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Coase and the Economics of Crime

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Abstract: "*The problem of social cost*" is a major piece of Coase's legacy. It constitutes the foundation of the neo-institutionalism movement. This article tries to provide a solution to situations characterized by disputes on the use of resources. We propose a libertarian and Rothbardian re-examination. In the first section, the Coase theorem is the object of a personal appraisal. The second section stresses the common points between the Coasian approach and the classical school of the economics of crime. The third section examines the consequences of both of these theories for public policy.

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1 Introduction

"The problem of social cost" constitutes a true revolution for analyzing the harmful effects resulting from incompatible uses of resources. The traditional pigouvian analysis supposes that governmental intervention limits such situations of conflict. The approach in terms of private and social costs focuses on the deficiencies of the market. On the opposite, Coase suggests that some harmful acts should not necessarily imply compensation. The true criterion he refers to is the total available product it is possible to reach. The different results have to be compared for the different social arrangements (Coase, 1960)[1]. He therefore emphasizes the importance of the institutional environment. The Coasian analysis shows that many flaws characterize the traditional analysis of welfare economics. The Coasian analysis stands as an alternative.

This article deals more particularly with the formal links between the Coasian theory and the classical school of the economics of crime (Carnis, 2002)[2]. The first section develops the different results that the Coasian analysis achieves. It emphasizes the consequences of the Coase theorem, which have been very much adopted by the mainstream economists. The second section analyzes the common points between both theories and stresses their entangled character. The third section is concerned with the implications for the enforcement of law and order.

This article is based on the Rothbardian theory of property rights. This theory implies that legitimate property rights have four possible origins: self-ownership, homesteading, exchange of previous legitimate property and production (Rothbard, 1982)[3]. Justice supposes the respect of these legitimate property rights and considers all physical invasions of legitimate property as crimes[4]. This theory constitutes the general framework from which it becomes possible to cast a new light upon the Coasian analysis. This contribution can be considered as being one possible Rothbardian re-examination of Coase's insights.

[1] Ronald H. Coase (1960), "The Problem of Social Cost", *The Journal of Law and Economics*, Vol. III, October, p. 40 and 43.

[2] For a definition of the classical school of crime, see Laurent Carnis (2002), "Economic Approach of Crime: Mainstream Economics vs. Rothbard", *Paper delivered in the honor of the 40th Anniversary of Murray Rothbards Man, Economy and State*, March, Ludwig Von Mises Institute, Auburn, Alabama.

[3] Murray N. Rothbard (1982), *The Ethics of Liberty*, Humanities Press, p. 33

[4] It means the victim bears a true damage

2 The Coase Theorem: a personal and critical appraisal

Coase's contribution on the problem of social cost deals with actions having harmful effects for another party. The solution Coase proposes consists in choosing the social arrangement that permits to increase the total available production for society.

The General Framework

The general premise of Coasian analysis is to consider the problem we face as not being a unilateral one (A harms B), but having a reciprocal nature (A can harm B by undertaking a specific action, but if B prevents A from acting in order no to be harmed, A bears a damage from B.) (Coase, 1960)[5]. Consequently, Coase assumes that disputes result from situations where the rights are either unclearly defined (clean air) or are not correctly identified (problem of noise and its intensity). He supposes also cases where there are some contradictions between the exercise of the different (bundles of) rights. For Coase, a dispute between parties is the outcome of oppositions between legitimate claims to exercise a right (Coase, 1960)[6]. For the sake of an example, let us suppose two kinds of vehicles (cars and trucks) on the road network. Their drivers hold, according to the Coasian analysis, a legitimate property right of using the road. Unfortunately, there is an incompatibility between both these vehicles. The heterogeneity of their physical characteristics can drive to a surplus of road accident and can be the origin of social losses. Typically, we are in presence of a conflict about the use of a scarce resource.

This analysis has never considered the possibility that among claims some could be illegitimate and could constitute a true invasion of a legitimate property right (Carnis 2002)[7]. In the above example, it does not finally matter whether the accident means a violation of a legitimate property right on the body of the victim or rather on her vehicle. What is truly at stake here is the existence of a damage. Therefore, a strong criticism can be raised against the Coasian analysis for the lack of relevance given to the ethical dimension of property rights. It is symptomatic that through his long article Coase evokes the decisions of judges without never dealing with the principles of justice. And

[5] Ibid. p. 2.
[6] Ibid. p. 13.
[7] Ibid., p. 5.

yet, these principles should motivate the judges' decisions. Is it meaningful to separate the notion of rights from what is right (North, 2002)?[8] This remark repeats a critique made previously by Rothbard on the absence of a theory of justice characterizing the mainstream works (Rothbard 2000 (1974))[9].

The general objective of Coasian economics is concerned with the search for the maximum of production (Coase, 1960)[10]. "If we are to attain an optimum allocation of resources, it is therefore desirable that both parties should take the harmful effect (the nuisance) into account in deciding on their course of action" (Ibid.)[11]. To reach this objective requires making some tradeoffs between the different activities, because of some contradictions between plans of production. This tradeoff is made possible by establishing a scale of value permitting the comparison. The easiest way to proceed is the comparison of the different levels of output for the use of the same resource. If we follow our example, it means we have to compare the different wealths tied with the use of the different vehicles : the freight transport for trucks and the output of the car users. Consequently, the allocation of resources among the population depends on the specific search for efficiency without consideration for the legitimate owner.

> What answer should be given is, of course, not clear unless we know the value of what is obtained as well as the value of what is sacrificed to obtain it (Coase 1960, p. 2)[12].

The efficient situation is reached when the social cost is minimized. The minimization of the social cost implies that the less productive use of resources will be forgone or, to put it differently, the most highly use of resource has to be preferred. The social cost is minimized when there is an additional production or more goods and services to share among the population. If production is 100 monetary units in the case of the truck activity and only 90 from the use of cars, it follows priority has to be given to the truck for using the road network. This perspective is very important insofar as it implies it

[8] Gary North (2002), "Undermining Property Rights: Coase and Becker", *Journal of Libertarian Studies*, Vol. 16, no 4, fall, p. 80 and 858

[9] Murray N. Rothbard (2000 [1974]), *Egalitarianism as a Revolt Against Nature*, 2nd Edition, Ludwig Von Mises Institute, Auburn, Alabama, p. 91-96

[10] Ibid., p. 10

[11] Ibid. p. 13

[12] Ibid., p. 2

becomes also possible to make some tradeoffs between rights, independent from their legitimacy. Indeed, to give the right of using a specific resource consists, as a matter of fact, in allocating the property rights on this resource. The objective of efficiency implies then the possibility of excluding the current owner from his own legitimate property (North, 2002)[13]. Consequently, the legitimate owner sees his own right to exclude trespassers annulled, while others benefit from these opportunities to exclude legitimate owners from their own properties. The property right is no more absolute but becomes conditional, determined by a questionable trade-off (Carnis, 2002)[14]. Finally, it undermines the foundations of property rights.

> By elevating the "right to inflict damage" to the same level as the right to demand compensation for a violation of a property right, Coase has effectively compromised the latter right by making a potential right out of the ability to inflict damage. The application of Coase's argument would destroy property rights by attempting to extend the status of property right to a man's ability to damage his neighbor's property (North, 2002)[15].

The Zero Transaction Cost Situations

The first part of the Coasian analysis supposes a zero transaction cost world. He assumes that the conditions of the pure and perfect competition model are verified. Under these conditions, the maximization of the value of production becomes possible and is reached through market transactions. The market process will direct the resources towards the most productive owners independently of the initial allocation and the legal rule. However, Coase recognizes the process is not possible if rights have not been previously established. "… Without the establishment of this initial delimitation of rights there can be no market transactions to transfer and recombine them" (Coase 1960)[16]. We must stress here the contradiction that lies between the proposition of zero transaction cost and the alleged necessity of previously defined property rights to initiate the process. Indeed if it is assumed that there is no transaction cost, then the absence of previously

[13] Ibid., p. 89-90
[14] Ibid., p. 3
[15] Ibid. p. 90
[16] Ibid. p. 8

defined property rights would not constitute a difficulty because it would be possible to allocate these rights (for the initial assignment) to the most productive use at zero cost. On the very opposite, the need for clearly defined owners suggests that some costs are at stake and that there is no reason why it would not be the case for the entire process described by Coase. Here, there is a serious contradiction within the Coasian framework.

This contradiction is not taken into account by some mainstream economists who assume the conclusions and popularize the results by giving them the well-known name of the Coase Theorem. The Coase theorem consists in two different claims: an efficiency claim and an invariance claim.

> If one assumes rationality, no transactions costs, and no legal impediments to bargaining all misallocations of resources would be fully cured in the market by bargains (Calabresi quoted by Zerbe, 2001)[17].

Consequently, the market process would be able to solve all inefficient situations. However this result occurs only when the conditions of perfect competition are assumed. Consequently, the theorem does not hold any more when there are high positive or prohibitive transaction costs. This efficiency claim stresses both the efficiency of the market process for situations with low transaction costs and its inefficiency for other situations. In fact, it delimits the area of efficiency of the market process and establishes accordingly the limits of a free market process. If the car users hold the right of using the road network, the truck companies can offer a compensation of 90 monetary units for obtaining the car owners' renunciation to use the road. The level of production then is 100, i.e. 90 + 10. If the truck companies benefited previously from the use of the road network, the production would still be 100.

The claim of invariance suggests that legal rules do not affect the allocation process. This result is highly significant insofar as it implies a separation between the economic approach and the legal one. Then, in such a world of zero transaction costs, the allocation of resources would be independent from the Law. In a sense, the legal dimension does not matter. The notion of property right becomes meaningless.

[17] Richard O. Zerbe Jr. (2001), *Economic Efficiency in Law and Economics*, New Horizons in Law and Economics, Edward Elgar, p. 85

> In a world of perfect competition, perfect information and zero transaction costs, the allocation of resources in the economy will be … unaffected by legal rules regarding the initial impacts costs resulting from externalities. (Regan quoted by Zerbe, 2001)[18].

The main conclusions of this analysis lead to the adoption of the classical model of competition (model of pure and perfect competition) as the standard, according to which actual situations are being considered optimal or not. In a zero-transaction-cost world, the rule of law is immaterial. However, it must be stressed that some economists, as Zerbe for instance, reject this classical model as the standard to abide by. They assert that transaction costs are ubiquitous in the real word. Consequently, to consider a world without transaction costs is to assume a completely imaginary world, or a meaningless one. Although these economists do make some progress by admitting the only, real, world that we are continuously facing, and which is characterized by imperfect information and costs of negotiation, there is no progress whatever concerning the importance of the rule of law and its ethical foundation (Ibid.)[19].

Even more problematic is the endorsement of the Coasian model by some Austrian economists. Indeed Boudreaux seems to share the efficiency claim. He asserts:

> Rather than focus on what James Buchanan … calls the "invariance version" of the Coase theorem – according to which alternate assignments of liability generate the very same physical allocation of resources – it is truer to Coase's essential message to focus on the fact that ability to bargain freely is practically necessary and almost always sufficient, to internalize the full subjective costs of resource use upon owners of property rights. (Boudreaux, 1998)[20].

Although Boudreaux is clearly right by asserting costs are subjective because judgments of value are subjective, he is wrong when he deduces an inclination to negotiate for both

[18] Ibid. p. 85

[19] Zerbe makes a strong criticism of Coases analysis, the solution of compensation proposed by Hicks and Kaldor. Instead of taking into account the transaction costs, Zerbe proposes new criteria, which are unfortunately characterized by the same flaws (possibility of interpersonal comparisons, confusion between actions and willingness to pay or to accept, etc.) (Zerbe, 2001, particularly chapters 1 and 2)

[20] Donald J. Boudreaux (1998) The Coase Theorem, in *Peter J. Boettke (ed.), The Elgar Companion to Austrian Economics*, Edward Elgar, Chapter 27, p. 186

parties to reach a situation of efficiency. For instance, a landowner can refuse to sell his piece of land to a farmer who could increase the production of corn by cultivating it. The landowner could prefer to keep his property because this way he obtains higher psychic revenue. The farmer could offer $ 100.000 to acquire the piece of land, but the owner could refuse. Maybe one reason, which explains this behavior, is that his psychic income is increased by the existence of the external effect. He takes pleasure in restraining the production of the farmer. For the case of the road network, the car user could refuse compensation because he benefits from psychic revenue provided by the use of his car (feeling of freedom and of autonomy). These examples clearly show there is no such a situation of efficiency. Market transactions permit only to satisfy some plans followed by individuals according to their own scale of value. That some external effects are internalized through market transactions is a consequence, but on no account is it objective.

In fact, Boudreaux is assuming that the definition of rights obeys a criterion of efficiency. In this way, his analysis is similar to those of Demsetz and Posner. But is the allocation of rights only, and really, a question of efficiency?

> The Coase theorem is the explicit recognition that ability to bargain induces people who exercise their property rights to internalize the costs of these exercises – that is, that an owner of a right includes non-owners' assessments about a particular exercise of that right as part of his own assessment (Boudreaux, 1998)[21].

Still more problematic is the situation with high bargaining costs. The solution then is found in the awarding of the right by the court to the parties that value it most highly (Ibid.)[22,23]. Consequently, awarding the right to the person that will present the most highly productive use constitutes the solution to the dispute. In this sense, efficiency is the objective followed by the court[24] and is defined as enhanced production or physical goods. However, the resolution of conflicts by researching an objective of efficiency is contradictory with the assertion of subjective valuation, previously made. Indeed, if

[21] Ibid. p. 181
[22] Ibid. p. 182
[23] It supposes such an ability of appraising the different productions by the judges and to yield such evaluation at an costs inferior than those established by the market.
[24] Such as assertion is doubtful because it assumes the judge is following this objective and not his particular interest of personal interpretation of what constitutes the efficient solution at the level of society.

the judge awards the right by weighting the different costs, this supposes he is able to identify them and to define an objective scale of value before even making comparisons. But one consequence of the subjective valuations is the impossibility to add them up and to make interpersonal comparisons (Rothbard, 2000 (1974))[25]; 1991[26]). Consequently, it is contradictory to assert a subjective dimension for the personal valuations while striving after efficiency through the modeling of law.

The Existence of Transaction Costs and The Consequences for This Analysis

The next step of Coase's reasoning consists in introducing transaction costs. Then Coase shows the importance of the initial delimitation of property rights (Coase, 1960)[27]. Indeed, a new arrangement would be possible only if the additional value of the production is higher than the costs of transaction. From the example of the conflict on the use of the road network, if the transaction costs, which permit the transfer of the right of using the road network, is 12 and the car users are holding the right, then it is no more possible to reach the efficient situation. Indeed, the total costs would be 102: 90 for the compensation of car drivers and 12 for the transaction costs. But the available production for the truck companies is only 100. If the truck companies hold the right, the efficient situation is already reached and no transaction cost is implied. The transaction costs are perceived as obstacles on the path from one equilibrium toward another[28].

> Once the costs of carrying out market transactions are taken into account it is clear that such a rearrangement of rights will only be undertaken when the increase in the value of production consequent upon the rearrangement is greater than the costs which would be involved in bringing it about. (Ibid.)[29]

[25] Ibid. chap. 4, p. 91; 1997, chap. 6, p. 125

[26] Murray Rothbard (1991), L'économie du bien-être: une reconstruction, in *Economistes et Charlatans*, Collection laissez faire, Les Belles Lettres chap. 4 ; see also from the same author, "Law, Property Rights, and Air Pollution" in *The Logic of Action 2 , Applications and Criticism from the Austrian School*, Edward Elgar (1997) and *Egalitarianism as a Revolt Against Nature and Other Essays*, 2nd Edition, Ludwig Von Mises Institute, Auburn, Alabama (2000)

[27] Ibid. p. 16.

[28] If we follow North's analysis on institutions and the institutional change, there is a path dependency. See Douglass C. North (1990), *Institutions, Institutional Change and Economic Performance*, Cambridge University Press, pp. 93-94.

[29] Ibid. p. 16.

