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Economic Growth and Institutional Coherence

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Abstract: The paper aims at integrating the Lachmannian concept of institutional coherence and flexibility into the Austrian, entrepreneurial theory of economic growth. Using this as a general framework together with the Misesian interventionist theory, it explains some general features of the relationship between regulation and economic growth. The paper argues that as regulatory institutions have a restrictive effect on the entrepreneurial process of the market, the enforcement of these rules is a crucial factor in determining the extent and the way countries shape their regulatory environment. By this the paper identifies a channel through which enforcement contributes to economic development.[†]

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1 Introduction

With the rise of New Institutional Economics, even mainstream economics accepts the fact that institutions matter. By this they mean that it is not only factor accumulation, but also the ‘rules of the game’ that determine the economic growth of a country (East-erly – Levine 2001). The economists of the Austrian School have always stressed the role of institutions more firmly than the neoclassicals. It was during the so called calculation debate that this difference between Austrian and neoclassical economists became clear (Boettke 1997:31-36): in his famous paper Mises (1920 [1990]) argued that without two fundamental institutions, private property and money, rational calculation (and thus socialism) is impossible.

This paper aims at examining the relationship between economic growth and institutions in an Austrian perspective. As Boettke (2001) has shown, the problem is not what institutions are necessary for economic growth, because we know the answer to this question: private property, the rule of law, stable money, and the freedom to contract. What we do not know is how to acquire these institutions. The examination of institutional coherence is one possible way of dealing with this broader problem. In this paper I argue that the fundamental institutions of the market economy have an effect on the level and coherence of the regulation of a country. It is not only the political system, but certain fundamental market institutions too that determine regulation.

The paper is structured as follows. In next section I will discuss some fundamental features of the relationship between the regulation of entrepreneurship and economic growth. Section 3 provides a broad framework for understanding the institutional conditions of coherent regulation, which is Lachman’s institutional theory. In section 4 I will argue that the theory of interventionism is a possible explanation for the facts discussed in section 2. Finally, in section 5 I will look for the institutional conditions for regulatory coherence. Section 6 concludes.

2 Three facts about regulation and growth

A data set currently compiled and continually refreshed by the World Bank in the report ‘Doing Business’ makes it possible to examine the regulatory environment of en-

entrepreneurship and its effects on economic performance. The most important of the facts about the effect of regulation is that those countries that regulate less are richer than those that regulate more. Djankov et al (2006) create an aggregate index for measuring business regulation and show that even after controlling for several possible determinants of growth, those countries which have more business-friendly regulation have also a higher rate of economic growth. Djankov et al. (2002) have also shown that the greater the number of procedures required to start a business, the more frequently occur various variables associated with negative social outcomes, such as water pollution, accidental death from poisoning and the unofficial economy.

As explained in detail in the next section, the notion of institutional coherence comes from Lachmann (1970). He does not give an exhaustive definition of the term, which he uses as the synonym for institutional unity and consistence, but reading Lachmann (1970), one can conclude that institutional coherence refers to the fact that the elements of institutional structure complement each other, and thus the institutional structure is characterized by some unity, in which there are no logical contradictions. As a result of this complementarity, there are certain circumstances in which the whole structure has to change in order to remain coherent, because new institutional elements do not fit into the structure.

The notion of coherent or consistent institutions also appears in the empirical literature dealing with market regulation. This new data set also makes it possible to examine the correlation of certain aspects of the regulation of entrepreneurship. In the World Bank report, 'Doing Business in 2004', the correlations between different regulatory means¹ are measured in a cross section of 133 countries (Worldbank 2004:89-90). These results enable us to draw two conclusions. First, different areas of market regulation move in step to a significant extent. If, for example, a government regulates the entry of firms into the market more severely, it is probable that hiring and firing a worker is also more burdensome than in a country where entry is freer. Second, the correlation between areas of regulation is stronger and more significant in developed than in developing countries. As shown in World Bank (2004:89-90), the correlation between different areas is statistically significant in more cases in developed countries than in developing coun-

¹ In the year 2004 report data on regulation is available for the following areas: starting a business, hiring and firing workers, enforcing contracts, getting credit, and closing a business.

tries, and even though the correlation is significant in both developed and developing cases, the relationship is stronger in developed countries.

Botero et al. (2004:1371-3) have also pointed out that the different areas of regulation of entry and of the labor market strongly correlate. They see this fact as verifying the legal theory approach of regulation. According to this, how much and what kind of regulation governments apply in different markets depends on the legal origin² of that country. Since the legal origin shapes the government approach toward regulation in general, this theory concludes that regulations in different areas have to go hand in hand. The correlation is thus explained. However, they do not provide us with an explanation of the mechanics lying behind this empirical evidence. What is the causal relationship between law and regulatory coherence? In addition, they do not, and do not intend to, explain why this mechanism is stronger in developed countries.

3 Levels of the institutional structure

The fact that regulatory coherence may be rooted in the institutional structure of a country suggests that there are fundamental institutions which determine how other – non-fundamental – institutions will develop. Below I will argue that this approach is closely related to the issue which Lachmann (1970) posed as the contradiction between institutional flexibility and institutional coherence. Lachmann's theory provides a framework in which I will examine the questions raised in the previous section.

Lachmann's main questions refer to the institutional structure as a whole (Lachmann 1970:51-52). First, institutions have to adapt to the changes of the economic and technological environment, but at the same time, they must remain stable to be able to play their coordinative role in the economy. Second, if the institutions coordinate the actions of the economic players, what coordinates the institutions? To put it another way, what makes the institutional order a unity? And third, if some institutions within the whole structure have to change, or if and when new institutions arise, what makes it possible for the new institution to fit into the whole structure? To put it simply again, what makes

² A country's legal code can be of English (common law), French (civil law), German, Scandinavian, or Socialist origin.

it possible for the institutional structure to preserve its unity after some of its elements have changed?

In answering these questions, the starting point for Lachmann is Max Weber's insights. He analyzes Weber's several works in detail, but the most important here is that referring to the roles different players play in institution building. According to Weber (Lachmann 1970:60-66), institutions are, at the very origin, the innovations of an individual or of a certain group of people. At the beginning, institutions are not the results of the unanimous vote of a community. These innovators are not, however, the ones who make the institutions work. There is another group whose members run the institutions, and, very importantly, who interpret its purpose differently from the innovators. A third group consists of those people whose actions the institutions coordinate, and for whom the institutions represent points of orientation. He also mentions a fourth group, the members of which simply learn to use the institutions by tradition without knowing its original (or any) purpose. Of course, this line of reasoning deals with the evolution of undesigned (organic) institutions and the focus of the present paper is regulation, which typically consists of designed institutions. But the latter description of different groups is still valid in the case of regulatory institutions, and Lachmann's (1970:69) main question still remains: "What reasons have we to believe that all institutions, designed and undesigned, will easily fit into a coherent whole, when already the undesigned by themselves leave us in some doubt?" This is the main problem of Lachmann's work: the problem of the coherence and permanence or coherence and flexibility of the institutional structure. As the undesigned institutions evolve spontaneously, and thus unexpectedly, two problems arise: (1) As mentioned above these institutions have to fit into an already existing system; beside the fact that the new institutions have to replace old ones, they have to be able to complement the others. (2) Designed institutions can only react to known or possibly known situations, but the undesigned institutions, as a result of the discovery process of the market, bring genuine uncertainty into the picture. This means that because of the creative process of institutional evolutions, situations which nobody could ever conceive before may arise, making the design of institutions impossible.

One possible answer to this problem – according to Lachmann – is a two level institutional structure. The first level consists of external, designed institutions which are relatively stable, while the second level is where internal, undesigned institutions can

evolve in the interstices of external institutions. The coherence of the institutional structure thus depends on the existence of some fundamental institutions that allow the others to change.

Several important conclusions can be drawn from the discussion above. First, some institutions have to change during the process of development, and this process of institutional change is the result of entrepreneurial discovery.³ Thus internal institutions are the “crystallization” of entrepreneurial discoveries which can spread by imitation.

Second, external institutions should be those which do not have to change quickly. That is, the government has to design those institutions which do not have to adapt to changes in the economic environment. The latter changes mainly refer to entrepreneurial discoveries other than the creation of new internal institutions. The fact that in the mixed economy the government can make any internal institutions external does not assure that those external institutions should be external. Exactly because they are fundamental institutions of the market.

