Indenture: an institution for a credible commitment without extortion

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Abstract

The aim of Kritikos and Bolle [Kritikos, A.S., Bolle, F., Journal of Economic Behavior and Organization 34 (1998) 279–294] was to analyze the institution of the Indenture Game within today’s institutional setting. Unfortunately, Holt bases his rejoinder on a historical occurrence with a different institutional context. This explains why his rejoinder is inconsistent. © 2000 Elsevier Science B.V. All rights reserved.

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1. Introduction

In the original paper (Kritikos and Bolle, 1998) the institution of Indenture is offered as a transaction structure suited to solve the efficiency problem between a principal and an agent: both are willing to cooperate but at the same time face a significant enforcement problem of their contract. In that approach the conditions were modeled under which it is worthwhile for both sides to cooperate.

Holt (2000b) in his most recent rejoinder to Kritikos and Bolle (2000) argues that this approach is flawed in the context of one-shot, and that the Indenture might be viable only in iterated prisoner’s dilemma. Further, he asserts that under iterated play it would be the principal who would get both players’ gains from cooperation, the agent would be extorted.

Three points will be raised in this note. First, it will be shown that it is not the Indenture Game which is attacked but a historical occurrence. Second, it is proved that the historical occurrence of indentured contracts fits the game structure of Indenture. And third, the context will be discussed in which a new institution should be introduced.
2. The context of the indenture game and of a historical occurrence

In the model of Kritikos and Bolle (1998) a certain game structure was defined — the Indenture Game. Part of the game is the fact that the principal is indifferent in his final decision. It was emphasized that it is the principal’s central task and his self-interest to ensure the indifference in the final move and it was shown under which conditions an un-enforceable contract can be supported by a transaction structure which makes the contract self-enforceable. This point was discussed under complete and incomplete information. Of course starting with the case of complete information does not mean that something was defined away.

The question which was not addressed in this paper, is how these conditions of indifference at the final node of the game may be realized \(^2\) and how the corresponding rules — necessary to ensure the indifference — may evolve. This is why an example from today’s labor market was provided which fits the game structure. With respect to this example, the principal is indifferent in the final node of the game because he has to provide the agent with a reference — a good or a bad one so that in this example there is simply nothing to be resold after the agent has performed his service. It is this rule which ensures that the principal is indifferent. He has no other choice but to issue the reference and so the game in this example is structured properly.

Holt (2000b) argues that the Indenture Game is flawed because the principal is not indifferent in the final stage, but he neither refers to the game structure nor to the example. Holt keeps grimly at a historical occurrence which, in fact, was not even analyzed any further with respect to the question of indifference at the final node of the game. Holt detaches the expression “there is simply nothing to be resold” from its context and misapplies it to a completely different context, i.e. the historical occurrence, in order to derive his conclusions about the viability of the Indenture Game. Besides the confounding way to derive results, it is left to the reader to judge whether this connive line of argumentation is scientific and fruitful.

3. The Indifference of the principal in a game played 400 years ago

In this note it will be recovered to prove that the historical fact of indentured contracts corresponds to the Indenture game. Based on the assertion that there is nothing to be resold after the agent has served, Holt argued that “… the principal owns and may sell … the discretionary right to give the agent a bad reputation … This right may be transferred, much as a creditor can sell an account past due to a collection agency”.

Even if the game is not structured properly so that the old principal may be able to sell a served indenture, this metaphor is not correct because it nevertheless ‘takes two to tango’: not only a seller but also a buyer of the served Indenture. A creditor asserts a positive value to an outstanding loan even if the debtor faces financial difficulties or insolvency. Therefore, a collection agency may decide to buy an outstanding account. In contrast to this there will be no new principal who is willing to pay a dime for a served Indenture

\(^2\) This is common procedure when designing new mechanisms, cf. Kreps (1990, p. 133).
because if he is rational he will not assert any positive value to the second part of a served Indenture. When no principal can commit (which is the case we are discussing here) any potentially new principal will anticipate that it is a dominated strategy for the agent to serve the same Indenture for a second time. And talking about abilities to commit one should not forget the agent’s ability to commit to a certain strategy in particular since there is no more credible commitment than not to choose a dominated strategy. Thus, any new principal will face a loss if he pays any positive amount for the second part of the Indenture. The old principal might possess the discretionary right to sell the second part of the Indenture, but if there is no buyer there is no exchange. The old principal is still indifferent in the final stage of the game between transferring and not transferring the missing part to the agent.