Consequently, the new combination is restrained by the previous allocation, so that it can be impossible to reach the objective optimal allocation. For these situations, the market transactions and the market process are unable to yield an efficient situation. Coase stipulates three solutions to solve these inefficiencies, which are designed as the "so-called" market failures.

The firm itself represents one solution. It permits to internalize the problem of allocation of resources by solving it inside the firm[30]. The manager then decides the allocation of resources (Ibid.)[31].

He chooses the best use of resources for the firm in order to maximize the profit[32]. Two constraints limit this solution. The first one is relative to the cost of coordination or the cost of organization inside the firm itself compared to the cost of market transactions. The additional value yielded by the production of a firm has to be higher than the costs of its creation and its functioning, and has to present a higher net value than that of the market. The second limitation stems from the fact that the firm is assumed to own various properties about which there are a conflict. If the firm was not the owner of these resources, the problem would then not be solved. In the case of our example, the solution could take the shape of a private owner of the road network, which decides the type of user that could benefit from the use of the resource. In that way, such a system has already worked on a small scale in the case of the highway, which excludes bicyclists, pedestrians and any low-speed vehicles.

Another, second, solution is governmental intervention through regulations, which "state what people must or must not do and which have to obey" (Ibid.)[33]. In this case, the government decides to allocate the resources in the manner it seems as optimal. The state can mobilize its apparatus and use violence to reach its goals. Concretely, for our case, it could take the form of a restriction of the truck use during the week-end, as it is actually in France. Special-purpose and very heavy or large vehicles have to be escorted

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[30] For a presentation of this paradigm, see Ronald Coase (1937), "The Nature of the Firm", *Economica*, (4).
[31] Ibid. p.16.
[32] We do not deal here with the problem of divergence between the objectives of the manager and the owners of the firm. Let us suppose, in order to simplify the problem, that the owner is also the manager of the firm.
[33] Ibid. p. 17.

by police motorcycle. Another way to deal with the conflict is to impose a special speed regulation for the heavy vehicles or a differentiated speed limit for other vehicles.

> Just as the government can conscript or seize the property, so it can decree that factors of production should only be used in such-and-such a way. Such authoritarian methods save a lot of trouble (for those doing the organizing). Furthermore, the government has at its disposal the police and the other law enforcement agencies to make sure than its regulations are carried out (Ibid.)[34].

The intervention of courts constitutes the third solution to the problem of allocating resources. The legal assignment by courts is justified again by attributing a role of economizer to judges. They would be able to allocate the resources to their highest productive uses. The analysis of court decisions by Coase seems to conclude that globally the judges follow an economic criterion for awarding the rights.

> A thorough examination of the presuppositions of the courts in trying such cases would be of great interest … Nevertheless it is clear from a cursory that the courts have often recognized the economic implications of their decisions and are aware … of the reciprocal nature of the problem. Furthermore, from time to time, they take these economic implications into account, along with others factors, in arriving at their decisions (Coase, 1960)[35].

This interpretation of the court activity raises the question how only one person, the judge, would be able to gather the appropriate information to decide the optimality of a specific arrangement of rights. This supposes the judge benefits from a specific quality a superiority on the other members of society. Moreover, this conception neglects the possibility of interference with the judge's own values. The judge could consider efficiency would justify that his political friends have to be the only owners of resources. He can use the legal process to promote his own financial interests or his own conception of what efficiency must be. Is there only one expression of what is an efficient allocation? Can the judge's conception of efficiency differ from economist's one? The most crucial limit to this solution, that Coase has never dealt with, is relative to the cost of functioning of the courts. A very complex conflict can require huge spending; other cases could

[34] Ibid. p. 17.
[35] Ibid. p. 19.

cost more than the gains the parties would earn. Then what is the solution to follow in presence of "judicial failure"?

The different solutions proposed by Coase invite to more criticism to such an analysis. Indeed the possibility of giving to the State the outrageous power to reallocate the rights stresses the conditional character of such rights. Coase himself seems to share the opposition between the legal arrangement of rights (by voluntary exchanges) and their alteration by a violent intervention (Coase, 1960)[36]. However we must concede that Coase put some limits to the State intervention (as a solution) through a comparison between the costs of such an allocation and those of the market process and also by sustaining that policy-makers generally over-estimate the gains of government interventions. The solution would then be to compare the costs of the "market failure" to the costs of the "government failure" (interventionism + judicial process). But again, how is it possible to compare subjective valuations at all?

How can Coase assert a governmental intervention could reach optimal allocation when there is a tendency to over-estimate the benefits derived by such an intervention? In fact, Coase has opened a Pandora's box. He justifies the governmental hindrances without even defining correct means to limit sub-optimal interventions. Since economists' advances on the issues of bureaucracy and rent-seeking activities, it is well-known the governmental agents will use of their power to justify more control on the economic activity and more State interventions, upon which ultimately depend their own positions.

To sum up the argument, the intervention of the government permits to reduce the transaction costs by allocating the resources by force. This argument, developed by Coase, is interesting because it suggests that interventionism or the judicial process can solve ultimately the problem of allocation. The government or the judge will be able to identify the highest productive use of resources and appears as being a cost economizer and a social engineer. However, it raises a crucial issue for the Coasian analysis. Why and how can the governmental agent or the judge hold better information than the private agents? The different works of Mises on the problem of economic calculation and the

[36] Ibid. p. 17.

contributions of Hayek on the problem of information show clearly the superiority of the market process on central planning (Hayek, 1991 [1953])[37], (Mises 1990 [1920])[38].

Coase's Approach and The Economics of Crime

Some scholars deduce from Coase's work the ability of the market to tend towards efficiency and to solve the disputes about different uses of the same resources. They assume implicitly the market performs well when there is no transaction cost. The pure and perfect competition is conceived as the standard from which efficiency can be appraised. In fact, the zero transaction cost world constitutes at best a normative approach. Another possible interpretation is to show the importance of legal assignments. Indeed, Coase agrees that the real world deals with positive costs of transaction (Coase, 2000)[39]. The legal allocation becomes very important insofar as it constitutes a constraint for the objective of reaching the optimal allocation with previously attributed rights, and a resource to recombine these previous assignments

> In a world in which there are costs of rearranging the rights established by the legal system, the courts, in cases relating to nuisance, are, in effect, making a decision on the economic problem and determining how resources are to be employed. It was argued that the courts are conscious of this and that they often make, although not always in a very explicit fashion, a comparison between what would be gained and what lost by preventing actions which have harmful effects (Coase 1960)[40].

Because there are few situations with low transaction costs, it must be deduced that the market process (peaceful exchanges) cannot reach alone the economic optimality. The limits of the market process can be solved by the creation of organizations (private firms or governmental entities). Another means to reach the social optimal solution is the alteration of previous assignments by violent means or the criminal activity. In this way, the violation of some property rights can permit to reach the social optimum and represent

[37] Friedrich von Hayek, (1991 [1953]), *Scientisme et sciences sociales*, Collection Agora, p. 163.

[38] Ludwig Von Mises (1990 [1920]), *Economic Calculation in the Socialist Commonwealth*, Ludwig Von Mises Institute, Auburn, Alabama.

[39] Ronald Coase (2000), *Le coût du droit*, Collection Droit, Economie, Société, Presses Universitaires de France, p. 94.

[40] Ibid. p. 28.

an alternative way to peaceful exchanges. The organized crime with private organizations, the forced redistribution of rights by the State or the partial enforcement of law represent alternative solutions for the maximization of the social welfare. According to Coase, the social arrangement, which permits the highest level of production, must be preferred. Consequently, because the positive transaction cost situations are the general cases, there is no reason that a free market constitutes the appropriate solution. Here are the connections between Coasian's analysis and the economics of crime approach, which need to be more deeply investigated.

3 The Coasian Analysis and the Economics of Crime

The analysis defended by the classical school of crime consists in applying the neoclassical hypothesis to the economics of crime (Carnis 2004)[41]. These authors (Becker, Ehrlich…) assume that it is possible to apply the principles of the marginal analysis to determine a social optimum and to conceptualize an equilibrium by a process of maximization that allows to reach an efficient situation (Stigler, 1970)[42].

The goals of the different works of the classical school of crime are to show that the criminal obeys a system of incentives and that it is possible to determine an optimal quantity of crimes (Ehrlich, 1973)[43]. The criminal's behavior is then the outcome of comparable gains and costs, the tradeoff between which reflects his rationality. Because the criminal acts rationally, the authority in charge of justice and law-enforcement can provide a rational answer. This is clearly the purpose of Becker's article on the economic approach to crime (Becker, 1968)[44].

The major articles on economics of crime did not quote Coase's article on the problem of social cost, although there are clearly some common points. More accurately, they

[41] Laurent Carnis (2004), "Pitfalls of the Classical School of Crime", *The Quarterly Journal of Austrian Economics*, Winter, 7(4), p. 7.

[42] George J. Stigler (1970), "The Optimum Enforcement of Laws", *Journal of Political Economy*, May-June, (3), p. 530.

[43] Isaac Ehrlich (1973), "Participation in Illegitimate Activities: A Theoretical and Empirical Investigation", *Journal of Political Economy*, (81)3, p. 559.

[44] Gary S. Becker (1968), "Crime and Punishment: An Economic Approach", *Journal of Political Economy*, March-April, (78): 169-217.

share the same hypothesis and lead to similar recommendations[45]. Four points deserve particular attention: the hypothesis of maximizing production, the absence of a theory of justice, the justifications for State interventions and the importance of transaction costs as explanation of market failures.

The Maximization of Production

Coase and the proponents of the classical school of crime sustain the objectives a society has to follow consist in maximizing the total available product for a given level of the factors of production. If there were no social conflict on the use of resources between the individuals, the determination of the total available product would result from an engineered program for allocating the resources among the different productive uses. The additional production or the surplus would be yielded by the difference between the total production and the costs of production. The process of allocation by the price mechanism would normally allocate the resources to the highly productive uses. Because there are some interferences between the different uses of resources, the allocation is considered as being imperfect. The price mechanism would be in default to allocate the resources towards their highest use when there is a situation of conflict. Indeed, voluntary bargaining is one possibility for the parties, but only when the individuals recognize the legitimate use of resources. It is not the case for situations with disputes. Conflict means a disagreement on the legitimate use of these resources. Consequently, these disputes represent a cost for society, which adds up to the regular costs of production. They represent losses, which diminish the available production. The goal then is to minimize the social cost of attaining the highest possible level of available production for the given factors of production[46].

For instance, Becker asserts in his seminal article:

[45] It is not the purpose of this paper to explain the absence of mutual quotations between both analysis. We want only to stress the similarities of these analysis.

[46] If we note : NP=net production, TP=total production, CP= costs of production, SC= social cost, TC=total costs of production. Then NP=TP-CP (without disputes). With disputes, NP'=TP-CP-SC=TP-TC. Then if CP is given because the available factors of production are determined, TP can be deduced and NP is easily computed. If SC is positive, there is a decrease for the available production equals to NP-NP'=SC. Consequently, whatever the program costing (S) for minimizing the costs and inferior or equal to ΔSC (due to S), it permits to decrease TC and to increase NP'. The losses are reduced of an amount of (ΔSC (due to S) -S).

> The method used formulates a measure of the social loss from offenses and finds those expenditures of resources and punishments that minimize this loss (Becker 1968)[47].

And further in his conclusion:

> The main contribution of this essay, as I see it, is to demonstrate that optimal policies to combat illegal behavior are part of an optimal allocation of resources. (Ibid.)[48]

Ehrlich, too, wrote:

> The approach economists have taken toward these choices has generally been based on a "public interest" criterion: the law enforcement authority seeks to maximize social welfare by minimizing the losses from crime, including the costs of law enforcement and crime control. (Ehrlich, 1996)[49]

According to Becker, the offences do not constitute *a priori* a net loss. For some "harmful" acts, Becker does not exclude the possibility that the marginal gain is superior to the marginal cost. In these conditions, these acts increase the total available wealth for society. However these acts have to be deterred when they represent a net loss for society (when the marginal cost is superior to the marginal gain). Then an optimal policy must be decided. Indeed, the purchase of (public and private) protection is considered as being an unproductive spending (Tullock, 1967)[50]. They do not increase the total output. Consequently, the fight against the criminal activities is conceived as a problem of finding the optimal allocation of these resources for protection, i.e. as a subset of the general allocation process of resources within society.

This common objective between the proponents of the analysis of crime and Coase appears obvious with the extension given to the validity of the Coase theorem for all

[47] Ibid. p. 170.
[48] Ibid. p. 209.
[49] Isaac Ehrlich (1996), "Crime, Punishment, and Market for Offences", *Journal of Economic Perspectives*, winter, (10)1, p. 50.
[50] Gordon Tullock (1967), "The Welfare Costs of Tariffs, Monopolies, and Theft", *Western Economic Journal*, (V)3: 224-232.

harmful effects. Crime is considered as a harmful effect when the associated social costs are higher than social gains (Becker, 1968)[51]. So the Coase theorem can be applied to this kind of action.

> The economic problem in all cases of harmful effects is how to maximize the value of production (Coase, 1960)[52].
>
> The concept of harm and the function relating its amount to the activity level are familiar from their many discussions of activities causing diseconomies (Becker, 1968).[53]

The process of maximization implies the definition of an optimal policy. It also suggests the appropriate reasoning is at the margin. The authority in charge of enforcement or of delimiting the right does not give a binary answer to solve the problem: accept the activity or forbid it. The objective is to determine the optimal level of violations, crimes or harmful effects. This is reached when the marginal gains of illegal acts equal their marginal costs.

> It goes almost without saying that this problem has to be looked at in the total and at the margin (Coase, 1960)[54]

Further Coase asserts:

> The aim of such regulation should not be to eliminate smoke pollution but rather to secure the optimum amount of smoke pollution, this being the amount which will maximize the value of production (Ibid)[55].

Becker shares a similar view:

> Put equivalently, although more strangely, how many offenses should be permitted and how many offenders should be unpunished? (Becker, 1968)[56]

[51] Ibid. p. 173.
[52] Ibid. p. 15.
[53] Ibid. p. 173.
[54] Ibid. p. 2.
[55] Ibid. p. 42.
[56] Ibid. p. 170.

The Absence of a Theory of Justice

Another common point to these analyses is the absence of a theory of justice. Coase establishes a distinction between the standards enacted by government and the awards made by courts (Coase, 1960)[57]. The legal dimension is composed of a public component (regulation) and a judicial one (awards). However, the State apparatus supported by police forces and other law-enforcement agencies enforces the law and controls indirectly the entire legal process. Then, Coase merely assumes that the enforcement of the law and most of the legislation have to be controlled by the State. In fact, the law is what the State says the Law is or what is enforced by its apparatus. He endorses clearly what Barnett named the position of legal positivism (Barnett, 1977)[58].

The proponents of the classical school of crime adopt a similar position. The enforced law is never a debatable point. The law is given and the objective is to enforce it rationally and to determine the optimal policy. This can be illustrated by two quotations, which presents a similar point of view.

> The goal of enforcement, let us assume, is to achieve that degree of compliance with the rule of prescribed (or proscribed) behavior that that the society believes it can afford (Stigler, 1970)[59].
>
> Instead of instituting a legal system of rights which can be modified by transactions on the market, the government may impose regulations by transactions which state what people must or must not do and which have to obeyed (Coase, 1960)[60].

These theories do not present any "sound" ethical foundations for the Law. In these frameworks, the concept of legitimate property right becomes meaningless. The law is the outcome of a calculation of social engineering. From a libertarian standpoint, the enforcement of law can lead to the legalization of violation of legitimate property rights, by prohibiting peaceful acts and by accepting criminal activities (Carnis, 2002)[61]. This

[57] Ibid. p. 17.
[58] Randy E. Barnett (1977), "Restitution: A New Paradigm of Criminal Justice" in *Randy E. Barnett and John Hagel III (eds.), Assessing the Criminal, Restitution, Retribution, and the Legal Process*, Ballinger Publishing Company, pp. 349-383.
[59] Ibid. p. 526.
[60] Ibid. p. 17.
[61] Ibid.

position implies that a social value is imputed to rape, murder and other abominable crimes. That creates some inner contradictions for such an approach[62].