Third, some fundamental institutions have to stay stable. In the market economy these are private property and the freedom of contract (Mises 1920 [1990]). Lachmann adds another reason why the freedom of contract is important: without this institution it is impossible to discover new internal institutions.

4 Interventions and growth in Austrian theory

In this section I will argue that the Austrian (misesian) theory of interventionism provides a possible explanation as to why regulatory rules move together across different regulatory areas. Further, I will demonstrate that the theory can also explain why regulation harms growth and why more a severe regulatory system is more difficult to cut down. I propose that regulatory measures are internal institutions that the interventionist government defines as external “artificially”.

³ On the kirznerian entrepreneur and entrepreneurial discovery see later.

4.1 Mises's theory of interventionism: regulation leading to further regulation

Ludwig von Mises was one of the greatest critics of the “economic system” which is capitalist in the sense that it is based on private property, but where the government intervenes in the working of the market so as to modify the allocation of resources. As Mises (1929 [1996]:20) put it, “interventionism is a limited order by a social authority forcing the owners of the means of production and entrepreneurs to employ their means in a different manner than they otherwise would”. This means that interventionism is the misesian expression for what we call now a mixed economy.

In his writings dealing with interventionism, *A Critique of Interventionism and Interventionism: An Economic Analysis*, Mises makes it clear that the question is not whether we need a government to enforce contracts; the question is rather what is the proper scope of government (Mises 1926:18). The main question posed here by Mises is whether interventionism as an alternative system of *laissez faire*, and socialism is a possible and stable third system. His answer is no, it is not.

According to Mises, interventionism is not stable because the intervention always has unintended consequences which require further intervention if the government still wants to reach its objective. Thus, interventionism is an ever expanding package of regulatory measures, and as such, is not stable. In the end, either the economy becomes socialist, or it goes back to *laissez faire*. “There is no other choice: government either abstains from limited interference with the market forces, or it assumes total control over production and distribution. Either capitalism or socialism; there is no middle of the road” (Mises 1926 [1996]:26). I do not intend to deal with the puzzle that despite this prediction, each economy of the developed world has been ‘mixed’ during last century, and although they undergo changes, they do not seem to go back to *laissez faire*. This puzzle is elaborated on by Ikeda (1997), or Higgs (2003).

Here, I am focusing on Mises's argument, and on how this argument can be applied to explain the above-mentioned correlation between measures of regulation. The definition of interventionism given by Mises does not include every possible interventionist measure taken by the government. The definition excludes partial socialization of the

factors of production and “market-friendly” interventions. It is not intervention when a government buys and sells goods on the market. Basically, there are two means of intervention: “restrictions of production” which refers to direct burdens on production imposed by the government; and “interference with the structure of prices” i.e. setting minimum or maximum prices in the market for goods, or factors of production.⁴ Mises’s argument highlights the interrelationships between these measures.

In the present context this argument is important because it can give an explanation for why regulatory institutions move together. In general, the argument is as follows. Introducing a regulatory measure has unintended consequences which make impossible the very aims the authority wanted to achieve. To correct this ‘mistake’ the authority introduces another, different measure to correct the unintended consequences. But the new measure has again unintended and unexpected consequences which threatens the original aim of the intervention. The means of intervention complement each other, and the mechanism behind this complementarity is the logic of intervention.

We can better understand this mechanism by examining Mises’s examples more closely. One of his examples of the interventionist process is that of a maximum price on some agricultural products. The aim of the regulator is to deliver the product to the consumers more cheaply than before. The price set as a maximum, however, must be lower than the equilibrium price of the product, otherwise this kind of regulation makes no sense. As a result, there will be a shortage on the market for that certain product. The government has to take new interventionist measures to correct the problem. One possible intervention is rationing; that is, defining how much of the product one consumer may consume. Rationing is not enough to deliver as much product to the consumers as the government wanted to before, because it cannot eliminate shortage. It has to take further measures to prevent the producers moving their factor of production into another

⁴ Mises is not perfectly consistent concerning how many categories of intervention he differentiates between. In his earlier work (Mises 1926 [1996]) he discusses the possibility of including taxation as a third class of interventionist measure, but he rules it out, claiming that the effects of a certain tax are the equivalent of either a kind of production control or a kind of price control. However in his magnum opus (Mises 1949 [1996]) he deals with taxation as an alternative type of government intervention. For a critique of Mises’s taxonomy of regulatory measures see Lavoie (1982). He argues that Mises’s analysis of interventionism is incomplete and partially incompatible with the misesian view of the market process. His main critique refers to the way Mises deals (or does not deal) with the role of the expenditure side of government interventions.

industry. To sum up, the regulation of a market for a certain product will imply the regulation of the market for factors of production. In this process the regulation becomes deeper and more extended.

Another example is a minimum price on labor; the minimum wage (Mises 1926 [1996]:26-29, 1923[1996]:148-150, 1940[1998]:30-34). Since labor is not the only factor of production and labor is not the only source of income, the minimum wage does not increase the income of each factor of production proportionally. This will decrease the consumption of the owners of capital, and this, in the end, will decrease the demand for labor and result in unemployment. This latter being again an unintended consequence, the government has to react. The reaction can be twofold. Either, the government will force the employer (the owners of capital) to employ those without a job, or they will force them to pay more taxes so as to compensate the unemployed for their lost jobs and incomes. Either of these two possible interventions will decrease the capital owners' income, and thus reduce the capital stock. Because of this, in the end the real wage will be lower than it would have been without imposing the minimum wage. Certainly this was not what the interventionists intended.

If the minimum wage takes effect only in one industry, then the real wage increases only in that industry, and this will lower the wage in other industries. To avoid this consequence, the government has to ban or at least limit the hiring of workers in the industry in question. This, through the mechanism described above, reduces the income of the other factors of production, and in the end, the amount of production. Again, to avoid this unintended consequence, the government will take further restrictive measures.⁵

Mises also has shown that the problems triggered by labor market regulation can only be more intense when applied together with other regulations, for instance with protectionism. Regulation of foreign trade, for example imposing tariffs on imports, will induce the labor force to move from the export sector to the import sector. The more

⁵ Benham (2005) emphasizes that responses to new regulation do not necessarily occur in the price-quantity dimensions and he provides a taxonomy of the licit and illicit responses a new regulatory measure can trigger. The possibility of various kinds of reaction contributes further to the conclusion that regulation will always have unintended consequences. He also discusses several examples of regulation leading to further regulation but he stresses the role of a different mechanism than Mises does. The "path dependence" of regulation is in a great part due to the fact that new regulations create new interest groups and these new interest groups want more regulation to avoid the side effects of previous regulations.

severe the regulation of the labor market, the harder it is for this process to take place, and the more distortion the protectionism will cause in the structure of production.

Nevertheless, Mises (1940 [1996]:28-29) deals with two cases in which price regulation does not necessarily lead to inefficiency. In the first case, some specific factors of production are applied in the industry, and they are used to their full potential. Setting a maximum price will not reduce production until the rent of the marginal producer is positive. But this kind of regulation will still cause a shortage, which will induce the regulation authority to react.

In the second case the industry is monopolistic. If this is the case, the price can be reduced until it reaches the equilibrium price of a possible competitive market. We must add, however, that monopolies and cartels can easily be a result of a former regulation. Thus, this example strengthens further the misesian conclusion that interventionism is an ever-expanding set of regulatory measures.⁶

In sum, the basis of the misesian argument and the mechanism behind the relationship of different regulatory measures is the fact that “the effect of intervention is the very opposite of what it was meant to achieve” (Mises 1923 [1996]:150). This suggests that Mises does not apply the approach of modern political economy or public choice theory and does not integrate some model of politics into his analysis. He does not intend to explain how regulatory measures come into being. Although the title of his famous paper ‘theory of price controls’ suggests to the present day reader that it deals with how the existence of price controls can be explained, what it elaborates on is the consequences of price controls. Despite all this, Mises does not naively suppose that politicians are benevolent and work for social welfare. He makes it clear that price and production controls are to serve the interest of some group of society against the interest of another group. He identifies restrictive measures with privileges given to some group of people. “The interventions, therefore, may be regarded as privileges, which are granted to some at the expense of others” (Mises 1940 [1998]:19). The misesian analysis begins when those in power have already decided which interest group to support. The purpose of the analysis

⁶ Even “market failures” to which regulators often refer as a reason to regulate may result from a former (and forgotten) government intervention. Coase (1960), for example, shows in his seminal paper that even one example of Pigou could be seen in this light. One of Pigou’s examples for negative externality refers to the uncompensated damage that sparks coming from railway engines cause to woods. Coase (1960) pointed out that this situation was the result of a law.

is to show that price or production controls cannot help to achieve the aim, because these measures will eventually harm that interest group whose grants the government intended to raise. All this means that Mises takes the purposes of economic policy as given: he does not argue against the aims but the means.