Moreover, the assumption of full observability of the agent’s job performance by all potential principals is not false. The intuition behind this assumption is that at least smart principals anticipating that no agent will serve one and the same Indenture twice will try to get any information whether the agent has served. They will not buy if they are unsure whether the Indenture is unserved because they have no incentive to risk an investment with a zero rate of return.

At least Holt admits that the game is straightforward if an agent knows ex ante whether a given principal is capable of commitment. This almost corresponds to the results of Kritikos and Bolle (1998): if both players — principal and agent — have the information that the game is properly structured the exchange will be accomplished and a very attractive equilibrium will be realized. In this paper the statement is also covered that the transaction unwinds if none of the potential principals has the power to structure the game properly and there is no new insight from that ‘key point’ besides that Holt missed the fact that the outcome where both players defect is an equilibrium outcome as well.

Therefore, no agent will be so stupid (i) to make a contract without knowing whether the first principal is able to commit and (ii) (if the first principal is unable to commit) to hope that in subsequent rounds there will be one principal who is able to commit. Moreover, if commitment is possible, why should the agent not make the contract right away with that principal who is able to commit — there is no reason to assume this away.

4. The context specific set of institutions

This leads to the third and final point which should be raised here: It is crucial to have in mind what players are committed to. Unfortunately, Holt permanently confuses commitment and pre-commitment. In Kritikos and Bolle (1998) it was assumed that principals can commit to a specific game structure which excludes the existence of certain strategies and which ensures the indifference of the principal.  

To support the assumption that the strategy space cannot be restricted it is necessary to insinuate that Kritikos and Bolle (1998) must have been fallen into the transparent disposition fallacy. However, what Binmore (1994, p. 80) blames Gauthier (1986) for and to which

3 Moreover, we showed under which conditions the transaction is still carried out even if the commitment is possible only with a certain probability.
Holt (2000a) refers to is that Gauthier believes “it can be shown that rational agents will voluntarily observe constraints on the extent to which they maximize” and Binmore believes all such arguments to be fallacious. There is no need to discuss these opposite believes here. The point is that (i) it is always surprising when an unconcerned third party ennobles the mere expression of a belief into the status of an irrefutable fact. (ii) It is even more surprising when the third party is not able to properly apply these beliefs on another situation: In the Indenture Game it is not necessary that the principal will voluntarily observe any constraint at the final node of the game.

Thus, the complete discussion is not fruitful because the approach Holt has in mind is different from the Indenture Game and so he misses point. However, let us try to make a fruitful discussion out of it. From time to time there is objection that the commitment to an effective restriction of possible strategies is too strong and that only pre-commitment with respect to certain strategies is possible when a game is repeatedly played. This leads to the central question in which context a new institution — such as the Indenture Game — should be introduced?

There are three possible, diverging answers: (1) one extreme position is: no other institution should be taken as given so that only pre-commitment is possible with respect to certain strategies. ‘Purists’ like Binmore (1994) are very close to this position. (2) The other extreme position is: an institution can only be introduced when the evolution of previous institutions are analyzed. This position is represented by North (1991). (3) An intermediary position is: a new institution is introduced with respect to the given set of institutions in the current world but without discussing the evolution of the given set of institutions. This position is represented by Williamson (1985).

The Indenture Game — as it is mostly done in the existing literature on neo-institutional economics — was analyzed up to now as an institution within a given set of institutions. In the labor-market example, the institution which was supposed to exist and to which the principal can genuinely commit, is the obligation to produce a reference when the agent quits the job.

Of course one can assert that this assumption is too strong because — as purists might argue — the Indenture Game is based on a pre-existing institution (in the example to write a reference) and this pre-existing institution needs again an explanation of the mechanism (laws, norms) that enforces the pre-existing institution and the mechanism is another institution which needs again and so on. Thus, these purists would suggest that a new institution has to be introduced in an institution-free world.

However, this position denies the fact that those economies which are highly developed now, did so because of the existence of successful institutions (cf. North, 1991). To ignore the existing set of successful institutions makes only sense if the economy of general equilibrium is the benchmark for a new institution. This would be reasonable if we had to do with completely rational, self-interested individuals who decide in a world with no pertinent private information and with no transaction cost. However, if we were in this world, there would be no need to create any institution because both parties (here principal and agent) know anyway what they are getting when undertaking a transaction and the contract they conclude would be enforceable without any cost.

Since we are in a world of bounded rationality which is still in need of innumerable institutions we would admit an unacceptable loss of information if we excluded all established
successful institutions which allow to make a credible commitment. Of course it would be interesting to enter the path chosen by North (1991). This implies to ask how the institution of Indenture has evolved throughout time, whether and why the Indenture enabled principals to extort serfs when slavery was one among the given set of institutions. It also implies to analyze the performance of Indenture when the given set of institutions suggests that there are two bargaining parties, having the basic rights like the free choice of their contract partner who are both willing to achieve the socially efficient result of cooperation. The discussion of this issue is left for another paper.