> ... Becker introduces a different limitation on punishment the "social value of the gain to offenders" from the offense. The determination of this social value is not explained, and one is entitled to doubt its usefulness as an explanatory concept: what evidence is there that society sets a positive value upon the utility derived from a murder, rape, or arson (Stigler, 1970)[63].

An Opened Door for State Hindrances

The classical school of crime considers the fight against crime is within the competence of the State. The State is conceived as a firm producing enforcement by combining labor and technology of detection and of control[64](Votey and Phillips, 1972)[65]. Coase shares this view concerning the State as being a special firm. "The government is, in a sense, a super-firm (but of a very special kind) since it is able to influence the use of factors of production by administrative decision" (Coase, 1960)[66]. However, Coase's analysis is more ambiguous because not only does it consider government interventionism as a solution to situations of market failure, but it also pays attention to the dangers of such a governmental regulation. Coase emphasizes the fact that governmental regulations can lead to and generate economic inefficiencies (Coase, 1960)[67]. He asserts that the tendency of policy-makers to overestimate the benefits, that regulations bring about, is even more dangerous. However by showing the market failures and the necessity of some regulations, he opens the door to an autonomous dynamic of regulation. Ikeda illustrated

[62] Zerbe tries to avoid this contradiction by integrating in the analysis the notion of "regard for the others". To sum up, this concept suggests a crime is considered as such in a society if a majority considers that the act constitutes a crime. This endeavor is unsuccessful, because it is easy to conceive of a majority that considers slavery is legitimate for a minority of the population. The criteria of "regard for the others" is respected and abominable crimes can then be legally justified. Nozick developed a similar argument; see *Anarchy, State and Utopia*.

[63] Ibid., p. 527.

[64] Mises showed clearly the contradiction it implies to consider a governmental agency as behaving as a private firm. Ludwig von Mises,(1983 [1944]), *Bureaucracy*, Libertarian Press.

[65] Harold Votey and Llad Phillips (1972), "Police Effectiveness and the Production Function for Law Enforcement", *Journal of Legal Studies*, (1)2: 423-436.

[66] Ibid. p. 17.

[67] Ibid. p. 18.

clearly the latter in his contribution to the dynamics of the mixed economy. Once the dynamics is engaged, it gets very quickly out of control (Ikeda, 1997)[68]. It seems Coase prefers legal intervention through courts and judges rather than regulations issued by the government. However, these ones are ultimately controlled by the State, because they need police and justice agencies to enforce their decisions and to make them effective. There is an obvious link of dependence between both. In fact, Coase is unable to see he provides justifications for the State regulation, although he thinks that he develops arguments against its expansion.

Moreover, the legal solution is clearly limited according to the works done by some economists interested in studying the scope of regulation and of liability. Shavell demonstrates that four determinants would explain the respective uses of liability and regulation to limit harmful effects. If the magnitude of harm is higher than the assets of the initiator of the act, regulation appears to be an appropriate solution. If the regulating authority is in possession of a better knowledge about risky activities than private parties, regulation constitutes the best solution. This would also be the case when the tort system brings about higher costs than the regulation process or when the probability that party escapes from its liability appears relatively high. In this last case, the incentives to take appropriate precautions would be diluted (Shavell, 1984)[69]. Concretely, the tort system implies costs of functioning, which can quickly become prohibitive, and it also has to address the same problem of holding the appropriate information. Consequently, the solution of regulation and governmental hindrances becomes evident and inescapable.

Yet, Coase tries to explain that market transactions or the firm itself can bring private solutions. He asserts also the governmental regulations can cost more than the amount of losses avoided. But this scope is so restrained by the importance of transaction costs, it reduces dramatically the number of possibilities let to private solutions. Coase stresses that all social arrangements for dealing with harmful effects have costs and that there is no reason governmental intervention should be less expensive in any specific situation (Coase, 1960)[70]. However, this conclusion is far from showing the superiority of the mar-

[68] Stanford Ikeda (1997), *Dynamics of the Mixed Economy*, Routledge.
[69] Steven Shavell (1984), "Liability for Harm Versus Regulation of Safety", *Journal of Legal Studies*, June, (XIII): 357-374.
[70] Ibid. p. 18.

ket process or of a private solution. Coase only claims that the governmental regulation is not automatically the best solution.

The Importance of Transaction Costs

Although Coase's objective is to emphasize the importance of transaction costs for the working of the economy, it is difficult to explain why he gives so much importance, roughly one third of his article, to a situation with zero transaction costs. In fact, he accepts the model of pure and perfect competition as the normative standard to understand the role of law and to explain the presence of the firm and the interventions of government. Coase deduces from the presence of high transaction costs the existence of legal institutions and regulations.

A similar point of view is shared by Posner to explain the existence of criminal law[71]. According to Posner, criminal law permits to promote economic efficiency by forbidding the coercive transfers of wealth when transaction costs are low. The prohibition is justified by the creation of inefficiency in the allocation of resources for such conditions. For theses situations, the market transactions are the most efficient means of allocation[72]. The legal system permits to reduce inefficiencies by discouraging the criminal acts.

> The major function of criminal law in a capitalist society is to prevent people from bypassing the system of voluntary, compensated exchange–the "market", explicit or implicit–in situations where, because of transaction costs are low, the market is a more efficient method of allocating resources than forced exchange. (Posner, 1985, 1195)

Consequently, the prohibited acts constitute an efficient class of acts. It is easier to understand the logic of this reasoning once it is noticed that all is determined by the importance of transaction costs. The property rights are not important *per se*. They reflect only tradeoffs concerning the transaction costs. Consequently when the transaction costs are very

[71] Richard A. Posner (1985), "An Economic Theory of the Criminal Law", *Columbia Law Review*, October, (85)6: 1193-1231.

[72] Posner asserts the efficiency of market for low transaction costs must be considered as a definition. "When transaction costs are low, the market is, virtually by definition, the most efficient method of allocating resources" (Posner, 1985, p. 1195). But what does he mean for low transaction costs? What are the hypotheses of such a claim?

high, the involuntary transfers of wealth could be justified if the new user of the resource yields a net increase of production. The respect of property rights and the enforcement of law depend on the relative importance of the costs of defining and enforcing them in comparison to the costs of transaction (Alchian and Demsetz, 1973), (Demstez, 1967)[73]. If the gains associated with the definition of a right are lower than its costs, the right is not awarded. If the costs of enforcement are higher than the damages done, the right is not enforced and the criminal is not suited.

The maximization of production, the absence of a theory of justice, the justification of interventionism and the importance given to the transaction costs show clearly common points between the Coasian analysis and the economic approach to crime by the mainstream economists. In fact, these theories are similar and entangled, although Coase does not deal precisely with crime and the economic approach to crime does not refer explicitly to the theorem of Coase.

4 The Consequences of Coase's Analysis for Criminal Activity

The previous part emphasized the links between both analyses: the Coasian approach and the economic approach to crime. More interesting are the consequences implied by such theories for practical recommendations. Five points will be developed in this section: the incentives for the criminal activity, the implications in terms of uncertainty for the definition of rights, the increase of legal costs for society and the dangers of the extension of governmental hindrances, and the consequences of a static approach.

An Incentive for the Criminal Activity

The Coasian analysis provides an incentive for the criminal activity. Criminal activity is defined here as being the physical violation of a legitimate property right. By determining an objective of maximization of production, the Coasian analysis focuses only on the end to be reached independent from the means used. Here, the end justifies the means. One consequence of such an approach is the meaninglessness of notions of victim and

[73] A. Alchian and H Demsetz (1973), "The Property Right Paradigm", *Journal of Economic History*, (43): 16-27 ; Harold Demsetz (1967), "Toward a Theory of Property Rights", *American Economic Review*, (57): 347-359.

criminal. Indeed, the criminal can be conceived as being a hero in so far as he makes the creation of an additional wealth possible. In that respect, he represents an entrepreneur who combines available resources in a more efficient way. The victim or the person who bears the consequences of the harmful act is perceived as an obstacle to the search for efficiency. Consequently, any contestation becomes possible provided that the contestant shows a better use of the resource. If each person assumes his own use of the resource is the best one, this theory leads very quickly toward a generalized situation of criminality and favors the appearance of many disputes and conflicts.

By giving a central importance to the cost of transaction, this approach would recommend logically to prevent from spending a part of the resources for protection. Indeed, these expenditures represent a deadweight loss according to Tullock's analysis (Tullock, 1967)[74]. The best way to achieve this goal is logically to limit the protection of rights relative to an optimal level. Thus only optimal "crimes" will remain. These crimes are considered optimal because they yield more than they actually cost.

This position is also illustrated by the two following quotations extracted from Coase's article:

> But the problem is to devise practical arrangements which will correct defects in one part of the system without causing more serious harm in other parts (Coase, 1960)[75].
>
> Pigou is, of course, quite right to describe such actions as "uncharged disservices". But he is wrong when he describes these actions as "anti-social". They may or may not be. It is necessary to weigh the harm against the good that will result. Nothing could be more "anti-social" than to oppose any action which causes any harm to anyone (Coase, 1960)[76].

Conditional Property Rights

The criterion of the social cost consists in comparing the different social arrangements of property rights. More accurately, the different levels of production associated with the latter are compared. The highest one determines the efficient social arrangement.

[74] Ibid.
[75] Ibid. p. 34.
[76] Ibid. p. 35.

Coase is right when he says that the market transactions lead the resources towards the highest productive uses, but he is wrong when asserting this same process permits also to maximize the total available production. Indeed productive uses can yield also psychic revenue, that physical goods, and their quantity, cannot account for. In fact, it will be more correct to assert that the market transactions put the resources into the hands of the persons that value them the most.

The assimilation of productive use to production permits, however, to determine a scale for judging the efficiency of the social arrangements. By considering that the level of production is the objective to be reached, Coase imposes his own preference for determining the criteria supposedly indisputable and obvious. Consequently, the rearrangement of rights is a necessity and a logical consequence of this analysis. The delimitation and the award of rights are not definitive but dependable upon the situation practically at stance. It means a person could be entitled for six months, but could lose his right after this period if the empirical conditions evolve. Consequently, the allocation of property rights can be regularly modified. For the Coasian analysis, the permanent redefinition of property rights does not constitute a problem considering that the harmful effects present a reciprocal nature. The individuals do not hold a right but a bundle of rights, which can enter into conflict for some of them with the exercise of a bundle of rights by another person.

> The cost of exercising a right (of using a factor of production) is always the loss which suffered elsewhere in consequence of the exercise of that right- the inability to cross land, to park, to build a house, to enjoy a view, to have a peace and quiet or to breathe clean air (Coase, 1960)[77].

The incompatibility between the different uses implies, because of the hypothesis of the maximization of production, that the use that yields the highest level of production will be preferred. What is problematic in this approach is the manner through which the arrangement is done, namely through violent means, unlike the market process, which permits a rearrangement of the rights through peaceful and voluntary bargaining.

[77] Ibid. p. 44.

The Cost of the Legal Process

The courts are at the center of the legal re-arrangement of rights. The working of courts must face the costs of functioning. The budgetary constraint leads the authority in charge of enforcement to renounce to detect, to suit and to punish all criminals. Becker's model of crime is a perfect illustration of determining the consequences of an optimal policy of deterrence (Becker, 1968)[78]. Stigler asserts, "The cost limitation upon the enforcement of laws would prevent the society from forestalling, detecting, and punishing all offenders…" (Stigler, 1970)[79]. Ehrlich extends the hypothesis of rationality to the choice of authorities: "… offenders, potential victims, buyers of illegal goods and services, and law enforcement authorities all behave in accordance with the rules of optimizing behavior" (Ehrlich, 1996)[80]. Shavell makes a similar reasoning to determine an optimal punishment (Shavell, 1991)[81]. This dimension is neglected in the Coasian analysis where the judge's decision is obvious to some extent, and even costless. The judge is assumed to hold all required information to enounce his judgment.

Another cost associated with the functioning of courts is relative to the multiplication of legal disputes. Because everybody can appropriate whatever resources through legal disputes (damages), the awards given by courts redefine the limits of the scope between the legal and the criminal acts. The multiplication of suits will lead to an increase in the spending made by individuals for legal services, and for paying the judges and the public agents. This growing expansion of the juridical scope in all different aspects of the daily life is counterproductive. The courts become the place where the rights can be negotiated through strategic suits. The law becomes then a factor of production, which can be bought instead of being a clear rule intended to protect legitimate property rights. Instead of protecting legitimate property, the legal system represents a strong attack against justice and generates legal insecurity. This perverse effect represents a true loss, the counterpart of rent seeking activities, which have been already analyzed by

[78] Ibid. p. 170.
[79] Ibid. p. 527.
[80] Ibid. p. 44.
[81] Steven Shavell (1991), "Specific versus General Enforcement of Law", *Journal of Political Economy*, (99)5, pp. 1088-1108.

public choice economists (Tollison and Congleton 1995)[82]. The legal process becomes then a means to extract money and resources.

The Interventions of the State

The classical school of crime purports to define the conditions for an optimal public policy. The fight against crime is a State activity, to which a central role is given. The State defines what is law, how and at what extent it has to be enforced. The law enforcement is a public concern and the place given to the private enforcement of law is not important.

> Since crime is, by definition, an externality, and the maintenance of law and order is essentially a public good, the economic literature has focused mainly on the determination of optimal means of law enforcement and crime control, rather than the basic rationale for public rather than private enforcement laws (Ehrlich, 1996)[83].

The Coasian position appears more ambivalent on the State intervention. Coase gives a central role to the State for enforcing the legal decisions and the regulations it enacted. The ultimate decision is in the authority of the State. It can impose by force its decisions. However Coase emphasized the risks of legalizing nuisances (Coase, 1960)[84]. The State can legalize some harmful acts and crimes, if its "social" computation shows the inefficient character of the enforcement of law and order. Even more dangerous is this approach that considers it possible to define an optimal amount of rapes or murders (Zerbe 2001)[85]. With such an approach, theft, crime, or also slavery become acceptable if the criterion of optimality is verified. Again it is only a question of weighting social costs and gains for each specific action. The enforcement of false rights is acceptable and the violation of legitimate rights is required. Coase seems to be aware of these consequences, but he is unable to provide an answer within his framework. This is a logical consequence of his analysis. "There can be little doubt that the Welfare State is likely to bring an extension of that immunity from liability for damage, which economists have been

[82] Robert D. Tollison and Roger D. Congleton (1995), *The Economic of Rent Seeking*, The International Library of Critical Writings in Economics, An Elgar Reference Collection, Elgar Edgar.
[83] Ibid. p. 49.
[84] Ibid. p. 24.
[85] Ibid. p. 189. More accurately, Zerbe asserts the existence of "efficient rape".

in the habit of condemning" (Coase, 1960)[86]. In fact, the logic of this system leads to a paradox: the protection of criminals. "Government intervention in the economic system may lead to the protection of those responsible for harmful effects being carried too far" (Ibid.)[87]. In a previous section we showed that a direct consequence of the possibility to administratively redistribute rights is the increase of legal disputes. This tendency justifies *in fine* an extension of the scope for State intervention. The argument leads to a closed circle. The uncertainty yielded by this legal approach legitimizes the governmental hindrances. How can an analysis warn against the dangers of the extension of the scope of governmental hindrances and claim its intervention is non-automatic when the defended analysis provides the basis for such an expansion? This is the Coase dilemma.

A static approach

To conclude on the implications of such an analysis, we must emphasize a major defect of the Coasian analysis. This approach suggests comparing different social arrangements. It supposes the existence of an equilibrium, and that it can be attained through a re-arrangement of the initial structure of property rights. In fact, Coase suggests a static comparison with given factors of production. The institutional framework is considered in fact as endogenous. However his analysis has never dealt with dynamic consequences. This reasoning ignores the effects of incentives. Not only do some (criminal) acts, if considered legal, become an incentive for committing more crimes, but they also become an incentive to reduce the level of production. If the rights were more insecure, the people would reduce their level of production to avoid forced redistribution. In fact, supposedly a social gain could be attributed to criminal acts; this analysis does not consider the long-term effects. In the long-term, the costs will be higher and the criminal gains will yield only net losses[88].