Since the purpose of this paper is to analyze the formation of the restrictions of entrepreneurship, the direct product restrictions seems to be more important than price controls. The market restrictions which present day economies apply, such as licenses to start a business or to enter a different branch of business, administrative procedures required for exporting, importing or selling and buying a property, regulations to protect consumers and so on, can be classified into the latter group. However, the mechanism through which direct restrictions of production take their effects and induce further restrictions is no different from that of price controls. The argument against them is the same too: Mises (1949 [1996]:743-757) does not doubt the aims of this kind of policies. Rather, he shows that these means are not sufficient to achieve the purposes set out by the authority. And if it is true, restrictions on production start the same spiral of interventionist measures as price regulations do.

Two conclusions come to mind. First, although interventionist measures are designed and thus external institutions in the lachmannian sense, they do not belong to the fundamental institutions of the market, since the misesian analysis shows that an interventionist system is not stable. It cannot solve the stability versus flexibility problem, because the reactions of the system cannot reduce efficiency problems. Second, the process of interventionism is an explanation as to why different regulatory measures correlate; that is, why more severe regulation in area or industry implies similarly severe regulation in another one.

4.2 Intervention, coordination and growth

The notion of growth is inherently connected to the notion of welfare. By referring to 'growth' we intend to refer to the increase in welfare. The traditional (neoclassical) understanding of aggregate economic growth can be derived from neoclassical welfare theory and from the notion of social welfare. As Kirzner (1973, 1998) argues, this concept is not compatible with that of the entrepreneurial market process and the view of the

market which is not based on the problem of resource allocation but on the knowledge problem.

However, is there at all any normative concept which can fit into the Austrian view of the market economy, and which can be a basis for an Austrian growth theory? Kirzner (1973:212-242, 1998) argues that a normative concept compatible with subjectivist views is coordination. He defines coordination (Kirzner 1998:292) as a state of affairs in which “each action taken by each individual in a demarcated set of actions, correctly takes into account (a) the actions in fact being taken by everyone else in the set, and (b) the actions the others might take were one’s own action to be different”. According to Kirzner (1973, 1998), this kind of a normative criteria satisfies the subjectivist requirements because it requires the construction of no aggregate welfare function, but one does not have to assume even the existence of social welfare.⁷ It is only the compatibility of individual plans that count, and not the final state or allocation at which these plans are aimed.

We can conclude from this short overview of the role of coordination in the Austrian welfare theory that a possible subjectivist definition of growth is the improvement in coordination. This latter occurs when the market system moves from a less coordinated state of affairs to a more coordinated one.

Ikeda’s (1998) theory, by which he develops further Mises’s theory described above, is crucially important from the viewpoint of the present paper, since he integrates the notion of coordination into the theory of interventionism. As he argues, there are two possible ‘coordinational understandings’ of the theory of intervention. According to the first one, the coordination is only reduced when the vicious circle of intervention is ended, i.e. when the social ownership of assets is the name of the game. In this view the change in discoordination is discontinuous, because the decrease in coordination occurs only at the end of the process. Until the end, the level of coordination does not change. According to the other interpretation for which Ikeda (1998) argues, discoordination can also continuously change, i.e. in this case, decrease. Every interventionist measure pushes the market order a bit further away from full plan coordination. This latter view will be useful in the present context too.

⁷ “It is possible to evaluate a system of a social organization’s success in promoting the coordination of the decisions of its individual members without invoking any notion of social welfare at all” (Kirzner 1973:216-217).

Ikeda integrates his interpretation of interventionism into the theory of the market process. In short, this view holds that the market is a process of trial and error and of entrepreneurial discoveries. During this process the market is always in disequilibrium, expressed in arbitrages which are continuously discovered and utilized by entrepreneurs. Entrepreneurs make mistakes too, however. They make errors of judgment (Ikeda 1998:39-40) when they refuse an offer higher than their reservation prices, because they wrongly expect a better offer; or when they take an offer because they wrongly do not expect a better one. And they also make errors of neglect, when they do not notice an offer which they would otherwise accept. The underlying hypothesis of Ikeda (1998) is that the errors of neglect are more difficult to discover and they can only be perceived by a more dynamic form of discovery. In this framework interventionism is the process of curing and discovering errors – but only those of judgment. These are those judgments which are manifested in spectacular disequilibrium phenomena. Errors of neglect ‘only’ imply an inefficient allocation of resources. A possible start of the deregulation spiral is when these mistakes become visible too.

It is also important that Ikeda (1998) shows that the further the system is from the state of full coordination, the less possible it is to get back, because of the greater number of mistakes the players will make. This argument is based on the notion of interdependence between markets. An entrepreneurial action takes its effect on several markets’ equilibrium prices. If an entrepreneurial discovery brings one market closer to the equilibrium, it makes it possible for the players of other markets to calculate with prices closer to the equilibrium, and this is why their calculations will be more correct. The less ‘disequilibrative’ the prices are on which they calculate, the more mistakes they will commit, and the less possible it is that their entrepreneurial actions will push the whole market back toward full plan coordination. In sum, as in interventionism the system of prices does not express profit opportunities correctly any more, the probability of taking back the market close to the equilibrium by entrepreneurial discoveries will decrease.

Another very important reason why the further we are from the state of *laissez faire*, the more disordinated the system is, is the following (Ikeda 1998:43-45). (1) The more weakly the property rights are defined, the more impossible it is that the entrepreneurial action will improve coordination, and (2) interventionism weakens property rights. That is, the more interventionist measures the government takes, the less secure the property

rights are, and the more distorted the market prices are. This conclusion comes from the fact that the extent to which prices can play their calculational role depends on how secure private property is. In its extreme form this was the most important argument of Mises in the calculation debate (Mises 1920[1990]): because it is without private property, has no price system and thus no economic calculation, socialism – an economic system based on public ownership of the factors of production – is impossible. Of course, interventionism is not socialism because it does not put an end to the system of private property, but it violates that. First, because the interventionist measures, controls, subsidies, and taxes levied to finance them limit the use, sale, and the income from private property and thus they weaken the rights to private property. In addition, since by interventionist measures the government always privileges an interest group, these measures do not have an equal effect on each type of private property, which makes the distortions on the price system more severe.⁸

Three conclusions of Ikeda's theory must be emphasized here. First, integrating the notion of coordination into the misesian theory of interventionism explains the fact mentioned in section 2 that the countries that regulate more are poorer and grow more slowly. As we have seen, the more regulation there is, the less possible it is for an entrepreneur to improve the coordination of the whole system. But an improvement in coordinating is growth itself.

Second, it provides an answer for the question why undeveloped countries that regulate more cannot deregulate as easily as developed countries can. As the regulatory measures serve some interest group (Stigler 1971), it is always difficult to cut them back. Just as Ikeda's theory can explain why entrepreneurs with greater interventionism can dis-coordinate with greater opportunity than those with less interventionism, it also explains why the interest groups of undeveloped countries can argue more effectively against free entrepreneurship.

Third, with the help of Ikeda's insights we are able, at least in theory, to identify a criterion for when the process of interventionism will cease to work and possibly turn back, starting a reverse process toward less regulation. This is the moment when the government has to choose whether to eliminate interventionism or to go further on the

⁸ "Every step that takes us away from private ownership of the means of production and from the use of money also takes us away from rational economics" (Mises 1920:13).

road to socialism.⁹ This moment comes when the errors of neglect committed because of interventionism become spectacular and make it clear for politicians that the process has to be turned back. An important remaining question is what determines the speed at which these errors of neglect accumulate.

