

Huerta de Soto's Concerted Expansion: A Prisoner's Dilemma in Free Banking?

Introduction

Concerted expansion is a common concern present in discussions about free banking performance. Huerta de Soto (2012 [1998], pp. 664–71) uses game theory to show that banks have incentives to collude and expand fiduciary media. According to Huerta de Soto, his game illustrates that incentives exist for banks to over-expand to the point that a crisis unfolds.

His approach, however, does not accurately describe the problem of concerted expansion in free banking. Van den Hauwe (2008) critically discusses the general use of the prisoner's dilemma in the free banking literature. The following commentary discusses seven specific limitations to applying the prisoner's dilemma model to concerted expansion in free banking. The critical discussion of these points also helps to focus on relevant challenges for concerted expansion that are not clearly present in Huerta de Soto's treatment.

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Huerta de Soto's Use of Game Theory in Concerted Expansion

In *Money, Bank Credit, and Economic Cycles* (2012 [1998]), Huerta de Soto defends the 100 percent rule for banking reserves. There are two lines of argument for the convenience of forbidding fractional reserves in banking.

The first of these is drawn from what Huerta de Soto refers to as “traditional legal principles” that he traces back to the Roman Empire. According to this position, the fractional reserve practice contradicts basic legal principles by (1) lacking a specific term or maturity date, which according to Huerta de Soto (2012 [1998], pp. 17-18) is “impossible to imagine” in a monetary loan contract, and (2) by the absence of safekeeping of the deposit. For Huerta de Soto, the banker performs a fraudulent act if he lends the deposit for his own benefit. Because fractional reserves would be an irregular contract, such practice should be avoided and a 100 percent rule should be enforced. This point of view has been contested by White (2007) and Yeager (2010), who argue that such outdated terminology and legal practices are inappropriate for an analysis of contemporary banking and financial practices.

The second line of argument, constructed from the first one, pertains to the

		Bank A	
		Does not expand	Expands
Bank B	Does not expand	The survival of both (reduced profits)	The failure of A The survival of B
	Expands	The failure of B The survival of A	Large profits for both

instability of fractional reserves. An economic crisis may come in two forms: (a) a crisis as described by the Austrian business cycle theory, or (b) a crisis caused by a bank run that provokes bankruptcy and financial instability. Huerta de Soto (2012 [1998], p. 665) acknowledges that any bank that expands its credit faster than its competitors will see its reserves drop quickly. He continues, however, arguing as follows:

Not only is fractional-reserve free-banking incapable of avoiding credit expansion and the appearance of cycles, but it actually tempts bankers in general to expand their loans, and the result is a policy in which all bankers, to one extent or another, are carried away by optimism in the granting of loans and in the creation of deposits. It is a well-known fact that whenever property rights are not adequately defined—and this is the case with fractional-reserve banking, which by definition involves the violation of depositors’ traditional property rights—the “tragedy of the commons” effect tends to appear. Thus a banker who expands his loans brings in a handsome, and larger, profit (if his bank does not fail), while the cost of his irresponsible act is shared by all other economic agents. It is for this reason that bankers face the almost irresistible temptation to be the first to initiate a policy of expansion, particularly if they expect all other banks to follow suit to one degree or another, which often occurs (pp. 666-67).

Huerta de Soto further asserts that issuer banks in free banking are in a similar situation to that of a tragedy of the commons, the difference being that if not all banks expand in concert then the mechanism of adverse clearing comes into play. He illustrates the situation with the table shown above.

Following his argument on traditional legal principles, Huerta de Soto compares the situation of free banking to that of a tragedy of the commons where overexpansion of credit substitutes the depredation of resources. Selgin and White (1996, pp. 92-93) criticized this analogy in their discussion of a previous article by Huerta de Soto (1995, p. 33). They argued that economists “conventionally distinguish a ‘pecuniary externality,’ an effort on someone’s wealth transmitted via the price system, from a ‘technological externality,’” and that Huerta de Soto “fails to grasp this distinction when he mischaracterizes the pecuniary externality from fiduciary media as a ‘tragedy of the commons,’ a term that properly applies to a particular sort of technological externality.” Huerta de Soto, however, defended the analogy as correct, arguing that “the issue of fiduciary media stems from the violation of traditional property rights in connection with the monetary bank-deposit contract, and that hence fiduciary media are not a spontaneous phenomenon of a legally based free-market process”

(Huerta de Soto (2012 [1998], p. 667). He concludes that “it is obvious that given the choices above” the banks will “initiate a joint policy of credit expansion which will protect both from insolvency and guarantee handsome profits” (p. 668).

Limitations of the Game Applied to Concerted Expansion

Prisoner’s Dilemma?

The first limitation with Huerta de Soto’s treatment is that, although he refers to the game as one “typically used to illustrate both cooperative games and ‘prisoner’s dilemmas’ ... ” (p. 668n), his presentation does not correspond to that of the prisoner’s dilemma.¹ The latter has strictly dominant strategies and one Nash equilibrium that happens to be sub-optimal. Huerta de Soto’s game equilibrium, on the other hand, is Pareto efficient because the banks collude to seize large profits for both.

The situation that the banks face in the presented form thus does not resemble the problem in a conventional prisoner’s dilemma. On the contrary, in Huerta de Soto’s treatment the players collude in the Pareto efficient equilibrium. The concerted expansion becomes not a dilemma, but the best outcome for the banks given the structure of the presented game.