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[86] Ibid. p. 27.

[87] Ibid. p. 28.

[88] For an introduction to this debate, see, Fred. S. McChesnay (1993), "Boxed In: Economists and Benefits from Crime", *International Review of Law and Economics*, (13): 225-231; Jeff L. Lewin and William N. Trumbull (1993), "Neither Boxed In nor Circular: A Reply to Professor McChesney", *International Review of Law and Economics*, (13): 232-234; Richard L. Hasen and Richard H. McAdams (1997), "The Surprisingly Complex Case Against Theft", *International Review of Law and Economics*, (17): 367-378; Jeff L. Lewin and William N. Trumbull (1990), "The Social Value of Crime?", *International Review of Law and Economics*, (10): 271-284.

5 Conclusion

This article presents a Rothbardian appraisal of the Coasian analysis. Unlike the mainstream economists, who think the Coase theorem constitutes a barrier to governmental hindrances, we emphasize on the opportunity given to State's extension by suggesting a market inability to deal with some situations. In fact, the Coasian analysis undermines the role of law. It is a direct consequence of the absence of a correct theory of justice.

Coase is right to focus on the importance of the legal dimension of conflicts. But he makes an error to assert the initial delineation of rights is unimportant. By conceptualizing the possibility to rearrange the structure of property rights, he legalizes a part of criminal activities and criminalizes peaceful exchanges. Moreover he gives the opportunity to expand the scope of State intervention with its so-called role to protect the property rights.

More problematic is the confusion established relative to the role a market must play. The market process allocates the resources to the most highly valued uses, and not to the uses yielding the highest level of product. The Coasian model assumes that people are only interested in physical things, yet the psychic dimension is the most important one. Maybe it is one divergence between the approach of subjectivism and "objectivism" for determining the value of goods. There is also a confusion between the rational decision to put some limits upon allocating resources for the enforcement of law and order and the assertion that the delineation of property rights is defined by the costs of law-enforcement. A crime will never yield a "social gain". It only destroys value by preventing from peaceful allocation. Naturally, it represents a gain for the criminal, but the user or the holder of the resource will never be the legitimate owner. All crimes cannot be avoided because of the cost of enforcement, but crime will remain a crime forever. Consequently, the choice is not between two levels of production but between two harms.

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The Austrian School in the American Economic Review (1911-2004): The Initial and Final Decades

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JEL Classification: B19, B29

Abstract: Reference to an Austrian or neo-Austrian economist has appeared in the American Economic Review each year since the journal was first published in 1911. Topics examined in the first (1911-20) and last decades (1995-2004) of the AER's publication include mathematics' role in economics, the business cycle, and government central planning and interventionism.

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1 Introduction

The American Economic Review (AER), first published in 1911, is one of the leading economic journals in the United States. An important measure of the AER's preeminence: 13 Presidents of the American Economic Association, which publishes the quarterly journal, have won the Nobel Prize in Economics.[1] An AER Editor who never served as President also won the prize.[2]

Bank of England Governor Mervyn King's (AER2004, 1-13, a) reference to Austrian economists Carl Menger (1892) and Friedrich A. Hayek (1976) marked the 94th consecutive year that Austrians have been cited in the AER.[3] This impressive history of publication includes references to traditional Austrians like Menger, Hayek, Eugen von Bohm-Bawerk, Ludwig von Mises, Richard von Strigl, Friedrich von Wieser, Murray N. Rothbard, Israel Kirzner, and Hans Sennholz. It also includes neo-Austrians such as Joseph Schumpeter, Gottfried Haberler, Fritz Machlup, Benjamin M. Anderson, and Oskar Morgenstern. Far from being non-credible, the Austrian School remains relevant in the pages of one of America's leading economic journals.

A reference to an Austrian or neo-Austrian economist has appeared in the AER each year since the journal was first published in 1911 (Appendix). This review is a brief survey of references to the Austrian School in the initial (1911-1920) and final decades (1995-2004) of the AER's history. Topics covered in references to the Austrian School in both periods include the role of mathematics in economics, the business cycle, and central planning and Hayek's problem of knowledge. Some references in the AER's initial decade anticipated the final decade. Schumpeter's observation about mathematics' limitations was discounted as econometrics emerged to dominate the AER. His insights about the

[1] Eleven economists served as AEA President prior to being awarded the Nobel: Paul A. Samuelson (*AEA 1961*, Nobel 1970), Simon Kuznets (*1954*, 1971), Wassily Leontief (*1970*, 1973), Milton Friedman (*1967*, 1976), Lawrence R. Klein (*1977*, 1980), James Tobin (*1971*, 1981), George J. Stigler (*1964*, 1982), Franco Modigliani (*1976*, 1985), Robert M. Solow (*1979*, 1987), Gary S. Becker (*1987*,1992), Amartya Sen (*1994*, 1998). Two economists served as AEA President after being awarded the Nobel: Kenneth Arrow (*AEA 1973*, Nobel 1972), Robert E. Lucas, Jr. (*2002*, 1995).

[2] Joseph S. Stiglitz was AER Editor (1986-1993) and was awarded the Nobel in 2001.

[3] Garicano and Santos (*AER2004*, 499-525), one month after Governor Kings remarks, started their essay by citing Hayek (*AER1945*, 519-30) on the knowledge problem: "The peculiar character of the problem of a rational economic order is determined precisely by the fact that the knowledge of the circumstances of which we must make use never exists in a concentrated or integrated form."

business cycle fared better. Anderson reviewed central planning in World War I, and Hayek's "knowledge problem" was cited in the final decade. Some issues, it appears, are eternal in economics. Von Mises' and Anderson's early criticism of the quantity theory, however, was not echoed in the AER's final decade.

2 The Initial Decade (1911-1920)

The Role of Mathematics

Austrian skepticism about the role of mathematics in economics appeared in the AER's first year of publication. Wicker (AER1911, 318-20) is the first reference in the AER to an Austrian or neo-Austrian. Schumpeter's Das Wesen (1908) is termed "revolutionary", and deemed "deserving of more attention and consideration than it has received from American and English economists." Wicker praises Schumpeter's scholarship, observing:

> One of the most valuable features of the book lies in its discussion of the views of other economists. This discussion, which constitutes in the aggregate a large part of the volume, is quite unusually catholic and kindly. It reveals a closely critical knowledge of the economic literature of the nineteenth century, both European and American.

Wicker notes a theme of the book is, "Economic dynamics can never be an 'exact' science." Mathematics should be limited to "the field of statics".

The Business Cycle

A reference to the business cycle appeared in the AER's second year. Clark (AER1912, 873-75) cites Bohm-Bawerk's "brilliant studies" of "time an element in production" and "capitol and organization" in his review of Schumpeter (1912). He notes Schumpeter's analysis of the business cycle: examines "commercial crises and treats them very properly as dynamic phenomena–the outcome of a certain unbalanced and uneven progress." Clark observes that Schumpeter "draws a distinction between the kind of change which presents no serious problems for solution and the kind which creates such problems."

Population growth and "enlargement of the fund of capital would call for adaptations which would take place automatically and steadily," he notes, "while the coordinations made by entrepreneurs cannot act evenly and extend throughout the whole system at once."

Monetary Policy: Criticism of the Quantity Theory

Austrian criticism of the quantity theory of money appeared in the AER's third year. Lutz (AER1913, 144-46) is a critical review of Von Mises (1912). Austrian criticism of the quantity theory of money and the use of index numbers is reviewed. Von Mises contends that while the quantity theory "contains a germ of truth in the proposition that the demand for and the supply of money are conditions which affect its value, it does not afford an adequate explanation of the value of money." Index numbers "may be of some use in ascertaining objective use-value", this "is of relatively little significance, compared with the subjective significance of a given money quantity." Index numbers may render a useful service, but they are "of no significance for the development of the theory of the value of money." Lutz is critical. "The work under review," he writes, "apparently represents an effort to develop a theory of money which will be in accord with the utility theory of value in its most extreme subjective applications." He concludes "the thoroughgoing application of this theory in all of its detail leads to mainly negative results." Lutz rejects this explanation, arguing "there are certain external objective phenomena of price which may be known, recorded, and studied; and on the basis of these objective manifestations safe conclusions may be drawn regarding the course of prices and its relation to human welfare."

Anderson (AER1916, 168-69, s) continues this Austrian criticism of the quantity theory:

> It is, moreover, quite grotesque for static theory to offer itself as a support for its own foundations. A static or "normal" theory of money and credit, resting on the notion of accomplished equilibrium, after transitional changes have been effected, misses the main point as to the function of money and credit. Static theory which assumes frictionless fluidity, misses the whole point concerning money and credit. A functional theory of money and credit must be a dynamic theory, basing itself on

> an analysis of friction, of transitions, and the like. And this is one reason, among many, why I find the quantity theory of money indefensible.

Wicksell (AER1919, 927) is an abstract reference to an article critical of Anderson's attack on the quantity theory. Phillips (AER1920, 137-40) also notes Anderson's quantity theory criticism.

Other Monetary Policy

Johnson (AER1914, 113-16) is a review of Bohm-Bawerk (1912). Johnson explains a "large proportion of the literature on interest during the last two decades has centered on Bohm-Bawerk's theory:" He continues, "It may fairly be said that a primary classification of economic theorists is based upon the acceptance or rejection of Bohm-Bawerk's interest doctrine." Bohm-Bawerk's "frequent contributions to the periodical literature of economics has offered sufficient evidence that he has allowed little of the vast volume of criticism to escape him," Johnson notes, reviewing the Austrian's response to Alfred Marshall and Irving Fisher. Johnson finds Bohm-Bawerk's system "logically unassailable" except for "the single exception of the treatment of the relation of productivity to the interest rate."

The passing of Bohm-Bawerk (1851-1914) is noted (AER1915, 947-48) in an abstract reference to Schumpeter's memorial (1914). Schumpeter's tribute is termed, "A keenly sympathetic summary and appreciation by a pupil and colleague."

Mitchell (AER1916, 140-61, s) cites Bohm-Bawerk (145n), Menger (143-44), von Wieser (148n) and Schumpeter (150) in his paper on monetary policy. He writes, "Among recent tendencies in economic theory none seems to me more promising than the tendency to make the use of money the central feature of economic analysis."

Anderson is cited on the limits of fiscal policy in Davenport (AER1917, 1-30).

Central Planning

Anderson (AER1918, 239-56) is a review of U.S. government price-fixing during World War I. "The more prices the government undertakes to control," Anderson concludes, "the greater the difficulties involved."

Anderson (AER1919a, 192) opposes peacetime central planning, arguing, "Artificial control of business and prices should be dispensed with as early as possible." Opposition continues in Phillips (AER1920, 137-40), a review of Anderson (1919b), termed "interpretive and critical, (a) finely and judicially critical, record" for both countries of "economic transformations" as a result of WWI. This includes Anderson's scathing and convincing condemnation of the policy of restricting gold payments within the U.S. and abroad.

3 The Final Decade (1995-2004)

The Role of Mathematics

The AER was dominated in the final decade by econometrics. The majority of references to the Austrian School are in articles that use econometrics to examine issues. The methodology is questionable, but the breadth of topics examined by models is remarkable, including pari-mutuel betting, migration, trade, reputation, and truckers. It appears there is no problem that econometrics cannot solve.

Hurley and McDonough (AER1995, 949-56) consider the Hayek hypothesis as it relates to the favorite-longshot bias in parimutuel betting (favorites win more often than the betting odds indicate, and longshots win less often than the betting odds indicate). The Hayek hypothesis, according to Nobel laureate Vernon L. Smith (1982), suggests that markets can work efficiently even when participants have a limited knowledge of the environment or of other participants.

Hurley and McDonough conclude:

> Our model suggests that the subjective win probability on a favorite, or near favorite, ought to be bounded above by its objective probability adjusted for track take. This hypothesis appears to be supported by the empirical findings of other researchers. However, the empirical results of two parimutuel-betting experiments are not consistent with this argument. The firm conclusion of this paper is that the bias on the favorite is not explained by costly information and transaction costs.

Carrington, Detragiacha and Vishwanath (AER1996, 909-30) cite Higgs in a footnote

(1976) in presenting a "dynamic model of migration in which moving costs are declining with the stock of migrants" in the U.S. The authors conclude, "The boll weevil and WWI provided the impetus for a migration process that continued even as the North-South wage gap shrank." This interpretation, they write, is consistent with the views of others, including Higgs who "emphasize the endogenous dynamics of migration."

Schumpeter (1942) drives technological change in the model developed by Dinopoulos and Segerstrom (AER1999, 450-72) that "presents a dynamic general equilibrium model of R-&-D-based trade between two structurally identical countries in which both innovation and skill acquisition rates are endogenously determined." They conclude:

> Trade liberalization increases R-&-D investment and the rate of technological change. It also reduces the relative wage of unskilled workers and results in skill upgrading within each industry when R-&-D is the skilled-labor intensive activity relative to manufacturing of final products.

Horner (AER2002, 644-63) cites Hayek (1946) and Schumpeter (1950) in a paper that "shows how competition generates reputation-building behavior in repeated interactions when the product quality observed by consumers is a noisy signal of firms' effort level." Horner develops a model, and concludes the "threat of exit induces good firms to choose high effort, allowing good reputations to be valuable, but its uncompromising execution forces good firms out of the market." Economists' assumptions that "market participants have complete knowledge of all relevant factors" has "long been criticized as limiting the applicability of the theory, especially when competition is thought of as a dynamic process," as Austrian economists view the issue.

Collins (AER2001, 272-86) cites Higgs (AER1977, 236-45). His model examines fair employment practices in U.S. labor markets during World War II.

Central Planning

Hayek's seminal essay (AER1945, 519-30) on the knowledge problem in economics is cited by Williamson (AER2002, 438-43), which examines private ordering in contracts.

Hubbard (AER2003, 1328-1353) cites Hayek (AER1945, 519-30) in developing a model that examines capacity utilization gains from on-board computers in the trucking industry. Hayek's "famous analysis of economic organization," he writes, "are at the core of a recurring theme in the productivity literature: the premise that information technology (IT) offers opportunities for large productivity gains." To Hayek, "understanding relationships between informational and resource allocation improvements is central for understanding the performance of economic organizations, and how decreases in information costs lead to increases in welfare."

The Business Cycle

Harberger (AER1998, 1-32, a) discusses the cycle as it relates to total factor productivity (TFP). "To me," Harberger states, "Joseph A. Schumpeter's vision (1934) of 'creative destruction' captures much of the story. What he is saying is, yes, it's a jungle out there, but the processes of that jungle are at the core of the dynamics of a market-oriented economy. They are what got us to where we are, and they hold the best promise for further progress in the future." He writes:

> Schumpeter saw through to the essence of the problem, but it is not wise for us to be fatalistic in accepting his vision. We cannot lose by making a major effort to understand the process of TFP improvement where it happens–at the level of the firm. This is all the more true because of the performance of negative as well as positive TFP performance.

Other References

Sen (AER1995, 1-24, a) cites Hayek (1960) on the idea of "personal domains" and "protected spheres" in a footnote.

Chow (AER1997, 321-327, s) argues Hayek's conception (1949) of individualism as "an ideal in a Western market economy" is in conflict with China's economic system. Chow contends "individualism versus the collective good" is among "the challenges of the market economy in China" for economic theory. The ideal of individualism, Chow writes, "is not generally accepted in Asian countries. Individual rights may be in conflict with the common good … In Asian societies, the common good is often considered to be more important than individual rights. Not only is individual freedom restricted, but members of a society are educated to serve the society." According to Chow, market economies have functioned with a limited amount of political freedom in mainland China and other Asian countries.