5 Interventionism, entrepreneurship and enforcement of rules

So far I have been arguing as follows. Lachmann's theory of institutions implies that an institutional structure that solves the flexibility-stability problem must have two levels. The stability of external institutions assures that internal institutions resulting from the discovery procedure of the market can continually change. Regulatory institutions are designed, but not fundamental institutions of the market economy. As we have seen from the misesian analysis, interventionism, the system based on the interrelated measures of regulation, is not stable. The theory also explains the fact that measures of interventionism correlate through countries: one measure implies another that implies yet another and so on. The existence of such interventionist measures prevent the market process from reducing discoordination as fast as it can on the free market, the consequence of which is that the countries that regulate more are poorer than those that regulate less. The reduced probability of reducing coordination also provides some explanation as to why it is more difficult to reduce regulation for those countries that regulate more.

In the following paragraphs I will argue that interventionism paralyzes the discovery procedure of internal institutions, and this continually raises the extent to which the above mentioned errors of neglect are present. How effective the government is in this activity is a function of the efficiency of the enforcement of the rules. Being efficient in enforcing the rules, the government makes the errors of neglect more spectacular and the deregulation more urgent.

⁹ "If governments do not give them [interventionist measures] up and return to the unhampered market economy, if they stubbornly persist in the attempt to compensate by further interventions for the shortcomings of earlier interventions, they will find eventually that they have adopted socialism" (Mises 1940 [1998]:91).

5.1 Entrepreneurship and growth

Some recent writings (Holcombe 1998, 2003a, 2003b, 2003c) explain economic growth in terms of kirznerian entrepreneurship and make important contributions to the understanding of the creative process of the market.¹⁰ Holcombe (1998) recognizes that in order to explain the growth process by the theory of market process and entrepreneurship, we must give some explanation for the birth of profit opportunities; otherwise it is still exogenous shocks that keep the market in motion and cause growth.

Holcombe (2003a, b) differentiates between three sources of profit opportunities: factors that disequilibrate the market, factors that enhance production possibilities, and the activities of other entrepreneurs. Furthermore, he argues that the latter is by far the most important “origin” of profit opportunities. This category of the origin of profit opportunities refers to the fact that “[w]hen an entrepreneur takes advantage of previously unnoticed profit opportunities, this creates new profit opportunities, allowing other entrepreneurs to act” (Holcombe 2003a:33). According to this, what keeps the market process in motion is entrepreneurship, which by exploiting existing profit opportunities creates new ones. Thus, even the mistakes entrepreneurs commit represent profit opportunities to others, because they can learn from, and correct the mistakes.

If we differentiate between two types of entrepreneurial action, perception of profit opportunities and their exploitation, then it is the exploitation that serves as an origin for a new opportunity. As perception of profit opportunities cannot by its nature be transferred to other people, it would be impossible to identify the causal link between the perceptions of two different entrepreneurs. This also implies that new profit opportunities created by the exploitation of profit opportunities cannot be predicted by the nature of the market process, because if they were, they would be exploited at once.

The regime of market regulation, described above as interventionism, prevents or at least slows down this process. The essence of interventionism is a prevention of the exploitation of profit opportunities: the government forbids some exchanges that otherwise would have occurred. But as we have seen, interventionism does not remain only a one-time prohibition of a certain type of entrepreneurial activity; it is the continuous

¹⁰ Holcombe’s 1998 article started a debate in the *Quarterly Journal of Austrian Economics* (see Hülsmann 1999, Shostak 1999, Holcombe 1999).

prohibition of different kinds of entrepreneurial activities. This is because by preventing the exploitation of some arbitrages, it creates new ones, the exploitation of which induces a new turn of regulation and so on. Thus, interventionism is also a process of creating and exploiting arbitrages; but while intervention creates profit opportunities by force, entrepreneurial activity creates profit opportunity by discovery. The exploitation of profit opportunity created by discovery is what we call economic growth, while the exploitation of profit opportunities created by force can only mitigate the disordinating effect of regulation. The regulatory measure does not bring about a new state of full plan coordination toward which the economy can move closer through the acts of the arbitrage-perceiving entrepreneurs, but entrepreneurial discovery does.

Since the exploitation of present arbitrages is the source of future profit opportunities and interventionism is the process of preventing the exploitation of arbitrages, market regulation is equivalent to the elimination of future profit opportunities. This is the way in which errors of judgment today are transferred to errors of neglect tomorrow. The more seller and buyer remain disappointed because of exchanges prevented by restrictions – that is, the more errors of judgment occur today – the more arbitrages remain unexploited, and the less profit opportunities remain uncreated and unnoticed, that is, the more errors of neglect there will be in the future.

Entrepreneurs can exploit profit opportunities by creating internal institutions described in section 3 dealing with Lachmann's theory. To exploit arbitrage, the entrepreneur needs to employ factors of production, which the freedom of contract, a fundamental institution (beside private property) of the market economy, makes possible for her or him. A new form of contract is a new technology of exchange, and as a new internal institution, it is a form of exploitation of profit opportunities. As such, this is an entrepreneurial action which creates further profit opportunities. Sooner or later, this new form of contracting will be outperformed or replaced by others. As Greif (2005) and Brousseau et al. (2004) point it out, there can be competition even between private institutions; that is, between institutions with not only two, but several parties, and enforced by a private agency. The discoveries of such internal institutions are an inherent part of the entrepreneurial market process. From this viewpoint interventionism is the replacement of this process with regulatory rules: the authority sets the terms of contracts instead of the actors and monopolizes the market for institutions (Pejovich 1994)

by declaring one enforcement agency “official”. By doing this, the government prevents the exploitation of further profit opportunities by the innovation of new internal institutions. Interventionism blocks the interstices in the institutional structure. This is another channel through which regulation undermines the freedom to contract.

5.2 Enforcement and entrepreneurship

We must realize that so far we have assumed that beyond the fact that interventionist measures are taken, the players face perfect institutions in the market. This may not be so, however. As I briefly discussed before, Ikeda (1998) argues that interventionism can weaken property rights, and I have argued that it weakens freedom of contract. But beside property rights and freedom of contract, which are the most important fundamental institutions of a market economy, institutions of enforcement also play a crucial role mainly in economies based on impersonal exchange, as emphasized for example by North (1990:54-60). The institutions of enforcement assure that those patterns of conduct which other institutions prescribe should be followed. The efficiency of enforcement can thus be characterized by whether the players follow the rules of the game manifested in the institutions of society. The enforcement of the rules is perfect if all players accept the rules as a constraint.

Not only private contracts, but, of course, the regulatory measures introduced by governments are enforced by the state. What I am proposing is that enforcement through its effect on entrepreneurship affects the coherence of regulatory institutions. My argument is based on the role of the entrepreneur and on the nature of the discovery procedure discussed in previous paragraphs. Interventionist measures prevent the exploitation of profit opportunities and prevent the possible discoveries of future profit opportunities as their origins are the exploitation of present opportunities. This argument is valid if the regulatory rules are perfectly enforced. In the case of perfect enforcement those arbitrages which are forbidden by the rules cannot be realized. Its effect for the future entrepreneurial process is the same as if the profit opportunities had not been perceived at all. On the contrary, if these rules are not enforced at all (if the enforcement is perfectly inefficient), they do not represent obstacles for the entrepreneurial process.

However, the reality lies somewhere between the two: rules are enforced imperfectly. Regulation provides incentives for “unproductive” and even “destructive” entrepreneurship as argued by Baumol (1990), because some rules stipulate rent seeking. In our coordination language, the argument goes that the regulatory rules create profit opportunities the exploitation of which does not bring about a better coordinated state of affairs. Enforcement can be further weakened by the fact that regulation can also induce evasive entrepreneurship. As Leeson and Coyne (2004) show, evasive entrepreneurship, which aims at evading the legal system, is not rare in undeveloped countries, giving a reason why these countries remain undeveloped. All these entrepreneurial activities such as unproductive and evasive entrepreneurship result from the weak enforcement of the rules.

Corruption is a sign of poor enforcement. According to Mises (1949 [1996]:736) corruption is a regular effect of interventionism. However, it may be not only the effect, but also the aim of the regulation (Shleifer – Vishny 1993:611-613): government officials may use regulation to influence economic actors to substitute those economic activities on which it is difficult to collect bribes for those on which it is easier.

