skill type is the private information. If it assumed that the government cannot commit, one of two outcomes can occur. One is either agents reveal their own skill type in the period 1, and the government uses such information to implement a lump-sum tax in the period 2. This case is named as complete separation case. Or there is complete pooling case in the period 1 in which neither type agents reveal their own skill type, followed by a standard static Mirrless economy in the period 2.

Complete separation case Concerning the labor income taxation, in the period 1, high skill agents are not taxed and low skill agents are taxed, to make high skill agent revealed their skill type. In period 2, high skill agents and low skill agents are not taxed at all. As to the capital income taxation, saving of both skill agents is subsidized, to compensate for loss of information rent. Moreover, the rate of subsidies for low skill agents is larger than for high skill agents. It is because saving level of high skill agents is larger than that of low skill and is given in period 2. These are illustrated by numerical example.

Complete pooling case As to the labor income taxation, in period 1, high skill agents are taxed and lower skill agents are subsidized to let their consumption level fixed the same level. In period 2, the same labor taxation as complete separation case is optimal. Saving of high skill agent is taxed and that of low skill agents is subsidized. For high skill agents, since they face no the labor income tax in period 2, they would like to save more. In contrast, for low skill agents, since they faces the labor income taxation in period 2, they increase own consumption level in period 1. The government takes account with their behavior and set such the tax policy.

The solution of non-commitment problem Which cases discussed above is the solution of non-commitment problem? It depends on the parameters on the model. By numerical illustration, complete separation case would be the solution under basic parameterization. However, if the discount rate increases, then complete pooling case is the solution.