Schumpeter's "perennial gale of creative destruction" makes another appearance in Schmalensee (AER2000, 192-96, s), which presents a case for software markets as "Schumpeterian" in an article on U.S. antitrust issues. Schmalensee quotes Schumpeter (1950, 84), "This gale is driven not by price competition, but by competition from the new commodity, the new technology ... competition which strikes not at the margins of the profits of the existing firms but at their foundations and their very lives."

Goeree and Holt (AER2001, 1402-22) cite von Neumann-Morgenstern (1944) on game theory.

4 Conclusion

A brief survey of references to the Austrian School in the initial (1911-1920) and final decades (1995-2004) of the AER's history reveals three topics common to both periods: mathematics' role in economics, the business cycle, and government central planning and interventionism.

There is clarity of Austrian views in the initial decade. These include skepticism about mathematics role in economics; early Schumpetarian cyclical insights that would flower in the 1930s and 1940s, with variants of Austrian Business Cycle Theory (ABCT) developed by Hayek and von Mises; and a trenchant assault on the quantity theory led by B.M. Anderson, Jr.

The Austrian viewpoints presented in the final decade are inchoate and largely ironic. How ironic that a School known for its skepticism of econometrics should have some of its greatest works by Hayek and Schumpeter co-opted by mathematical economists for their econometric models. If the Austrian School was irrelevant or non-credible it would be ignored in the pages of one of America's leading economic journals. Yet the frequent references to Austrians, even in these econometric models, only serves to reinforce the School's importance nearly one century after Menger, Bohm-Bawerk, von Mises, Schumpeter and Anderson first appeared in the AER.

5 Appendix

Austrian and neo-Austrian economists appeared in the American Economic Review in the following chronological order:

(1911) Schumpeter

(1912) Schumpeter

(1913) Von Mises

(1914) Bohm-Bawerk

(1915) Bohm-Bawerk

(1916) Austrian School, B.M. Anderson, Bohm-Bawerk, Menger, Schumpeter, Von Wieser

(1917) B.M. Anderson

(1918) B.M. Anderson

(1919) B.M. Anderson

(1920) B.M. Anderson

(1921) Austrian School, B.M. Anderson

(1922) B.M. Anderson, Bohm-Bawerk, Schumpeter

(1923) B.M. Anderson, Von Mises

(1924) Schumpeter

(1925) Bohm-Bawerk

(1926) Bohm-Bawerk

(1927) Austrian School, Bohm-Bawerk, Menger, Morgenstern. Schumpeter, Von Strigl, Von Wieser

(1928)	Austrian School, Bohm-Bawerk, Morgenstern, Schumpeter
(1929)	B.M. Anderson, Bohm-Bawerk, Menger, Von Mises
(1930)	Austrian School, Bohm-Bawerk, Haberler, Hayek, Ropke
(1931)	Bohm-Bawerk, Schumpeter
(1932)	Von Mises
(1933)	Haberler, Hayek
(1934)	Hayek, Machlup, Morgenstern; Von Mises
(1935)	Hayek, Machlup, Von Mises
(1936)	Haberler, Ropke
(1937)	Machlup, Morgenstern, Ropke, Von Mises
(1938)	Haberler, Machlup, Ropke , Von Strigl
(1939)	Haberler, Machlup, Menger, Schumpeter, Von Mises
(1940)	B.M. Anderson, Machlup, Morgenstern
(1941)	Hayek, Machlup, Schumpeter
(1942)	Haberler, Machlup, Schumpeter
(1943)	Haberler, Machlup, Von Mises
(1944)	Haberler, Schumpeter; Von Mises
(1945)	Haberler, Hayek
(1946)	Hayek, Machlup, Schumpeter
(1947)	Haberler, Machlup
(1948)	Haberler, Morgenstern
(1949)	Haberler, Machlup, Morgenstern, Schumpeter

(1950)	Machlup, Schumpeter,Von Mises
(1951)	Morgenstern, Rothbard
(1952)	Bohm-Bawerk, Machlup, Menger, Schumpeter, Von Wieser
(1953)	Haberler, Machlup
(1954)	Haberler, Hayek, Schumpeter
(1955)	Bohm-Bawerk, Machlup, Morgenstern
(1956)	Lachmann
(1957)	Machlup
(1958)	Sennholz
(1959)	Schumpeter, Von Mises
(1960)	Machlup
(1961)	Hazlitt, Machlup
(1962)	Schumpeter
(1963)	Machlup, Rothbard, Sennholz, Von Mises
(1964)	Haberler, Machlup, Morgenstern
(1965)	Machlup
(1966)	Haberler
(1967)	Machlup
(1968)	Kirzner, Machlup
(1969)	Hayek, Machlup, Schumpeter, Von Mises
(1970)	Machlup, Morgenstern, Schumpeter
(1971)	Machlup

(1972)	Haberler, Hayek
(1973)	Bohm-Bawerk
(1974)	Bohm-Bawerk, Hayek, Machlup, von Mises
(1975)	Hayek
(1976)	Machlup, Schumpeter
(1977)	Haberler, Higgs, Machlup
(1978)	Schumpeter
(1979)	Morgenstern
(1980)	Haberler
(1981)	Austrian School, Bohm-Bawerk, Hayek, Menger
(1982)	DiLorenzo, Hayek, Higgs, Schumpeter
(1983)	Hayek, Holcombe, Schumpeter
(1984)	DiLorenzo; Higgs, Schumpeter
(1985)	Austrian School, Bohm-Bawerk, Garrison, Hayek, Rothbard, Von Mises
(1986)	Hayek, Higgs, Menger
(1987)	Machlup, Morgenstern
(1988)	Machlup, Schumpeter
(1989)	Haberler, Hayek
(1990)	Schumpeter
(1991)	Hayek, Morgenstern
(1992)	Hayek, Mintz, Schumpeter
(1993)	Morgenstern, Schumpeter

(1994)	Hayek, Menger, Mintz, Schumpeter
(1995)	Hayek
(1996)	Higgs
(1997)	Hayek
(1998)	Schumpeter
(1999)	Schumpeter
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Independence and Responsibility of Central Banks

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Abstract: A strong information asymmetry may exist between central bank managers and both the public and the government. Therefore managerial discretion of the central bank managers is possible. On the other hand the government is able to constrain, or threaten it better than anyone else. For this reason the central bank can neither be fully controlled by the government, nor fully independent of it. The actual level of dependence may differ from the formal one, and may not be observable. There can also be many special-interest groups in the economy that can try either to bribe or threaten the central bank managers. The strength and aims of these groups may change through the time. For this reason the generally optimal level of the central bank formal independence might not exist.

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1 Introduction

There are organizations in modern economies that neither evolved spontaneously for some economic reason (like e. g. firms), nor were set up out of pure necessity (like e. g. army), but were established by governments for their special interests. Usually, these organizations could not come to existence without governmental power behind them, and in some cases they would disappear if their governmental protection ended.[1] Nonetheless, many of these organizations have evolved through the time (and sometimes they have changed their environment as well) in such a way that now they subserve important economic goals–some of them even have a vital role in modern economies. A great example of such an organization is a central bank, but many other instances are at hand.

Both historical experience and the public choice theory shows us that such organizations might be dangerous for society if abused by the government. The theory and experience also show us that there might be (at least sometimes) a strong incentive for the government to abuse these organizations. That is why there is a strong pressure to make some of these potentially dangerous organizations independent of the government. But with independence new problems arise: the accountability, responsibility, and legitimacy of these organizations are questionable.

This is precisely what has happened in the case of central banks. In the second half of the 20th century, central banks were seen as an inevitable part of market economies, which were necessary to stabilize the business cycle and the banking system, and perhaps also the price level. Then new theories and evidence appeared showing that the government can benefit from an abuse of the monetary policy or the central bank itself. This brought a strong movement toward the independence of the central banks, later

[1] The type of organization we have in mind is slightly different form "political firm" (see Eggertsson, 1990, p. 149). "Political firm" denotes "any organization owned by a local or national political unit that employs labor services and material inputs to produce commodities." It includes all firms that are run by a government no matter whether they could be operated in the same way as private firms, or not. Water and sanitation company is an example of a firm that is often operated as a political firm, but could be as well operated as a private firm. We have in mind an organization that has a governmental protection of some kind and is given a privilege or power of some kind to be able to provide some services that could not be provided without the protection and privilege or power. Imagine a public television (having a privilege to be financed from taxes), or a central bank (having a monopoly over bank notes issue).

strengthened by an apparent correlation between the central bank independence and a low rate of inflation. Nowadays most central banks are much more independent of the government then ever before. But voices come out that the central bank independence violates the democratic control over the monetary policy and lets one of the most powerful governmental organization subject to non-elected individuals.

At first glance it seems that we have a choice, or even a trade-off between the independence and responsibility. A more independent central bank may carry out better monetary policy (whatever it means) because it is not pushed by potential special interests of the present government. On the other hand the lack of democratic control is also higher, which may make the actual monetary policy worse. It seems that there must be an optimal level of independence. Such an optimal level is presumed, for instance, by most advocates of the inflation targeting. They usually suppose that the optimal level of independence of the central bank means that the government sets the ultimate inflation goal while the central bank is free to use any tools to achieve it. In other words, the central bank is fully operationally independent and fully goal-controlled by the government.

This view assumes too much. It assumes that the *actual* level of policy independence is the same as the *formal* one. It also assumes that the government always wants to abuse the monetary policy while the central bank managers are benevolent agents of the public always struggling for the best available outcomes. Moreover, it neglects also the fact that there may be special-interest lobbies different form the government. These presuppositions are not often questioned. The goal of this paper is to question them on the basis of the positive theory of agency, the theory of bureaucracy, and the theory of bureaucratic behavior of central banks.

Our hypothesis is as follows: The management of a central bank is by definition a bureaucracy that has its own goals. Some of these goals are compatible with the government's goals, while others are not. There can be also special-interest groups different from the government that can try either to threaten or bribe the central bank's bureaucracy to act in favor of them. There is a great information asymmetry that can make it difficult both for the government and the public to check the central bank's actual performance. This information asymmetry may open the central bank's management to informal silent influence of the government, therefore making the expected benefits of the independence questionable. In the same way it can open it to a silent influence of other lobbies as well. Under such an institutional setting the actual performance of the central bank is determined not only by the degree of its formal policy independence of the government, but by much broader spectrum of influences. A general solution may not exist (perhaps except privatization of the central bank, i. e. its destruction).

In the paper we will try to expose this hypothesis in more details and search for the major players, identifying their interests, possible strategies, and constraints. We will also try to show which of the conflicting goals will be achieved and to what extent. We will not try to offer a formal model at this stage since the problem is not yet ready for that. We will also not try to test the hypothesis yet, for the reasons that will be clear when the hypothesis is exposed in more detail. We will focus on the case of a central bank, because it could be seen as a model example of an organization created for the particular interests of politicians, and because the question of its independence of a government is both interesting and widely discussed. We hope that it is possible to extend the hypothesis to many more examples.

The structure of the paper is this: First we analyze the bureaucratic nature of a central bank, and some of its consequences (section 2). Then we identify the incentives of the central bank management (section 3), and of special-interest groups that can affect its behavior (section 4). We try to analyze in what way their goals can influence the behavior of the central bank managers, and how conflicting goals can be handled by them. In the end we summarize the hypothesis, and draw some conclusions (section 5).

2 Central Bank as a Bureaucratic Organization

First of all we have to carefully analyze the nature of a central bank. To understand a modern central bank we have to keep in mind its origin. White (1999) shows there is no spontaneous tendency for the evolution of central banks. Definitely, some of the functions provided nowadays by central banks (such as emergency lending, banking supervision to decrease information asymmetry etc.) may be provided on the voluntary basis by private clearing houses or other organizations. But there is no spontaneous tendency to make money independent of a commodity, or create a centralized reserve system, or an authority able to carry out the monetary policy etc. Bagehot (1873, ch. 2) puts it this way: "… the natural system that which would have sprung up if Government had let banking alone is that of many banks of equal or not altogether unequal size." In other words, if politicians did not meddle with the banking systems in the past, there would be no central banks nowadays–only commercial banks of a similar size interconnected by private clearing houses. Some of these banks would issue bank notes convertible at par into specie.

It was politicians who have created central banks to serve their goal. Bagehot (1873), Smith (1936), and White (1984, 1999) among others put across that in the 19th century central banks were usually created to serve fiscal needs of governments. In the 20th century central banks were established by political pressures as well, sometimes for governmental fiscal needs, sometimes for other particular reasons (see Rothbard (1999), and Friedman and Schwartz (1963) for the account for the Fed). However, in all cases central banks were established by politicians. Kane (1980) says (for the Federal Reserve System): "After all, the Fed is a political institution designed *by* politicians to *serve* politicians." (Italics is Kane's.)

Of course, in many cases the actual outcome of the politicians' acts have been quite different from their intentions. Most politicians in the 18th or 19th century did not plan to establish a central bank at all–they simply wanted to obtain a credit for the government on more favorable terms. The obvious way to get it (at least from their perspective) was to give some bank privileges or even monopoly power. Such a bank would be both willing and able to offer cheaper credit to the government in return. The modern central bank has evolved step by step from these privileged banks. As Bagehot (1873, ch. 3) says: "Thus our one reserve system of banking was not deliberately founded upon definite reasons; it was the gradual consequence of many singular events, and of an accumulation of legal privileges on a single bank which has now been altered, and which no one would now defend." To put it in a different way, a central bank is neither a product of a spontaneous evolution, nor an outcome of economic reasoning and planned governmental policy. It is a product of a "political evolution."

Thus the origin of a central bank shows us that a central bank is an organization with quite different characteristics from organizations that have evolved spontaneously. It was given many privileges: the note-issue monopoly, power to set either the monetary base or interest rates, and the right to regulate commercial banks can be mentioned as the most important ones. These privileges are granted and protected by the government–without its power they could be neither established, nor preserved. In this sense the central bank shares the part of the governmental power while it is, because of its banking origin (at least from the legal point of view), a separate organization.

We can understand the nature of the central bank even better if we compare it to a spontaneously evolved organization, e. g. a firm. There are many dimensions in which a central bank can be compared to a private organization. Let us mention some of them.

Goal of the central bank

Private organizations usually have a simple well-defined goal for which they were established. In a case of a firm the goal is profit, or more precisely to maximize of the present value of all its future profits. All constituents (principals) of the firm (e. g. stockholders) prefer a higher profit to a lower one. The only controversy could arise over the timing of dividends, for different stockholders can have different time preferences. This controversy could be solved easily in the case of public companies, where the stockholder can have a positive cash flow even if all the profit of the company is reinvested to make more profit in the future. He or she can simply sell part of his or her stocks, the price of which is increasing over the span of time. It is possible to reconcile the interests of the firm owners, even in the case of a proprietorship or a closed corporation simply by choosing a firm with the desirable timing of income flow. The same holds for other organizations, e. g. private non-profits as well (see Fama–Jensen, 1985). In other words, private organizations have an inherent goal (they were created to achieve this goal) and their ultimate principals force these organizations to achieve it.

A central bank as an artificially constructed organization lacks an inherent goal (if we neglect the goal to support any special interest of the present government). Moreover, its goal cannot be derived from the preferences of its ultimate principals–the public. There is a great diversity among individual households' preferences for the central bank goal, and no way to reconcile them. For example, pure debtors prefer unexpected inflation while pure creditors may prefer a moderate unexpected inflation; savers prefer high interest rates, investors low ones, et cetera. To carry out a "socially desirable" monetary policy we need to know a social welfare function, which cannot be constructed (see Rothbard, 1956). In other words, no inherent goal of the central bank exists, and its ultimate principals are not able to unify to push it to achieve it.

If a central bank does not have (and cannot have) any inherent goal, what goal is it supposed to achieve? In the real world, many (at least in the short run) conflicting goals are imposed to the central bank by the government (in a broad sense including the parliament), or by the central bank itself. In such a case we have to learn what goals is the central bank given on different occasions, and to what extent it tries to carry out each of the conflicting goals. We can expect when the goal is commanded by the government it would reflect government's interests. If it is commanded by the central bank managers (e. g. because the bank is fully independent of the government, or the government is not able to control its behavior fully), we may expect it would reflect the interests of the managers. We will explore what their interests are in the section 3.