Regulation has two important effects on markets, both of which become more serious as efficiency of enforcement increases. The first is the effect on the allocation of resources, and this is what Mises described as the unintended consequences of intervention. As the efficiency of enforcement increases, unintended effects of regulation which induce the regulators to regulate further (or provide them with an excuse to regulate further) become more serious.¹¹ Thus, the more efficient the enforcement, the more relevant the misesian argument is. The second effect of regulation is the effect it has on the process of entrepreneurial discovery which I outlined in this section of the paper. The more efficient the enforcement of the regulatory rules are, the less profit opportunities are exploited, and the less profit opportunities will be created for the future, which means that more errors of neglect will occur in the future. As enforcement increases, this effect also becomes more severe, because more profit opportunities remain undiscovered.

¹¹ In an empirical paper, Almeida and Carneiro (2005) examine the effects that the enforcement of labor regulations has on the performance of firms in Brazil. Since throughout Brazil the regulatory rules are the same but enforcement differs from region to region, they are able to detect the effect of efficiency. They find, consistently with the argument above, that stricter enforcement lead to worse firm outcomes, such as real wages, productivity or investment. They argue that this is the result of lower labor market flexibility in the case of more efficient enforcement.

This lets us conclude that in those countries where enforcement mechanisms are more efficient, market regulation will be both more coherent and easier. The first type of effect makes the interventionist process work faster, while the second kind provides more incentives for the regulators to deregulate.¹²

In sum, weak enforcement on the one hand creates unproductive profit opportunities and, on the other hand, makes it possible to realize some of those arbitrages which would have been realized without regulations.¹³ Conclusively, provided that there is a critical number of errors of neglect which “shake the entire politico-economic system” (Ikeda 1998:40), the more efficient the rule enforcement is, the sooner this moment will come. Efficient enforcement spurs deregulation by making discoordination more spectacular to decision makers.

6 Conclusion

In this paper I have applied Lachmann’s theory on institutions and the misesian theory of interventionism to explain the facts that (1) the countries that regulate more grow more slowly, (2) different measures of regulations move together across countries, and (3) developed countries regulate more coherently. My basic argument is that the causes are to be found in the fundamental institutions of the market. This is why the framework of my analysis is the lachmannian structure of external and internal institutions. Mises’s theory of interventionism can explain how one burden of free exchange can lead to another measure of regulation and so on, until the economy ends up in a state of full socialism. Thus, it is an explanation for regulatory coherence. Together with the coordinational argument it can also explain how regulation harms growth.

The question I focused on in the second half of this essay is why developed countries regulate less and more coherently at the same time. To provide an answer, I modeled the growth process as a procedure of entrepreneurial discoveries, and I argued that the aim of

¹² To use the typology of Bradley (2003), the efficient enforcement of rules is a criterion which can turn the misesian method of interventionist expansionary cumulative dynamics into contractionary dynamics.

¹³ Stephen et al. (2004) argue that poor enforcement can be conducive to “nascent entrepreneurship” in countries with financial institutions. The possibility of non-repayment of loans is a device for the entrepreneur to overcome cash-flow problems during the initial period of his or her entrepreneurship. Poor institutions, the authors argue, can substitute for financial institutions, or to put it simply, poor institutions compensate the entrepreneurs for the lack of financial institutions.

regulation is to prevent this procedure. Enforcement plays a crucial role in determining when the accumulating errors of neglect will shake the system. As developed countries have more efficient formal and informal institutions of enforcement, the misesian “regulatory spiral” moves faster and stops earlier because the errors will be revealed sooner. The paper thus highlights a channel through which enforcement contributes to economic development. The cost of the entrepreneurial discoveries that would have occurred without the regulation is the unintended consequence of regulation that can stop the vicious circle of interventionism. Enforcement does not only contribute to economic development directly by property rights and freedom to contract, but indirectly by making the consequence of the regulatory rules more severe for the regulators. The argument outlined in the paper can be seen as a small step towards analyzing entrepreneurial discovery and kirznerian entrepreneurship in an imperfect institutional environment as suggested by Subrick and Beaulier (2004) as a possible agenda for future research in Austrian economics.

A broader context of my argument is that interventionism undermines all three fundamental institutions of the market: private property, freedom to contract, and enforcement institutions. Ikeda (1998) shows how it undermines private property by unevenly restricting the right to different kinds of private property (section 3.2.). It is almost obvious that interventionism undermines the freedom to contract, too. However, as I argued, it does not only exclude some present profit opportunities, but by forbidding their exploitation, it prevents the discovery of some future arbitrages. Furthermore, interventionism undermines enforcement by providing incentives for rent seeking and corruption.

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Tyler Cowen on Austrian Business Cycle Theory: A Critique

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Abstract: Cowen (1997) criticizes Austrian Business Cycle Theory (ABCT) on eight grounds: 1. systematic errors; 2. inflation volatility; 3. confusion of inflation and savings; 4. confusion of inflation and investment; 5. real vs. nominal rates of interest; 6. interest rate information; 7. investor interpretation of interest rates; 8. validation of inflationary investments. The present paper rejects all of these claims, and defends ABCT against them.

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1 Introduction

In recent years, there have been several criticisms of Austrian Business Cycle Theory (ABCT). These include Hummel (1979), Tullock (1987, 1989), Cowen (1997), and Wagner (2000). Replies have been made to Hummel by Barnett and Block (forthcoming A); to Tullock (1987) by Salerno (1989); to Tullock (1987 and 1989) by Barnett and Block (forthcoming B); and, to Wagner by Block (2001). The present paper is devoted to an analysis and rejoinder to Cowen's (1997) particular critique of ABCT.

This critique of ABCT is contained in Cowen (1997, Ch. 4), where he argues that ABCT fails for the eight (8) following reasons: 1. systematic errors; 2. inflation volatility; 3. confusion of inflation and savings; 4. confusion of inflation and investment; 5. real vs. nominal rates of interest; 6. interest rate information; 7. investor interpretation of interest rates; 8. validation of inflationary investments. Following section 2, in which we offer a general perspective, the remainder of our paper is organized along the same lines. Our method shall be to quote liberally from Cowen (1997), and then offer specific criticisms.¹ We conclude in section 11.

2 An Austrian perspective

Assume that, initially, the allocation of cheese and chalk was in its optimal ratio, say, 1:1. Then, government, in its infinite wisdom decides that the proper allocation between these two items is *not* the one that stems from posited unchanging consumer preferences, but rather 2:1 in favor of cheese.

With the truly heroic assumption of *full* information, we all know *exactly* how long this subsidy will last. Suppose this to be for one year; after that, we return to *laissez faire* capitalism, where things like this are simply not done. Would anyone now reallocate some investment from the chalk industry to cheese? The answer depends upon the expected profitability of the reallocation. Obviously it is yes if: 1) the resources we are talking about are non-specific to either industry; and, 2) the costs (if there be any) of real-

¹ Cowen (1997, 16, 102-104) compares ABCT with his "risk-based" theory. It should be noted that he uses the term "risk" in the standard probabilistic way, and that true uncertainty of the type experience in the real world does not play a part therein.

location, including resources complementary to the reallocated capital goods, from chalk to cheese and then back is zero, or at least less than the expected increase in revenue² to be had from the temporary reallocation. If, instead, the resources under consideration were absolutely specific to cheese, the answer is neither so obvious nor unambiguous. Of course, it still depends upon the expected profitability, but that is now a more complex matter, involving future periods beyond that of the temporary, one-year intervention, as well as the expected economic life of the diverted resources. The following factors³ would, *ceteris paribus*, make the reallocation profitable:

1. A higher discount rate, as that would reduce the present value of any cash flows in the post-first-year periods, lessening such offsets to the first year gains.
2. A longer economic life of the diverted resources, as this will reduce the cost of producing cheese not only in the first year, but in the later years, also. (This assumes that the resources diverted to the production of cheese, though specific to the production thereof, are not used in Leontief-type; i.e., fixed proportions production processes, and thus do not become redundant when the production of cheese is scaled back, but rather that they then substitute for other resources that would have been used. That is, because of the existence of the diverted resources, the optimal mix of inputs with which to produce cheese has changed reducing the need, at any level of output, for investments complementary to the diverted ones.)
3. The higher the cost of the complementary resources made unnecessary for the production of cheese in later years because of the diverted resources.
4. The smaller the increase in quantity, and the lower the price, of the additional resources (necessitated by the shortfall of fixed capital because of the diverted resources) necessary to produce chalk in accord with the optimal ratio, post intervention.