Repeated Game

The second limitation is that Huerta de Soto presents the game as a one-move game. The conclusion that a central bank will finally appear is not deduced from

¹Note that in the 2009 Spanish edition this reference to cooperation games and prisoner’s dilemmas is absent.

the game itself but must be assumed and then added to the end of the game. Although Huerta de Soto argues that colluding banks and central banks are designed to “orchestrate” and “organize” concerted expansion, the non-repetitive aspect of the game does not describe the concerted expansion problem before the central bank is created. This is a relevant point since the problem of the prisoner’s dilemma vanishes in the case of repeated games. Certainly banks are reviewing their decisions frequently, and therefore a repeated game is a more appropriate assumption than a non-repeated game.

Barriers to Entry

The third limitation has to do with the lack of room in the game for new competitors to join the market when colluded expansion raises income. If collusion were to yield significant returns, as assumed, then it should then attract new competitors into the banking sector. Without such a possibility, the game can hardly be considered an accurate description of the free banking scenario.

Although Huerta de Soto (2012 [1998], pp. 669–670) touches on this point, he concludes that central banks “generally appear as a result of requests from private bankers” so that “the ‘uncooperative’ behavior of a significant number of relatively more prudent bankers is prevented from endangering the solvency of the rest.” In other words, he argues that collusion becomes stable because colluding banks promote the ultimate appearance of a central bank to institutionalize the joint credit expansion. But the need and presence of a central bank cannot be an argument that free banking is unstable since the collusion strategy is self-defeating just as the free-banking literature argues. Colluding banks are unable

to survive competition absent the protection of a central bank. How is that a valid argument against free banking?

Solvency and Goodwill

The fourth limitation is related to solvency and goodwill considerations. This problem was mentioned by Mises (1996 [1949], Chap. 12), a reference that Huerta de Soto quotes (p. 665) but a problem that he fails to address. Mises points out that solvency considerations will constrain issuer banks from colluding with less efficient banks (Mises, 1996 [1949], p. 441). A bank, argues Mises, puts too much at risk by joining a venture with a low goodwill partner. Building goodwill is a difficult and long-term task for banks that can easily be lost setting the stage for bankruptcy. According to Mises:

But, some people may ask, what about a cartel of the commercial banks? Could not the banks collude for the sake of a boundless expansion of their issuance of fiduciary media? *The objection is preposterous. As long as the public is not, by government interference, deprived of the right of withdrawing its deposits, no bank can risk its own good will by collusion with banks whose good will is not as high as its own.* One must not forget that every bank issuing fiduciary media is in a rather precarious position. *Its most valuable asset is its reputation. It must go bankrupt as soon as doubts arise concerning its perfect trustworthiness and solvency.* It would be suicidal for a bank of good standing to link its name with that of other banks with a poorer good will. Under free banking a cartel of the banks would destroy the country's whole banking system. It would not serve the interests of any bank (Mises, 1996 [1949], p. 447, italics added).

Independently of the validity of Mises' assessment of solvency and goodwill, the

game as applied to free banking does not deal with the problem of differences in solvency and goodwill; it merely assumes these problems away.

Volatility of Reserves

The fifth limitation is the impact of the variance of reserves when fiduciary media is expanded on the behavior of banks, an issue that has been pointed out by Selgin (1988, pp. 80–82; 1994). Selgin's point is also not addressed by Huerta de Soto, despite the facts that Selgin's argument was made ten years prior to the first edition of Huerta de Soto's book, and that Huerta de Soto actually quotes Selgin's (1994) discussion on the effect of the variance of reserves on page 670 (footnote 98). Selgin draws attention to the fact that under concerted expansion, even if the expected reserve value remains unchanged, reserve's variance will increase, which, as a risk measure, will require the banks to increase their precautionary reserve holdings. Selgin recognizes that some concerted expansion may occur if the proportional change in the variance of reserves is smaller than the proportional change of the fiduciary media. According to Selgin (1988, pp. 82):

Under in-concerted expansion no member of a system of banks expanding in unison (and in the face of an unchanged demand for money) will experience any increase in its *average* net reserve demand; the change in expected value of its clearing debits. But the growth in total clearings will bring about a growth (though perhaps less than proportionate) in the *variance* of clearing debit and credits, which increases the precautionary reserve needs of every bank. Thus, given the quantity of reserve media, the demand for and turnover of inside money, and the desire of banks to protect themselves against all but a very small risk of default at the

clearinghouse at any clearing session, there will be a unique equilibrium supply of inside money at any moment. It follows that spontaneous in-concert expansions will be self-correcting even without any “internal drain” of commodity money from bank reserves.

This market mechanism that challenges the concerted expansion initiative is absent as well in Huerta de Soto’s game representation.

Price Level and Money Demand

The sixth limitation is related to a particular characteristic of money. A decline in the price of money (depreciation), especially a continuous decline as would be expected in the case of concerted expansion, affects the demand for money negatively because individuals seek to limit their losses and reduce their holding of the depreciated currency. This market limitation to the expansion of fiduciary media is also absent in the prisoner’s dilemma application, which does not reflect changes in the demand for money under the different strategies presented by the game.

Conclusions

Huerta de Soto’s game to model concerted expansion in free banking fails to address specific characteristics of free banking. The game does not explain how collusion can persist without the appearance of new competitors and without protection in the market from a central bank. Such explanations cannot be provided by the proposed game and therefore are exogenous. Any model that shares these constraints fails to accurately describe distinctive market processes that are present under free banking.

Furthermore, the implicit assumptions that each competitor faces identical goodwill and solvency situations and that bank expansion will not affect the variance of reserves, as if credit expansion were neutral, ignore two particular problems that must be addressed by the participants when colluding to expand fiduciary media. The assumptions used in Huerta de Soto’s game do not offer a simplification of free banking; the assumptions of the game fall outside reality. This is not a minor point. Even if it were true that free banking results in the concerted expansion suggested by Huerta de Soto, it would not be for the reasons implied in the presented game.

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