Strategies of the central bank

In a deterministic world of full knowledge management would be an easy task. Under such hypothetical conditions, decision making means mathematical optimization. In the actual world of uncertainty, mathematical optimization is much less useful since probabilities of all possible outcomes cannot be stated (in many cases, all possibilities are not even known). Under such conditions unattainable "optimal behavior" must be replaced by attainable "sufficient" strategies. Alchian (1950) have shown that economic environment selects through competition those strategies that under the given conditions imitate optimal choice better.

Alchian (1950) argues that in an uncertain world, a manager of a firm cannot be certain that his or her actions are optimal. If his or her action has been better than average (for any reason, even because of a good luck) compared to a competitor, then his or her firm earns a higher profit than average. Such profit allows the firm to survive. Profitable firms (i. e. better fitting to the actual environment) survive while loss-making firms "die out". This way the environment choses through competition those who follow rules that better fit the actual environment. Managers tend to imitate the successful managers–this way the successful rules spread out through the economy. Both conscious and unconscious (and even random) modifications of the rules serve (from the social point of view) as a mutation. The market process lets the "positive mutations" survive while the "bad ones" die out. This way the rules adapt themselves to the changing economic environment. Thus Alchian shows that the competitive market process precisely corresponds to the Darwinian evolutionary process. Alchian (1950) puts it in this way: "The economic counterparts of genetic heredity, mutations, and natural selection are imitation, innovation, and positive profits."

One consequence of Alchian's theory is that on competitive markets a simple rule based behavior might correspond to an optimizing behavior predicted by the economic theory. For this reason we may model private firm behavior "as if" they equalize the marginal cost to marginal revenue to maximize their profits. They do not do it consciously, because the marginal cost and revenues are not actually known–their managers simply follow the rules that were successful assuring survival in the past. For this reason we may believe with a reasonable degree of certainty that the strategies applied by private competitive firms are (or tend to be) optimal, i. e. best achieving their goals. The same holds true for other competitive organizations as well.

A central bank is absolutely different in this respect. There is no competition among central banks. A central bank cannot go bankrupt. Moreover, a central bank's profit is not derived from the well-provided monetary policy at all (the opposite might be true since the central bank's profit is earned from inflation). This is why we have no reason to believe that the actual rules followed by a central bank are close to the optimal one. They may be, or need not be–but there is no proof they are. We can believe such a statement with a much lower degree of certainty.

Environmental complexity of the central bank

The problem of central bank strategies is even more complex because the environment of a central bank itself is in one sense much more complex than the environment of a competitive organization. Actions of a competitive non-privileged organization change its environment only in a marginal way. From its point of view the environment is reasonably stable in respect to its own actions. But it is not true in the case of a central bank. A central bank is strong enough to change its own economic environment. When a central bank changes its strategy, all subjects in the economy have to adapt to its new strategy. The result is that the behavior of the economic system changes as well. Therefore, it is much more difficult for the central bank to learn from past experience than it is for a competitive organization. This is the heart of the ingenious Lucas' critique, see Lucas (1976).

The environment in which a central bank operates is quite complex even in many other senses too. This complexity is probably the reason why we have so many contradictory theories of monetary theory and policy that still were not falsified. That is why the monetary management of a central bank is so difficult and subtle work. Another consequence is that it is extremely difficult to evaluate the performance of a central bank and especially its managers.

Personnel of the central bank

The choice of a central bank personnel, especially its top management, poses a problem similar to the choice of a central bank strategy. Romer and Romer (1996) show that the choice of central bank managers is a key factor for the efficiency of the monetary policy. The question is how to find the optimal managers, i. e. the managers that are able to achieve the goal of the central bank best. It is obvious that it is much easier to find a good general director of a corporation (either profit or non-profit one) than a good president of a central bank. The reasons are many, a main one being that the goals of these competitive organizations are expressed better.

Moreover, there is a market for managerial services in the case of competitive organizations. The market evaluates managers based on their former performance, i. e. the extent to which they were able to achieve the organization's goal. It is the easiest in the case of a profit corporation where the level of the "goal-achievement" can be stated in numerical terms (as a profit, or a yield etc.).

It is much more difficult to find a good central banker because there are very few potential candidates (i. e. the market is thin). Moreover, they can hardly be evaluated on their former performance. Firstly, if they are chosen from outsiders (i. e. not central bank personnel), there is no prior performance to be observed. (Note that it is quite often that members of the board of directors of a central bank are appointed from such outsiders.) Secondly, the outcomes of the bank policy may be biased by external or internal shocks. The same is true for the competitive organizations, but in their case there is a benchmark for the comparison, that being the average of the industry. No similar benchmark exists for a central bank. Thirdly, a central bank is usually made responsible for many potentially conflicting goals (private competitive organizations usually have just one goal). The necessary multi-criteria evaluation is more difficult than a profit-based evaluation of a firm manager.

Managers are usually appointed by their nearest principals. In the case of the central bank it means that its managers are appointed by the government (in the broadest sense). Since the evaluation of potential candidates is difficult, the government has to choose them on the basis of an ill-defined, obscure criteria. This allows the government to choose managers that would be willing to seek any goals the government prefers, even its special interests.

Managerial discretion

A manager that is not in the same time the only residual claimant may have an incentive to act in his or her own interest even at the expense of his or her principals rather than in their best interest. Such actions are called "managerial discretion." A great part of positive agency literature focuses on the managerial discretion and tools used by both the principals and the agents to handle it to lower the agency cost. The classical positive theory of agency was built up by Jensen, Meckling, and Fama, see e. g. Jensen–Meckling (1976), or Fama–Jensen (1983). Among others, they have shown how managerial discretion is constrained within private organizations, both profit and non-profit ones. The threat of bankruptcy is the lowest bottom line of the managerial discretion. The threat of a takeover presents another one. The stock market and the market for managerial services are other protections of the residual claimants (or donors). The stock market evaluates the price of the firm instantly which lowers the monitoring cost for most firm owners. It lowers the transaction cost of a takeover of poorly managed companies. The managers labor market does the same for the wages of managers. The managers not acting in the best interest of their principals may expect that their price on the market for managerial services would be lower if they got fired. Beside of these low-level bottom lines there are usually other protections: expert boards, hierarchical control, mutual monitoring, et cetera. All these protections guarantee with a good degree of certainty that most managers try to act in the best interest of their principals.

We have almost no such guaranties in the case of a central bank. First of all, the survival of a central bank is not connected to its performance. A central bank cannot go bankrupt (at least the central bank issuing fiat money cannot go bankrupt), and its profit is not derived from the well-provided monetary policy (see above). Neither there exists a direct link between the survival of a central bank management and its performance.[2] Central bank managers could be dismissed in some countries if the outcomes of their monetary policy do not satisfy the policy objective (e. g. inflation target on the New Zealand), but it is by no means a common practice. Moreover, there are usually many exceptions that allow the bank avoid any punishment even when such a formal rule exists.

An information asymmetry between a central bank management and its principals (the government and the public) is another cause of a low accountability of the central bankers. It is very costly (and often even impossible) for them to monitor the actions of the central bank properly to learn whether its actions were following their interest.[3] Special knowledge possessed only by few monetary theorists is necessary to evaluate the central bank performance. Most of these theorists work directly (as employees) or indirectly (through the system of research grants) for the central bank, so their judgment is far from being independent. Most of the rest of them usually work (directly or indirectly) for a government, which is supposed to be a possible threat for the monetary policy. The only potential independent critics are those few monetary theorists at universities and research organizations that take no part in central bank or governmental research grants.

A central bank may also take steps to increase the information asymmetry. Goodfriend (1986) analyzes the tendency of central banks to conceal important information about their monetary policy. No matter if the central bank secrecy makes its policy easier, or not, it certainly lowers the accountability of the bank. Moreover Chant–Acheson (1972) show in the case regarding the Bank of Canada that a central bank has a tendency

[2] The bottom line for the central bank management is not only much weaker than the bottom line of a commercial firm, but also than that of a government since a government may not be reelected if its performance is regarded as poor by the majority of voters.

[3] We are speaking about particular interest of those individuals (or about some arbitrary goals). As we have shown above there is neither a common, or "social" interest in the monetary policy, nor an inherent goal of the central banks.

to choose its instruments (and their mix) in such a way that lowers the transparency of its policy. In their other paper (1973b) they argue that a central bank may even create a "mythology" to lower its accountability. The reason for such behavior will be presented in the section 3.

For all these reasons, the only threat the central bankers face in most countries is a possibility that they would not be reappointed, or that the central bank status, rights and privileges would be altered. There is only one power able to do it, that of the government. Because of the information asymmetry and all the problems stated above, the government has to choose the central bankers on the basis of very incomplete information. On the one hand it increases the central bankers potential for managerial discretion, but on the other hand it also makes it easier for the government to force the central bank to act on its own behalf because it can threaten the central bankers. If it blames the central bankers, there is no simple way how to learn whether the bank is right or wrong. The government can punish the bank simply on the basis of its blame.

Bureaucratic nature of the central bank

We have seen above that the central banks were created by politicians to serve their special interests, but through the time they obtained special right and privileges that allow them to conduct the monetary policy. This was made possible by the governmental power that guarantees these rights. In the same time the banks are given objectives by the government. From this point of view the management of a central bank is bureaucracy, or a bureaucratic management, see Mises (1944).

Central banks have no inherent goals, only the goals given by the government. But the same does not hold for its managers. The central bankers are agents of the government (and of the public), but poorly constrained ones. It allows them to act in their own interests. Therefore, to understand the behavior of a central bank we have to first understand the incentives of its managers. This is what the theory of bureaucratic behavior of central banks explores. We will summarize its findings in the next section.

3 Incentives of the central bankers

The general concept of bureaucracy and its behavior goes back to Weber (1997). The approach was then applied to central banks in many papers on the theory of bureaucratic behavior of central banks; for the summary see White (1999, ch. 8). Some of the classical authors in this field are Acheson and Chant (1972, 1973a, and 1973b), Friedman (1982), Kane (1980), and Toma (1982). The theory views central bank managers as poorly constrained agents that may seek their own interests, which may deviate the monetary policy they carry out from its optimal course (whatever it may be). The authors analyze the general incentives of the central bankers, and then use their findings to explain some deviations of the monetary policy practice from its theory.

Let us summarize the major incentives attributed by the theory to the central bankers. The theory assumes that the utility of the central bankers is derived first of all from their prestige, and safety (or the self-preservation of the central bank). Other potential bureaucratic goals (like on-the-job consumption, hoarding of power, or high wage rates) are neglected–either the authors assume they are not important for the central bankers, or that they do not have a considerable influence on the monetary policy of the bank.

Prestige is assumed to be a goal per se for a central bank. It is derived from the position of the bank in the social hierarchy. It "reflects the public's and other groups' concern with the goals associated with the bureau, the bureau's degree of responsibility for such goal and the public's and other groups' opinion of actual performance relative to the expected performance." (Chant–Acheson, 1972, p. 14) Their prestige is influenced by many factors: The importance the public associates with the bank's goals, the public's rating of the bank's performance, the bank independence et cetera.[4] The theory predicts that the central bankers tend to act in such a way that enhances or at least protects their prestige.

Central bankers' safety includes two interrelated parts: They seek to preserve the "life" of the bank, and they seek to preserve their jobs there. The preservation of the

[4] Friedman (1982) even hypothesizes that the central bankers have an interest in a macroeconomic instability since in times of macroeconomic instability their services are seen as more important by the public, i. e. their prestige rises. (We do not think this is a real problem.)

bank is necessary for their own job safety, and also for their prestige as it signals the importance of the bank in the economy.

These two ultimate objectives (prestige and self-preservation) create an incentive structure for the central bankers' behavior. The theory predicts many phenomena we can observe in the real world (some of them were mentioned above).

First of all, a central bank seeks to keep its operations secret. It usually resists to offer information about its actions. Such secrecy not only rises the prestige of the bank, but it also protects it against criticism. The same reasons have motivated the bank not only to obfuscate rather than offer information, they also motivate it to create a "central bank mythology"–to persuade the public, the government etc. that the central bankers are fierce fighters against inflation, that they are able to carry the monetary policy out better than any ironclad rule, and that their task is extremely complex and beyond all understanding of laymen on the one hand, but on the other hand that they cannot be blamed for any failure because there are many factors affecting the policy outcomes out of their control, because the transmission is not well-understood et cetera. This way all successes can be attributed to the bank, but all failures can be attributed to external shocks, irresponsible fiscal policy et cetera. Under the information asymmetry the bank can always argue that without its provident policy the outcomes would be much worse. (For details see especially Friedman, 1982, and Acheson–Chant, 1972, 1973a, 1973b.)

Second, for the same reasons a central bank opposes any ironclad rules and sticks to incomplete discretionary policy, and complex instrument-mixes, because it further lowers the ability of outsiders to monitor the actions of the bank–and this way to criticize it for a poor performance. Moreover, if the bank had admitted that the discretionary policy could be replaced by a rule (i. e. by an automaton), its prestige would have diminished to zero (ibid, see especially Friedman, 1982).[5]

Third, the theory predicts that a central bank will struggle for its independence. If a bank is independent, and its responsibility for the monetary policy is not shared with other agencies, its prestige is ceteris paribus higher. Moreover, a higher degree of independence allows the bank to protect itself–a more independent bank can got into

[5] We do not share the idea that the monetary policy could be replaced by an automaton reasonably–we do worry that such a change could under the present regulatory system destabilize the banking system.

more conflicts with other organizations or special interests groups, but it also has a better chance to handle these conflicts (ibid).

Fourth, a central bank has an incentive to avoid any conflict with a group that is able to alter its social status, especially to threat its independence, or even self-preservation, i. e. with a group that has superior understanding of its actions, and that has a power over the bank. This group is usually identified with the government.

Among others, it means that when the bank is given conflicting policy goals, it aims most eagerly to achieve the goals that are identified with the bank most (i. e. the responsibility is shared with other agencies least), the goals, the achievement of which can be most easily observed and monitored, and those that are most important for the group that can threat the bank's (and central bankers') safety (ibid).

One might ask why the government allows the bank to carry out the nontransparent incomplete monetary policy, especially if it lowers its control over the bank. Kane (1980) offers a simple and radical answer: It is because such policy is beneficial for the government as well. First of all, it allows the bank to obey informal commands of the government–even those aiming at the government's special interests. We will analyze this possibility in the next section. Second, it allows the government to use the bank as a scapegoat to be blamed in hard times. When an economic slowdown occurs the government can blame the bank not to loose the public, and the bank is still safe–its failure cannot be proved and no steps against its officials are taken because it is formally independent of the government. In other words, the information asymmetry enhanced by the bank and the possibility of managerial discretion is mutually beneficial both for the government, and the central bankers.

We accept all the incentives presented above, and there is one more: Given that the central bank managers are utility maximizers and in the same time they are poorly constrained agents, we can expect that they can be "bribed". The "bribes" can include an offer of a future important position (e. g. in diplomacy or in an international organization, or simply renewal of their appointment), an offer of prestige within a group of people delimited either by a profession, or geographically (exploiting the central banker's patriotism) etc.

We can see that neither the central bank, nor the central bankers have an inherent goal. The central bankers are bureaucrats that are hired to pursue the goals given by the politicians. The information asymmetry between them and both the government and the public make managerial discretion possible. For this reason the actual monetary policy may deviate from the formal goals given the bank by the government. They may seek the policy to rise their prestige, and to secure the bank and their own self-preservation.

The theory predicts that the behavior of the central bankers (bureaucrats) is influenced by the interest of strong special interest groups (or stakeholders) which are able either to threat, or bribe them (including offers of prestige). Traditionally the theory explored interactions between the central bankers and the government, which is the strongest subject that can affect the central bankers. But we will show in the following section that many more relevant special interest groups may exist. It means that we have to analyze both incentives and powers of these groups to understand the actual behavior of the central bank.