² That is, if the total revenue from cheese and chalk combined would be greater than without the reallocation.

³ This is but a partial list; e.g., we do not inquire into depreciation of preexisting fixed resources used in the production of either good, or to what extent the diverted resources were gross or net investment, nor do we consider the issue of heterogeneity of fixed resources with the new ones being superior to the old.

Now assume, instead of a subsidy, that interest rates were pushed down below the level that would otherwise have obtained, based on the time preferences of the public, by similar governmental policies (e.g., by the central bank flooding the credit market). After that, we again return to *laissez faire* capitalism, where things like this are simply not done. Would the pattern of investment, or for that matter, expenditures on consumers' goods, be any different than they would have been in the absence of this governmental interference with the economy? Certainly there are specific circumstances where there would be differences. It is easiest to see this in the case of consumers' goods. Some individuals might buy furniture, major appliances, or expensive consumers' electronics, and even automobiles on credit, even if they were to go into debt for more than a year, if the monthly payments in the first year were sufficiently decreased. That is, the lower interest rates, even though only for a year, do reduce the costs of buying on credit. This would be sufficient to induce consumers at, and some near, the margin to make such purchases.⁴

What is true for consumers is no less true for businesses. A decrease in interest rates reduces the cost of investing in interest-rate-sensitive projects. Such undertakings produce capital goods whose contributions to the production of consumers' goods occur a relatively long time before the pecuniary value of the consumers' goods are realized;⁵ and/or very durable capital goods whose contribution to the production take place over relatively long periods of time; and/or very expensive capital goods the purchases of which are financed by means of credit.⁶ In all these cases, lower interest rates can be expected to have a disproportionately positive effect upon their profitability.

What we are saying is that there is no difference in principle between inter-temporal

⁴ A simple example: Joe rates his alternatives, A, B, C, D . . . , such that A and B are the top two, with $A > B$, where B is the purchase of a boat (Z), that he expects to have an economic life of 20 years, with monthly payments of \$1,000 for the next five years. Then, because of Fed policy, Joe has a new alternative, C, where C is the purchase of the same boat, Z, with monthly payments of \$500 for the first year and \$1,000 for the next four years. Although Joe previously preferred A to B, he now prefers C to A.

⁵ From the point of view of the producers, this realization occurs when the goods are first sold to consumers, because it is the revenue from these sales that, ultimately, pays for the resources used to produce the goods. To the extent that the revenues are insufficient to cover the resource payments, either the firms' owners, or its creditors, including its suppliers of resources, incur a loss.

⁶ The latter type of goods are those for which credit is normally a complement; i.e., although they may be purchased without credit, because they are so expensive, they are usually purchased on credit and thus credit is a complement to these items.

misallocations of resources stemming from statist interferences with markets such as cheese and chalk and intra-temporal ones. *Both* misallocate resources, even under heroic assumptions about information. And, both do so for the same reason: intervention, in order to have any effect must alter the set of alternatives available to the decision maker thereby inducing him to act differently than he otherwise would have. This is a praxeological claim, not a contingent one.

But, if the government is to “succeed” in ruining market coordination, again under these assumptions, then at least some entrepreneurs (or households) must be led by the invisible hand of profit seeking to act as they would not have otherwise done, to misallocate resources in the first place. That is, if all far-seeing businessmen refuse to act differently than they otherwise would in the face of these governmental programs, either of them, the intra-temporal one between chalk and cheese, *or* the inter-temporal one between different capital-goods projects, then, the state *could not* render markets inefficient.⁷ In fact, the whole purpose and result of intervention is to alter people’s behaviors. And, in the cases where it wants to “stimulate” the economy, the government will continue to lower rates until a response is forthcoming.⁸

⁷ Suppose under *laissez faire* our political masters suddenly institute a minimum wage law of \$0.01 per hour (assume that no one has a marginal revenue product of less than \$1.00 per hour), or maximum hours legislation of 200 hours per week (there are fewer hours in the week than that). Will any of this “bite?” It will, if these enactments demonstrate to market participants that government has gone off the rails and embraced economic fascism. For example, Higgs (1997, 563-564) maintains that the dearth of private investment in the U.S.A. from 1935-1940 was the result of FDR’s policies in the “Second New Deal” that undermined confidence in the security of property rights.

⁸ And, not to worry about a “liquidity trap,” for as the then, and now former, Vice-chairman of the Board of Governors of the Federal Reserve System, ex Chairman of the President’s Council of Economic Advisors, and present Chairman of the Board of Governors, Ben S. “Benny the Printer” Bernanke (2002) stated: “Indeed, under a fiat (that is, paper) money system, a government (in practice, the central bank in cooperation with other agencies) should always be able to generate increased nominal spending and inflation, even when the short-term nominal interest rate is at zero.” A liquidity trap is said to occur when the relevant interest rate is so low that the “demand for money” is infinite. Of course, there is no such thing as the demand for money; rather there are as many different demands for money as there are goods, including resources and financial assets, for sale for money. What must be meant by that term is, then, an infinite supply of notes by potential borrowers will be offered at “the” interest rate. Of course, not all potential borrowers are equally credit worthy, and thus the risk-adjusted interest rate decreases as additional loans are made at the same nominal rate to borrowers who are ever-less creditworthy. If expectations as to the future course of prices are important in understanding credit markets and their impacts on economic activity, so too are the differing degrees of credit worthiness among borrowers. Thus the only real liquidity trap that could occur would not arise from the demand-side (supply of notes) of a credit market, but, rather, from the supply-side (demand for notes), when potential creditors refuse to make any more loans because the “real” risk-adjusted interest rate is too low. This can occur in the case of banks

From this perspective, there will be no “holding of the bag” phenomenon in operation. Critics of ABCT typically maintain that according to its premises, if entrepreneurs are far sighted enough, they will not make misallocative business decisions in response to inter-temporal governmental mismanagement. They will refrain, out of the fear that if they do, then, when the crunch comes and government stops its program, they will be stuck with an investment they would not otherwise have made. Nor will there be any yokel or greenhorn who will bail them out, since *all* market participants are in this model assumed to have full, complete and total information.

Of course, these assumptions are outlandish. There is nothing like full information available in the real world. Not only has an appreciation for ABCT not taken over the business community,⁹ it has not even done so within the profession of economics.¹⁰ That being the case, there should be little real fear that government cannot create an ABC. We are arguing here, on the basis of contrary to fact conditionals. The present authors maintain that ABCT is so incisive and powerful an explanation that it would operate *even in* this heady non-existent world. That is, *even if* all market participants were not only fully cognizant of ABCT, but were also fully and totally informed about the decisions of the central bankers and, in addition, all consumers and firms, ABCT would *still* be correct. We claim it is an underestimate of ABCT to posit that inter-temporal misallocation due to money creation and funneling through the credit market works *only* through lack of information. Moreover, in reality, many businesses and industries are well aware of the “Too big to fail” syndrome.¹¹ The point is that in the real world the idea of full

regardless of the quantity of excess reserves in the banking system, when, because of the increased risk of default on marginal loans, they are perceived to be unprofitable, and so are not made. This seems to have been the case in the U.S.A during part of the Great Depression (Hall and Ferguson, 1998, 148-149).

⁹ Understatement of the century.

¹⁰ Another understatement of the century :).