Whose line of argument does Holt follow? First, he adapts the purist’s point of view that in an institution free world the Indenture is not an institution to secure transactions. Then he turns to the historical analysis of institutions and stresses in his rejoinder that Indenture is a historic fact. How are these two elements combined: He claims that it was the Indenture which enabled the principals to extort their slaves. And what does Holt want to tell us with his conclusion? Beware of indentured contracts today, they will bring us back extortion and slavery!

This inconsistency proves that it can be misleading to combine positions which are incompatible and that it is important to refer to the actual set of institutions. A few points have to be clarified:

1. It is not the Institution of Indenture which enabled the principals to extort their slaves. Irrespective of any Indenture it was the given set of Institutions — the asymmetric allocation of the basic civil rights — which allowed the principals to do so. If principals made use of the Indenture in terms of extortion they did so because their opposites had no right to leave whatever the principals did to them. Thus, it was the given set of institutions — including the right to hold slaves — that prevented a transaction as aimed by the Indenture Game. Consequently, there was also no ability for mutual defection because slaves had no choice whatsoever. Neither could they not agree to an indentured contract nor defect — unless they accepted to be killed for disobedience or defection. Thus, the principals’ commitment to a ‘feudal tribute’ is another example for an effective restriction of strategies. The principals were not the great pre-committers but their counterparts simply had no choice but to accept their principal’s decision. Principals had a kind of local monopoly with compulsory contracting — not for the principal (as usual in a monopoly) but for the serf.

2. Within today’s institutions an indentured contract is possible without extortion of the agents. Principals and agents have both the free choice to agree to an indentured contract because within the given set of institutions (basic rights also for the serving agent!) the agent has — besides the above raised facts — the right to quit the job, irrespective of his choice.

3. Has today the GRIM-strategy any meaning for an indentured contract once concluded between a principal and an agent? Clearly no because — previous to the transaction structured in the sense of the Indenture Game — there was, e.g. bilateral bargaining of two free parties both aiming to realize an increase of their payoffs. If instead, the principal commits himself to the GRIM strategy he may try but will not find any agent willing to accept such a split of the pie. And even if all potential principals have (by tacit collusion) committed to the GRIM strategy it is unrealistic to expect that any of the principals will get most of both players’ gains from cooperation. Numerous experiments
on the Ultimatum Game conducted in different countries with different sizes of the pie
have shown that agents will defect right away when a principal should commit himself
to a strategy which leaves virtually nothing to the agent. Thus, today even the power
to set extortionary rules (like playing the Ultimatum Game) does not necessarily lead to
extortion!

4. Last but not least let us ask whether the GRIM strategy in Iterated Prisoners Dilemma
Games is the principal’s most successful strategy? Barzel (1977) has shown that even in
the context of slavery it pays to the principal (in the sense that he can get more output) if
he leaves a certain portion of the output to the agent — substantially more than virtually
nothing.

We may close the discussion on the viability of the Indenture Game with a historical note
on indentured contracts which were put by Holt in the context of slavery. Those persons
described in the preface of the original paper were not slaves but poor. And as Beard and
Beard (1944, p. 33f) put it “nearly all indentured servants were immigrants who had freely
chosen their hard lot in the hope of eventual advantages. They preferred this choice to
remaining in the Old World where they could either find no work at all or had to toil all
their lives with no prospects of more than subsistence wages. . . . After they had finished
their term of service indentured servants were free to make their way as best they could. . . .
At all events no stigma of servitude rested upon them and, as the law was concerned, they
could and often did rise to good fortune and even honors. . . . The great majority of them
merged with the population of farmers and artisans and shared their labors and advantages
as free citizens”. They were not extorted.

5. Conclusion

This discussion shows that Holt’s arguments are suggestive and inconsistent. On the one
side he strives an institution free setting to show that the Indenture Game might be flawed.
On the other side to support his finding he argues within a context of institutions completely
different from today’s and particularly disadvantageous for the agent. He turns causalities
upside down and he misses to derive the principal’s best strategy within the context of
slavery. In contrast to this the aim of Kritikos and Bolle (1998) was to analyze an institution
within today’s institutional settings and not to rebirth predemocratic institutions which were
surrounding indentured contracts 400 years ago in the US. The Indenture Game is a viable
institution leading to an attractive outcome for both parties — even if some people do
sometimes the “wrong analyses of wrong games” (Binmore, 1994).

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References