4 Incentives of Other Stakeholders

In this section we will explore the interests of selected stakeholders, and their power to influence the behavior of a central bank. We will look at these stakeholders: the public, the central and local governments, baning and industrial pressure groups and other possible special interests. We will contemplate over the role of media as well. The mutual relationship of these stakeholders is illustrated in a simple diagram.

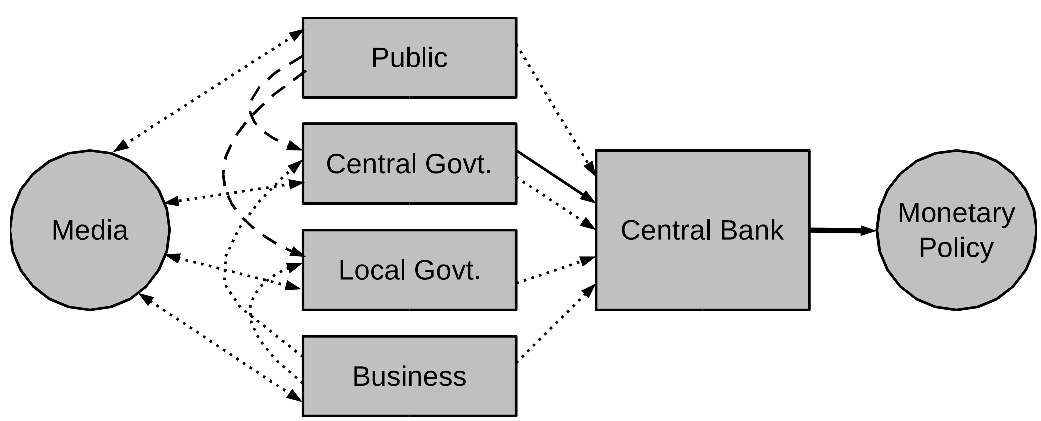

Diagram: Mutual relationships of stakeholders. Solid lines illustrate a direct control, dashed lines indirect control through elections, and dotted lines an informal influence.

The Central Government

Let us define the central government as the government that has power over the central bank, i. e. that is the nearest principal of the bank. The central government (in the broadest sense including the parliament etc.) is definitely the most important stakeholder influencing the monetary policy. It is the nearest principal of the central bank and it has power over it. The central government sets the formal goals for the bank. It is able to change the bank's social status, and lower its independence. It appoints the bank management, and so on. The central government has the best opportunity to "bribe" the central bankers too (e. g. offering them future attractive jobs). The government has also the best ability to monitor the actual actions and performance of the bank.

Economists usually suppose that the ultimate goal of the government of a democratic country is reelection. If we take it for granted, we can expect the government to carry out the policy that maximizes the probability of its reelection.[6] To be reelected the government can do three different types of actions:

First, it can carry out a systematic policy that is preferred by the public (more precisely, by the majority of voters). This is or course what the government is supposed to do. The systematic governmental policy changes through time because the public preferences change over the time. For example, it is probable that in times of high unemployment the public sensitivity to unemployment is high while its aversion to inflation is much lower than in inflationary times of full employment. The public preference may depend on the economic theory too; thus for instance the public may be less averse to inflation when it is generally believed that a stable trade-off between the inflation and unemployment exists.

The government translates its policy (i. e. the majority preferences) into the formal goal of the central bank. We can therefore hypothesize that the lower inflation rates

[6] The policy of a given government may be biased by its ideology. However, in general we may neglect the ideology as a separate factor because a government seeking for ideological reasons a policy that people do not agree with would not be reelected. Either the government carries the policy that the majority of people prefers, or the government is replaced by another one.

achieved nowadays are not an outcome of a higher independence of central bank, but the lower inflation and the independence of bank are joint-outcomes of the public preference for a more stable price level.

Another governmental instrument to win voters can be called hyperbolically "bribing special groups." The government can carry a policy that is beneficial for a special interest group, either a social group that forms the voters of the present government or an industry that is important for the government (e. g. it sponsors the present government's election campaign). A policy in favor of labor unions can be other example. This kind of policy may also affect the monetary policy the government prefers. For example, it can press the central bank to lower its interest rates in favor of an industry connected with many voters (the example mentioned by Kane, 1980), or it may raise funds for transfers from the seigniorage. We can expect that such a policy is more beneficial for the government if it is not publicly known (because it could raise animosity of other special interests groups). Therefore we can hypothesize that the government would not set these objectives to the central bank as its formal goals, but it would press the bank to achieve it informally. The higher managerial discretion the bank has, the easier it is for the government to press it informally because the actual instructions cannot be easily guessed from the policy. The bank has a strong incentive to obey the actual governmental instructions because it is the government that can threaten the central bankers most effectively.

The third way the government may try to win voters can be hyperbolically called "fooling voters." The government can (at least in the short run) "improve" the performance of the economy creating a political business cycle. For example, lowering of interest rates usually (at least temporarily) lowers the unemployment rate–usually at the expense of rising inflation in the long run (and perhaps creating other problems as well). Such a policy may be beneficial for the government especially before the elections. This policy is successful (from the point of view of the government) only if it is not expected. As in the previous case, the government has an incentive to press the central bank to achieve this objectives informally.

The three types of policies described above are generally inconsistent. For example, the public may prefer stable price level, so the systematic monetary policy winning the majority of voters is aimed at little inflation. However, before the elections the government may try to "cheat the public" by rising inflation to stimulate the economy. We can expect that the government chooses that mix of the three types of policies mentioned above, which under the given conditions maximize the number of its voters, or at least ensures its reelection. Some of the conditions affecting this choice of policies are beside others the following: First, how easily can the government force the bank to achieve the objective, second, how easily can the policy be concealed, and third, how much is the objective associated with the government's reputation.

Governmental policies of the first type are usually viewed as "proper" economic policies, while the policies of the second and the third types are seen as an "abuse" of the governmental control. It is widely shared that a higher independence of the central bank diminishes the government's ability to abuse the monetary policy. However, the conclusion is not straightforward. A higher independence lowers the government's formal power over the bank. Informal control is still present, as there is no way how to abolish it (except to change the bureaucratic nature of the central bank). To simplify the matter, let us suppose that a higher independence of the bank of the government actually lowers the governmental control over the bank. At the same time, it rises the benefit of the government from "abusing" the monetary policy because it lowers the responsibility of the government for the monetary policy and its outcomes, and the ability to monitor the central bank actions. The total effect of an increased independence of the central bank is thus ambiguous.

The Local Government

Let us define the local government as the government of any level that has no direct power over the central bank, e. g. a state government within a federal country. The local government has incentives similar to the central government (including a potential "temptation to abuse" the monetary policy), but it is usually supposed to have no direct way how to influence the central bank because of the lack of power over it. This barrier disappears if we admit its ability to bribe a central banker by perhaps offering attractive future positions, or appeal to his or her patriotism. A very effective "bribe" involves a coalition of important local governments, which can this way bias the monetary policy to their own benefit.

The "temptation to abuse" the monetary policy may be even stronger for a local than for the central government because the local government can earn all benefits of such a policy shifting the negative consequences to the central bank and perhaps to the central government too because local governments are not typically responsible for the outcomes of a monetary policy.

This influence may be negligible in most cases, at least in small homogeneous countries, but it can have an important impact on the monetary policy in great heterogeneous countries or their confederations. The European Union can be such an example. The formal policy independence of the ECB does not insulate it necessarily from informal pressures from the member countries. On the contrary, the lack of responsibility to a central government creates an opportunity for local governments of the member countries to bias the monetary policy in favor of their countries.

The Public

We have discussed public preferences above. Here we will discuss only the ability of the public to influence the central bank policy. It seems at the first glance that the only possibility of the public to influence the monetary policy is through the central government motivating it to carry out the systematic policy aiming the objectives of the majority of voters. But this is not completely true. The public has more to offer to the central bankers directly. First, it can offer them prestige, and second, it can offer them safety (at least sometimes).

When the central bank is given an inconsistent mix of objectives (both formal and informal ones) it chooses those which maximize its prestige within the constraint of self-preservation. This means that the action taken by the bank can be biased in favor of public preferences if they are different from the goals given the bank by the government. We can expect that usually the deviation between the actions of the bank and the actions desired by the government is not significant since the central government has an ultimate power over the bank. However, in some cases they may differ, for example in situations when the government cannot threaten the bank because the public is willing to support the bank. The government would loose voters if it tried to force the central bank to achieve objectives that are resisted by the public in such a case. Empirical evidence is necessary to learn how often is the public able to protect the central bank management from the informal political pressure. The theory suggests that such cases can be quite rare because of information asymmetry, and a transaction cost of organizing the public.

Banking and Industrial Pressure Groups

We have mentioned above that there are many potential stakeholders, e. g. industries sensitive to interest rates, and the banking industry. The industrial special-interest groups may try to bias the monetary policy in favor of them. We can expect that they are not able to influence the central bank directly, but only through the central, or local governments. The only exception may be the banking industry and financial markets generally. Since there is a close relationship between commercial bank and financial markets institutions and the central bank, and this industry is often very concentrated, it is possible that it might be able to "bribe" the central bankers–offering its managers professional prestige, attractive future jobs etc. However, this direct influence is rather speculative, and some empirical research is necessary to establish it before it is taken for granted.

Other Special Interest Groups

Simply for the sake of completeness we have to mention a possibility of other special-interests groups that try to affect the monetary policy, most probably indirectly through the central or local governments. Such groups can be quite specific and no systematic theory of their behavior can be found. An example of such a group is the inflationist movement in the 19th century in the United Stated described by Friedman (1994).

Media

Beside direct stakeholders there is one more powerful element in the game, that of the mass media.[7] We do not know of any systematic theory regarding the mass media influence, but it is obvious that perhaps all stakeholders can use the mass media for their own benefit. The government (both the central and local ones) can use it to blame the central

[7] We are deeply indebted to Paul Cwik for this observation.

bank for present macroeconomic problems, and to press it to adopt a policy preferred by it. It can also try to persuade the public to support the governmental policy through the media.[8] The industrial and banking pressure groups can use the media in the same way to win the public support for their special-interest goals (see Rothbard, 1999 for an example). This may bring about a monetary policy that would be otherwise seen by the majority of voters as undesirable.

The mass media can also monitor the performance of the bank and of the government, and help to organize to public lowering the transaction cost too. In some cases the government or other stakeholder may be forced to give up their plans, because of the mass media campaign against it. Thus although the concrete role of the mass media in any particular event is unclear, it can nonetheless be a powerful player that must be taken into account.

5 Summary of the Hypothesis

In this paper we have challenged the traditional view that central bank's formal independence lowers the government's potential to "abuse" the monetary policy. This view stems from the assumption that the central bank managers are benevolent agents of the public seeking the policy optimal from the public's point of view.

We presented another hypothesis based on the positive theory of agency, the theory of bureaucratic behavior of central banks, and the theory of bureaucracy. According to these the central bank is a governmental bureaucracy, and its managers are governmental bureaucrats. Their independence means simply a potency for managerial discretion. Their incentive is not to achieve the "optimal monetary policy" (which is an ambiguous term referring to the fallacious social welfare function theory), but to maximize their prestige within the constraint of self-preservation. As bureaucrats they are hired to follow the instructions of the actual government. This link can be weakened by the central bank formal policy independence, but cannot be totally removed. The government appoints and re-appoints the central bank managers, and always can reasonably threaten the social status of the bankers and even the independence of the bank.

[8] This is especially true if the media is owned by the government. Note that public television and public broadcasting are another instances of a bureaucratic state-owned organizations.

The central bankers are poorly constraint managers, especially because of a great information asymmetry (often consciously increased by the bank's actions). For this reason the governmental control of the bank is never complete. Residual managerial discretion is always present. The managerial discretion of the central bankers may lower the governmental control of the bank, but the discretion rises it (in another dimension) in the same time because it lowers the public ability to monitor and evaluate the central bank performance, and in this way it allows the government to press the central bank to achieve even its special-interest objectives (e. g. to create a political business cycle).

Moreover, the full formal independence means that the government cannot be blamed for the monetary policy outcomes that the public (i. e. majority of voters) regards as undesirable. It may intensify the incentive of the government to "abuse" the policy to win voters e. g. by the political business cycle since its negative (from the public's point of view) future consequences will not be attributed to the government, but to the "independent" central bank.

There may also be other stakeholders influencing the monetary policy there. The actual outcome of the "game" is influenced by their changing objectives, and their relative power. The most important stakeholder is the public. It influences the central bank usually indirectly through the government, but in a special cases it can influence it also directly. Since the government itself is an agent of the public (constrained by elections) we may expect that the systematic part of the central bank goals (and consequently its policy) is aimed to achieve the outcomes preferred by the majority of voters (whatever it may be). The decrease in inflation rates achieved in the last decade or two thus can be explained rather by a change in the "tastes" of the public than by a sole fact of the banks' higher independence of the government. However, there still may be non-systematic deviations of the central bank policy and the public's desires when the government of other stakeholders are strong enough to push their interests.

For all of these reasons, it seems that the overall impact of raising the central bank independence is ambiguous. It can both decrease, or increase the gap between the monetary policy preferred by the majority of voters, and the actual one. Therefore the traditional view that the formal independence of the central bank itself ensures that the monetary policy cannot be "abused" by the government is not correct. We should use it neither as a building block of our theories, nor of our practice.

Definitely, we are still far from creation of a "Positive Theory of the Central Bankers' Behavior", but some general comments might be done: Firstly, we are certain that both the positive and normative theory of central banking must take into account a broader range of factors than only the central government, and the formal central bank's goals. We have to carefully analyze the institutional frameworks and actual political and special-interests forces operating in the economy. Secondly, the possibility of "abusing" the monetary policy seems to be inherent in the nature of the central bank itself. It must not be possible to get rid of it unless the nature of the central bank is changed, unless it is either subdued to an ironclad rule, or removed. Thirdly, the above presented hypothesis might give a new perspective to the rules vs. discretion, and central bank vs. free banking debates.

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Ovlivňování investic a „špatné“ investice

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Abstract: The paper presents the theory of investment in the context with the Austrian theory of the trade cycle. The cycles are caused by interference with the natural rate of interest. They start with an increase in money supply through credit expansion. Firms use the money to finance capital goods (or consumers to finance consumption goods). This changes the capital structure and may result in booms and slumps. The same result can have stimulation of investment through tax cuts and similar measures which are intended to increase investment and employment. It gives rise to malinvestments which have to be removed by desinvestment process.

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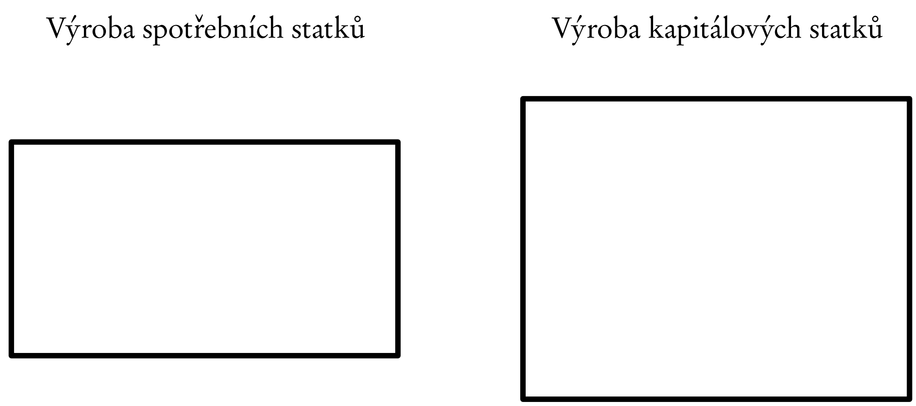
Jedním ze stěžejních bodů rakouské ekonomie je její teorie výroby a kapitálu. Ta se ve spojení s teorií časové preference stává svébytnou alternativou teorií ekonomického růstu hlavního proudu. A pokud ji propojíme s wicksellovskou koncepcí „přirozené“ a „peněžní“ úrokové míry, pak vyúsťuje ve snad vůbec nejznámější součást moderní rakouské ekonomie – její proslavenou teorii hospodářských cyklů.