¹¹ For example, in their applied work, many Austrians maintain the following. The immense monetary expansion of the 1990s, especially in the latter half of that decade caused the massive stock market bubble. The Fed, fearing inflation, engaged in monetary tightening in 1999. That policy was the *proximate*, but not the ultimate, cause of the bursting of the bubble. The manifestation of this bubble in the “real” sector was the vast, but unwarranted, expansion of infrastructure and equipment in and for, and the huge misallocation of human resources to, the information/communication/technology sector. Then, in an attempt to stave off a severe downturn in the “real” economy and that great bugbear of mainstream economists, price deflation, in the wake of the collapse of the stock market, the Fed began reflating money/credit. That led to the next bubble, the current (2005-6) one, that also must burst. (So as there were various symptoms of the stock market bubble, so also are there symptoms of a real estate bubble.) Had the Fed not reflated, there neither would nor could have been this real estate bubble. All of which

(or complete or perfect) information is absurd. However, sometimes decision makers do have sufficient information to know that activities they might undertake in response to a Fed engineered money/credit expansion, with consequent reductions in interest rates, will, in all likelihood, prove unprofitable if the Fed reverses itself, causing interest rates to rise, even to the point of bankrupting them. Nevertheless, they may rationally undertake such activities hoping to make big profits before the Fed changes its policy, fully expecting the Treasury to bail them out and, indirectly, also rescue their creditors, if they prove to have been mistaken. Of course, they are able to become so highly leveraged because their creditors also fully expect such bailouts. Consequently, even if they know and understand ABCT, and even if they know that, without the possibility of a bailout, they would not engage in certain activities, nevertheless they *do* engage in them.

Let us attempt to put this into other words, so important is this point. The ABCT is a theory about how people's actions are affected (changed) by a particular type of governmental intervention. Even in a world of perfect competition (we assume, *arguendo*, that this concept is a coherent one), were new fiat money to be lent into existence there would necessarily be a distortion in the structure of prices that would change the sets of alternatives individuals face, and thus have real effects. The perfectly competitive model beloved of neoclassical economics includes, of course, perfect information. But the relevant information is about current and past prices and quantities of goods, assets, and resources, and about monetary policy: the Fed's pattern of increasing money/credit, and the period before the policy reverts. But even perfect competition cannot include information about the future. That would bring us to the world of science fiction, or magic.

Injection effects and their consequent distribution effects, are such that the economy

brings us to the point at hand. Although the Fed must bear the ultimate blame for the real estate boom, there is enough blame to spread around to other parties that aided and abetted them. (We use them, rather than it, in keeping with the Austrian understanding that it is only individual people who act, not nonhuman "its.") Inter alios, and probably most important, were the folks at Fannie Mae and Freddie Mac. They facilitated the real estate boom in a variety of ways. But what is relevant here is that in so doing they both expanded their balance sheets immensely, and did so by vastly increasing their leverage, which they were able to do to the extent they did only because they, and everyone else, understand their debt to be guaranteed by the U.S. Treasury, if not legally, then morally and practically – a major case of moral hazard, though not of the same magnitude as that involved in Social Security and Medicare. That is, they have become "Too big to fail." They know it and so does everyone else. And, what is true of Fannie and Freddie, now, was true in the past for various corporations, banks, and even a city (e.g., Chrysler, Continental Illinois, and New York City, respectively).

would be tilted in favor of interest-rate-sensitive goods and their producers; i.e., there would be an ABC, though milder, because of the perfect competitive (PC) assumptions.¹² That is, the effect of a money/credit expansion in a perfectly-competitive world would be a misallocation of resources that reduces people-in-general's well-being. From God's point of view, people "in general" would be better off if, in response to the Fed's attempt to expand money/credit through open market operations, no one would sell securities to it; or if, when they tried to use discount rate policy, no bank would borrow any more reserves than they otherwise would have; or, if, when they lowered the reserve ratio, banks just held excess reserves and made no additional loans. However, because of changed incentives resulting from the Fed's policy, and consequent injection and distribution effects, some people are presented with alternatives superior to those extant. They respond and thus, though, people-as-a-whole are worse off, not all are; some find they are better off because of the Fed's¹³ actions.¹⁴

¹² Of relevance here are Barnett and Wood, 2002; Barnett and Block, unpublished, which concentrate on all interest-rate-sensitive goods, rather than traditional ABCT that focuses on the Hayekian triangle Barnett and Block, forthcoming B, and "higher-order" goods.

¹³ There is another problem with the use of these unrealistic, imaginary, worlds (in contradistinction to sane imaginary worlds; e.g., the type free-market entrepreneurs imagine in trying to decide the best uses of resources). Consider a world of perfect competition and efficient markets, all-round, with attendant absurd assumptions about information. Suppose the government (Fed) to announce a policy of increasing the money supply by purchasing specific quantities of 90-day T-bills at specific times for the next year, after which there would be no further purchases. Assume, also, that everyone knows the correct, economic model of the economy; i.e., how the economy works, and that they use this knowledge plus the information about monetary policy to form (obviously, rational) expectations. But how could this be? Such a system would have inherent contradictions built into it.

In order for the Fed to execute its monetary policy, it would have bid up the price of the T-bills in order to purchase them, causing the nominal interest rates thereon to decrease. However, the increased money supply would cause inflation immediately, not with a lag, because of all the "perfect" conditions (PC). Again, because of the PC, expectations of price-inflation would immediately increase to the correct "level." Even were the creditor (the Fed, as the buyer of the T-bills) willing to take a loss by bidding up the price of the T-bills and thereby accepting a lower yield thereon, other, rational, profit maximizing "agents" would not be. In fact, they would know that the prices of these T-bills (and other, fixed-income, securities) should fall thereby driving up the expected, nominal, rates of interest on them, so that the expected, real, rates of interest would not decrease.

Therefore, as the Fed tried to buy the T-bills, putting upward pressure on their prices, the entire stock of extant T-bills would be offered to them. In order to keep their prices from falling, the Fed would have to buy the entire stock, and not just of T-bills, but of all other assets, real, as well as financial, else all of their prices would fall so that their nominal yields would increase to offset the correctly-expected-by-all, and thus immediate, price inflation. (Side note: Such PC requires, then, not just that expectations about "level of prices" be correct, but that expectations about the course of very individual price be correct.)

As the purpose of the monetary policy is, ostensibly, to stimulate the economy, else why do it? (Of course the real answer is to enrich the government, and the banks and other financial institutions – really

Cowen (1997, 79) quotes Rothbard (1975, 19, emphasis added by present authors) to the effect that "... businessmen were *mised* by bank credit inflation to invest too much in higher-order capital goods..." and then criticizes him on the ground that with full information, such cluster of errors are impossible. But Rothbard was writing in the real world context of (far) less than full information.¹⁵ Were this analysis to be applied to the unrealistic full information of the critics of ABCT, then Rothbard's "mised" would have to be replaced with "induced," or "subsidized."¹⁶

the politicians, bureaucrats and other government employees, and the owners and employees of financial institutions). But certainly, given a PC world, such policy could not possibly bring about the ostensible, desired end.

¹⁴ Creating machines or other factors that fit into the higher orders of the structure of production does not necessarily imply that the investment will last for a longer time-period. How long it lasts can, within limits of course, be tailored to suit. All that is required for higher order capital investment is that the new material is complementary to other goods and services which function in that arena of the economy.

¹⁵ Whatever that means. We are writing, arguendo, as if the concept of "full information" is a completely coherent one. It is not. The difficulties with it are legion. The only things it is possible to have "full information" about are historical facts including, in some sense, "present facts." One can *know* nothing of the future, save what one expects about it, including; e.g., what one expects (not on the basis of thymology, but, rather because that is what someone has said he will do) others to do.