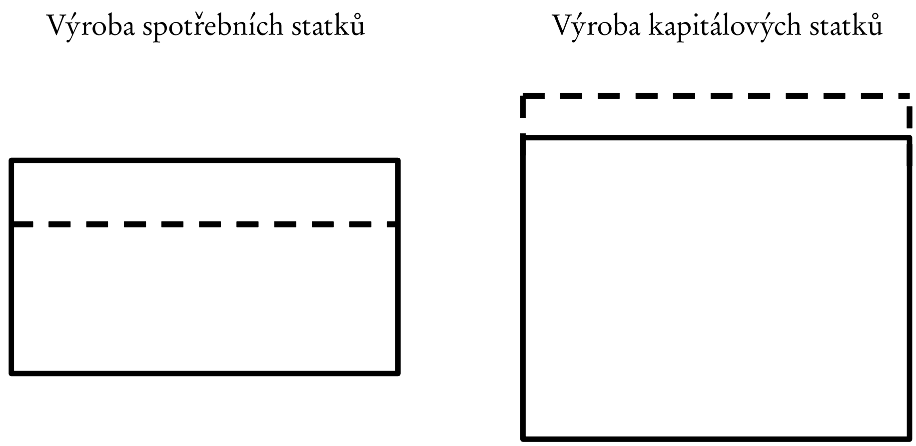
Toto směrování rakouské teorie výroby a kapitálu vyplývá z následujících vazeb. Rozdělení společenské výroby na výrobu kapitálových a spotřebních statků (tedy časovou dimenzi společenské výroby) mohou v zásadě ovlivňovat jednak změny časových preferencí ekonomických subjektů, jednak investiční a spotřební úvěr na bázi tvorby bankovních peněz.



Obr. 1

Předpokládejme, že existuje nějaké původní rozdělení společenské výroby na výrobu kapitálových a spotřebních statků – viz obr. 1. Stejnou ziskovost podnikání v obou oblastech zajišťují poměrné ceny. Dojde-li ke snížení časových preferencí ekonomických subjektů (a tak tedy zvýšení jejich sklonu k úsporám), změní se poměr celkových výdajů na nákup obou typů statků ve prospěch statků kapitálových. V takové situaci budou dosavadní rovnovážné poměrné ceny nahrazeny nerovnovážnými. To zvýší ziskovost podnikání ve výrobě kapitálových statků a sníží ziskovost podnikání ve výrobě spotřebních statků (to by se dokonce mohlo stát zcela nevýnosným, či dokonce ztrátovým). Zákonitě a zcela nevyhnutelně by poté následovaly odpovídající přesuny mobilních (nespecifických) výrobních zdrojů mezi oběma oblastmi. Četné, do té doby nevýnosné, investiční příležitosti by se staly ziskovými, objem investic by rostl. To znamená, že by došlo k přechodu od dosavadních „méně oklikových“ výrob k produktivnějším výrobám „oklikovějším“.

Celý proces by skončil v okamžiku, kdy by změny cen kapitálových a spotřebních statků (vyvolané uvedenými přesuny a pak i následujícím zvýšením produktivity výroby spotřebních statků[1]) vedly k opětovnému nahrazení nerovnovážných cen novými rovnovážnými, tedy takovými, jejichž vzájemný poměr by znovu zajistil stejně ziskové podnikání v obou oblastech.



Obr. 2

Čárkované linie vyznačují změnu rozsahu obou výrob po restrukturalizaci.

Nové rozdělení společenské výroby na výrobu kapitálových a spotřebních statků - viz obr. 2, které představuje „prodloužení“ procesu společenské výroby, by dovedlo dané hospodářství do nového stavu rovnováhy, která by nahradila tu dřívější, jež byla narušena následně po snížení časových preferencí ekonomických subjektů. Nový stav rovnováhy by odlišovaly od toho původního dvě následující nejzávažnější skutečnosti: nižší „přirozená“ (rovnovážná) úroková míra[2] a to, že by nyní domácnosti nakupovaly větší množství spotřebních statků, než mohly dříve, ačkoli by nyní na spotřebu vydávaly nižší částku.

[1] V důsledku jejího nového vybavení větím mnostvím kapitálových statků, které jsou současně navíc i výkonnější

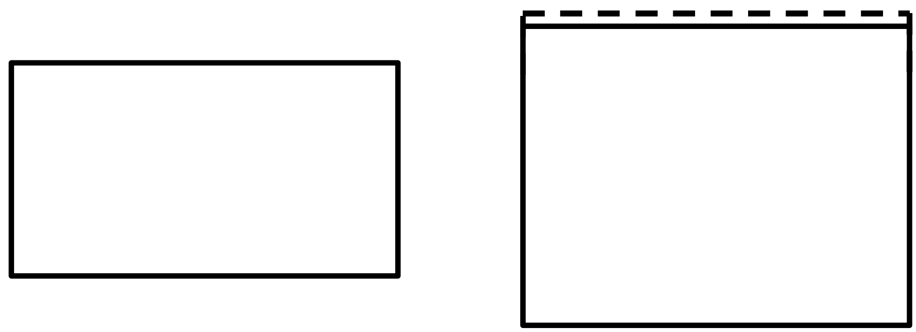
[2] Jde o důsledek snížení produktivity kapitálu (anebo, přesněji řečeno, nižší mezní produktivnosti jeho stále delších a delších investičních obdobích).

Opačné účinky by samozřejmě mělo zvýšení časových preferencí ekonomických subjektů (a tedy snížení jejich sklonu k úsporám). Opět by byl odstartován proces, který by ve svých důsledcích dovedl ekonomiku k novému rozdělení se „zkráceným“ procesem společenské výroby. Nový stav rovnováhy by odlišovala od toho původního vyšší „přirozená“ (rovnovážná) úroková míra[3] a to, že by nyní domácnosti nakupovaly méně spotřebních statků, ačkoli by na jejich nákupy vydávaly vyšší částku.

Ekonomové moderní rakouské školy jsou hluboce a neochvějně přesvědčení, že je třeba dynamiku tržního hospodářství ponechat bezpodmínečně jeho vlastnímu mechanismu, který jediný je v tomto směru kompetentní: časovým preferencím ekonomických subjektů (tedy sklonu jednotlivců k úsporám). Všechny snahy o umělé ovlivňování (ať již pomocí investičních úvěrů na bázi tvorby bankovních peněz, či na stejném základě poskytovaných spotřebních úvěrů) jsou z hlediska rakouské teorie výroby a kapitálu zákonitě kontraproduktivní a autodestrukční.

Proč tomu tak je? Podívejme se na účinky poskytování bankovních úvěrů na bázi tvorby bankovních peněz (pro zjednodušení se soustřeďme na investiční úvěry). Východiskem pro nás opět bude nějaké existující rozdělení společenské výroby na výrobu kapitálových a spotřebních statků (viz obr. 1), kdy rovnovážný poměr cen zajišťuje stejně ziskové podnikání v obou oblastech.

[3] Jde o důsledek zvýšení produktivity kapitálu (anebo, přesněji řečeno, vyšší mezní produktivnosti jeho stále kratších a kratších investičních obdobích).



Obr. 3

Čárkované linie vyznačují změnu výroby kapitálových statků, která není podložena změnou časových preferencí.

Předpokládejme dále, že budou poskytovány investiční úvěry na bázi tvorby bankovních peněz. To změní v hospodářství jako celku poměr výdajů na nákup kapitálových statků k výdajům na nákup statků spotřebních – viz obr. 3. Větší objem poptávky po kapitálových statcích (větší investice) způsobí vzrůst jejich cen. Za této situace budou dosavadní rovnovážné ceny nahrazeny cenami nerovnovážnými. Ty vyvolají zvýšení dosavadní ziskovosti ve výrobě kapitálových statků a naopak sníží dosavadní ziskovost ve výrobě statků spotřebních (eventuelně se zde stane podnikání zcela nevýnosným či dokonce ztrátovým). To by mělo zcela zákonitě vést ke změně rozdělení společenské výroby.

Kardinálním problémem toho, aby se mohla tomu odpovídající změna bez větších problémů dokončit, je ale to, že domácnosti by kvůli ní musely – ač samy nechtějí – snížit svoji spotřebu. K tomuto kroku, přestože se k němu nerozhodly samy, je může na nějakou dobu do jisté míry donutit růst cen spotřebních statků. K němu zcela zákonitě musí dojít. Při nezměněném objemu spotřebních výdajů, ho nutně vyvolá pokles produkce těchto statků. K tomu dojde v důsledku odlivu mobilních (nespecifických) výrobních zdrojů do výroby kapitálových statků.

Ovšem v okamžiku, kdy se domácnosti, pod vlivem stále tíživější materiální situace, odhodlají k protiakci a začnou úspěšně prosazovat kompenzační zvyšování svých peněžních důchodů, dojde zcela nevyhnutelně ke změně dosavadního stavu věcí. V důsledku růstu mzdových nákladů se bude ziskovost podnikání ve výrobě kapitálových statků pozvolna snižovat. Podnikání ve výrobě spotřebních statků se zase naopak stane vlivem růstu cen, který bude rychlejší než růst mzdových nákladů, natolik ziskové, že to začne podněcovat zpětné přesuny mobilních (nespecifických) výrobních zdrojů. Ty se budou realizovat na úkor výroby statků kapitálových, která do té doby rostla díky dodatečným výrobním zdrojům přicházejícím z výroby spotřebních statků.

Uvedeným procesem se v hospodářství vytvoří kritická situace, z níž jsou možná pouze dvě východiska. Ta jsou svými konečnými důsledky v podstatě stejně katastrofická. První možnost je předčasně ukončit započatou a nedokončenou restrukturalizaci společenské výroby a ponechat odbourání „špatných" investic hospodářské depresi. Pokud se pokusíme tuto restrukturalizaci dokončit, je třeba v úvěrové expanzi pokračovat a uvolňovat prostředky do ekonomiky akcelerujícím tempem. To povede k tomu, že se rozsah investování nezmenší, „špatné" investice nebudou odhaleny, ovšem za cenu pádící inflace. Ani v tomto případě ale není žádná záruka, že inflace nedosáhne rozměrů, kdy ji bude nutné zastavit ještě před dokončením dané restrukturalizace výroby. Škody vzniklé hospodářství se tak nakonec ještě znásobí.

V obou uvedených případech je proto pro rakouskou teorii výroby a kapitálu tím nejpravděpodobnějším koncem všech podobných pokusů konečný stav, který se bude lišit od toho výchozího převážně jen vyššími cenami. To proto, že jde o snahu uměle implantovat tržnímu hospodářství dynamiku, kterou samo o sobě momentálně postrádá.

Podobné důsledky má i poskytování spotřebních úvěrů na bázi tvorby bankovních peněz. Vzhledem k tomu, že vede k identickým změnám v ekonomice, není třeba se jím na tomto místě nijak dále zabývat.

Z výše řečeného zcela jasně vyplývá, že impulsy, které mají zvýšit investice a mají svůj zdroj mimo samotnou sféru rozhodování a jednání individuí, nemají žádoucí pozitivní účinky a mohou naopak způsobit nedozírné škody. Pokusme se teď zamyslet nad skutečností, která s dříve uvedeným zdánlivě nemá mnoho společného. Jaký dopad na investování budou mít snahy stimulovat investice jinými cestami než je úvěrová expanze, které však přesto nemají svůj zdroj ve změně preferencí. Jde například o dočasné daňové úlevy a podobné zásahy, jimiž se centrální orgány snaží podpořit investiční aktivitu zejména zahraničních investorů. Jaké následky taková opatření budou mít, nelze bez podrobné analýzy empirických dat jednoznačně říci. Zkusme se však zamyslet nad jedním z možných dopadů podobných aktivit. Když investoři zvažují, zda nějakou akci uskuteční nebo nikoli, rozhodují se na základě analýzy nákladů investování a jeho výnosů. V případě nákladů nejde pouze o objem prostředků, které bude třeba vložit přímo do vybudování investice, ale jedná se i o budoucí „provozní" náklady, které jsou nezbytné pro plynulý chod výroby, tedy pro bezproblémové využívání nových investičních statků. Převažují-li výnosy nad náklady, investor bude realizaci příslušné investice bezpochyby nakloněn.

Předpokládejme nyní, že státní orgány ve snaze „přitáhnout" do ekonomiky zahraniční investory, přislíbí velice nízké nebo dokonce nulové zdanění budoucích příjmů investora, a to po konkrétně vymezenou dobu (např. 10 let). Je otázkou v rámci jak dlouhého časového horizontu se investor pohybuje, rozhoduje-li se o svých aktivitách. Pokud bychom akceptovali předpoklad racionálních očekávání, nemělo by dojít k žádnému mylnému rozhodnutí. Uvědomme si však, že v případě úvěrové expanze se žádná mimořádná racionalita od ekonomických subjektů neočekává. Nechají se zmýlit uměle sníženou peněžní úrokovou mírou, která však, při racionálním zvážení všech okolností, nemůže představovat trvalou změnu.

Vzhledem k řečenému, je možné mít za to, že investiční rozhodování bude zohledňovat především aktuální situaci (nebo podmínky relativně krátkého období), s níž má investor bezprostředně co do činění. Zdá se, že může proběhnout analogický děj jako je ten, který vede ekonomické subjekty k neuváženým aktivitám vyvolaným úvěrovou expanzí. Pod dojmem poměrně nízkých nákladů, který je ale optickým klamem, se rozběhne určité kvantum investičních akcí. Jejich důsledkem je již zmíněná změna struktury společenské výroby, která spěje k „prodloužení" výrobního procesu a všem dalším následkům s ním spojeným. Po jistou dobu se tak může zdát, ze byly uskutečněny „dobré" investice, které měly řadu pozitivních dopadů jak na investora, tak na pracovníky zaměstnané při realizaci těchto akcí. Spokojené mohou být i příslušné státní orgány, které dosáhly zamýšlených výsledků.

Co se ale zřejmě stane poté, kdy „daňové prázdniny" vezmou za své. Investoři mohou docela dobře zjistit, že to s danou investiční akcí je mnohem složitější, než se původně zdálo. Náklady se najednou výrazně zvyšují, což bezpochyby redukuje čistý výnos investice. Může se tak docela dobře ukázat, že jde vlastně o „špatnou" investici, o jejímž uskutečnění bylo rozhodnuto na základě mylných dat. Investor pak může příslušnou výrobu omezit, či dokonce úplně zastavit, dochází tak tedy k odbourávání neuváženě realizovaných akcí. Není vyloučeno (i když by zase byla třeba podrobná analýza s využitím empirických dat), že některé signály potvrzující opodstatněnost těchto úvah se objevují v naší ekonomické realitě. Některé zahraniční firmy, podnikající v naší ekonomice opouštějí své pozice a přesouvají výroby do jiných zemí. Není to v důsledku toho, že u nás uskutečnily „špatné" investice?

Doporučení ohledně stimulace investic, které lze na základě předcházejících úvah vyslovit, je prosté. Pouze tehdy, mají-li investoři k dispozici nezkreslené a realitě odpovídající informace, mohou činit kvalifikovaná rozhodnutí o všech svých aktivitách včetně investování. Jedinou cestou tedy je vytvořit v ekonomice takové prostředí, které by vůči investorům bylo všestranně „přátelské". Je třeba, aby existovaly obecně platné a transparentní podmínky pro podnikání, které investičním aktivitám bezvýhradně přejí. V oblasti zdanění by se pod tímto zorným úhlem jevilo jako vhodnější, meritorně lepší než nějaké „daňové prázdniny", všeobecné trvalé a podstatné snížení daňových plateb. Jen touto cestou lze zabránit podnikatelským omylům a následným zjištěním o nevyhovující struktuře investic.

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