¹⁶ Cowen (1997, 77) states: "The postulated entrepreneurial mistakes in the traditional Austrian theory, which are systematic, violate the rational expectations hypothesis. Entrepreneurs with rational expectations will sometimes choose unprofitable term-lengths for investment, but they will not err systematically towards excessive term-length. This is precisely the error made by Wagner (2000). For a rejoinder, see Block (2001). Cowen (1997, 8), states "the rational expectations assumption serves as a tool of analytical organization, rather than as a descriptive assumption about the real world. Rational expectations models help us trace which economic results can be generated without assuming systematic forecasting errors and which cannot. Whenever we wish to specify a coordination problem, rational expectations theory requires us to justify, or at least outline, the underlying informational asymmetries. I view the rational expectations assumptions as a useful form of discipline. Rational expectations does not rule out significant marketplace errors, but it does require us to specify the source of these errors in some explicit informational asymmetry." This is incorrect. This is a way of claiming that, although it is not a good assumption about the real world, it is still a useful assumption – akin to Friedman's (1953) methodology, except instead of asking if a model predicts well, using the assumption for "discipline" purposes. Cowen's (1997, 8) definition of rational expectations is in terms of an individual's expectations. In his footnote 3, p.9, he attempts to finesse the problem he has created. Moreover, he assumes risk, not uncertainty. The key is the assumption of no systematic errors. First, the idea that: "Even if the idea of a population mean is not well defined, individual forecasts may, on average, still hit the mean of the observed sample," makes no sense unless the sample is defined. So, exactly what events constitute the sample?" Most (all other?) rational expectations models quantify the concept; e.g., Snowdon, et al., p 190. The idea of rational expectations is highly problematic. Consider, if we believe in cause and effect, then the causes of the stock market meltdown in 2000 preceded the effect, the meltdown itself. If individuals' expectations are rational, how is it that so many made mistakes? Of course, the systematic entrepreneurial "cluster" of errors of ABCT violate the assumption of rational expectations – that is a strength of ABCT. The very concept of rational expectations is irrational in the sense of comporting with reality, though its use is compatible with the

Similarly, Cowen (1997, 78, emphasis, and material in brackets added by present authors) claims “For the [ABC] theory to hold, entrepreneurs must be *fooled* by incorrect price signals emanating from the interest rate.” Again, the same reply is in order: in the real world of vastly imperfect foresight and governmental intervention, there are two sources of systematic entrepreneurial errors: imperfect foresight and governmentally-distorted incentives. In fact, in the real world either of these alone is sufficient to cause such errors. Thus, in the imaginary one concocted by Cowen, “fooled” would have to be changed to “encouraged” or “provoked,” as, by assumption, the former cause is not allowed.

3 Systematic errors

States Cowen (1997, 81): “The Austrian claim postulates systematic entrepreneurial errors in the most costly direction. Entrepreneurs do not merely err in their choice of term-length; entrepreneurs choose excessive investment term-length when confronted with inflation. More specifically, the theory does not allow entrepreneurs to overestimate the dangers of an inflationary boom by keeping investment term-length too short. Excessive caution may be just as likely as excessive boldness.”

First, in order for entrepreneurs to misestimate, whether over or under, the effects of an inflationary boom, they must perceive there to be one. However, although “inflation is always and everywhere a monetary phenomenon” (Friedman, 1992, 262), the way the term is used differs. When Cowen refers to entrepreneurs misestimating the dangers of inflation, it is obvious he uses the term to mean an increase in the general level of prices, not, as Austrians do, an increase in the money supply. This is an important point, for as Friedman (1968, 15) has maintained, there is a long and variable lag between the onset of an increase in the stock of money and its attendant effects on the general level of prices. However, because the new money is lent into existence its effects are felt sooner in the credit markets; i.e., interest rates, usually short-term rates, are affected

advancement of modern academic macroeconomists, whereas the assumptions of ABCT are consistent with reality.

first. Entrepreneurs do not, as a rule, follow changes in the stock of money.¹⁷ Thus, by the time the price inflation is perceived by them, they will already have responded to the changed interest rates, both because of a lack of information and because of altered incentives.¹⁸

In this our author demonstrates that his command of economic theory is not all that it could be. We must reject this facile equation of caution with lower orders of capital goods (or consumer goods) and boldness with higher orders. Nothing could be further from the truth. Neither capital goods nor consumer goods, neither higher nor lower orders of the former, are intrinsically more risky¹⁹ than the other. The mistake stems

¹⁷ Even were they to attempt to do so, they would find themselves in a quandary: of which monetary aggregate should they follow the statistics? M1? M2? M3? MZM? Remember that it was not that long ago that MZM did not exist, and, there were such things as M9 and L (for liquidity).

¹⁸ Cowen (1997, 8-9) maintains that the rational expectations assumption disciplines his thinking by forcing him to consider the sources of “asymmetrical” information. However, insofar as ABCT is concerned with expectations, it is with expectations that prove to be incorrect. He maintains one has to identify the source of such “asymmetrical” information, as if symmetrical information were the normal course of events. Regardless, even if information were symmetrical, in the real world expectations would not always prove to be correct. The real issues are the sources and magnitudes of the expectational errors. As noted above, it is the long and variable lags between changes in the money stock and their effects on prices, as well as the injection and distribution effects, that are the sources of these errors. (Even without this source, people would still make expectational errors because they are human.) These errors tend to be systematic because the increases in the money stock affect interest rates and the prices of financial assets before they affect other prices. Of course, the magnitude of these errors depends upon the size of the increase in the money supply. It should be noted that, in a hyperinflation, when everyone is sensitized to inflation, the lags tend to be shorter. As to rational expectations, if it is to mean merely that a decision maker makes the best forecasts he can based on all the information available to him, while allowing for his forecasts to be affected by his emotions, and admitting of systematic errors, Austrians would have no problem with that. However, as soon as rational expectations is taken to mean no systematic forecasting errors, Austrians must part ways, as there is no praxeological reason to think that such errors are not made, and there is plenty of real world evidence that they are; e.g., the winner’s curse in auctions, including mergers and acquisitions involving other than consumers’ goods; and, gambling to win, as opposed to for pleasure, against the house.

¹⁹ Cowen (1997, 16) states:

The focus on investment risk defines the context for the business cycle theory of this chapter [Ch.2 A Risk-based Theory in Real terms]. Real business cycle theories focus on the risk or volatility induced by technology shocks. Traditional Austrian theories identify the risks created by distortionary monetary policies by the central bank. Neo-Keynesian theories, although they view risk in implicit terms, concentrate their attention on the risk of non-clearing markets. In contrast to these theories, I [Cowen] focus on the risks that investments will not match consumer demands, and thus will decline in value. Technology shocks, monetary policy, and non-market-clearing prices all may constitute particular causes of supply/demand mismatches, and in this sense a risk-based theory does not contradict the options listed. None the less I focus on the initial willingness of entrepreneurs

from Cowen's assumption that the further away from final sale of the consumer good, the more things can go wrong, and therefore, the more risky it is. But this is to confuse the micro with the macro; the total with the marginal. Yes, if you compare *all* of capital goods orders with but the lowest of them, *then* what Cowen says has a modicum of sense. Surely there is more that can go wrong, and thus lead to bankruptcy, when you compare more things with fewer. But when we compare any *one* stage of production, with *any* other, high or low, this no longer holds. For, if each stage of production takes the exact same single year to complete, the *investment of any one man* has the *same* length of run as that of any other. For example, A invests in something that is 12 years away from consumption, and gets out one year later, when it is now 11 years away. In contrast, B invests in something that is 2 years away from consumption, and gets out one year later, when it is now 1 year away. Each of them invests for the same identical 12 months. It is unclear why Cowen would consider A's investment "longer" than B's, unless he is under the sway of the confusion we attribute to him. If Cowen were correct, then corner grocery stores, or greasy spoons, would rarely go broke since they are so close in time to final consumption, and by that fact alone were safer harbors for cash. Not at all. Indeed, if there were any truth to this contention, the tendency of the market would be to *lower* profitability there, so as to render the expected return on investment equal in all regions of the structure of production.

Let us argue by analogy. Suppose someone to have claimed that high priced items (Mercedes, Rolex, diamonds, lobster) were more risky to produce and sell than lower priced ones (Ladas, Timex, bread, corn). It would be relatively easy to see the fallacy: you can lose just as much money manufacturing a Chevy as a Rolls Royce. This is a confusion of big and small ticket items with high and low risk. There is some plausibility here (it costs more to produce any one Mercedes than any one Lada), but this is only superficial. If there *were* any bias in this direction, it would soon enough be incorporated by markets.

to accept vulnerable positions with regard to shocks in general, rather than on a single kind of shock.

Cowen thinks that because his theory "focus[es] on the risks that investments will not match consumer demands it "contrast[s]" with "traditional Austrian theories" because the latter identify the risks created by distortionary monetary policies." However, according to "traditional" ABCT the risks created by distortionary monetary policies are *precisely* the risks that investments will not match consumer preferences. This is standard ABCT, and has been ever since it was first enunciated (in however rudimentary form) in 1912 by Mises (1912 [1971], 362).

Cowen (1997, 81) asks: What happens if entrepreneurs take lower interest rates resulting from increased savings to be a sign of price inflation, which they consider risky, and are inflation-risk averse.” His answer is that they would shift from long-term investments to short-term investments. But this is an absurd assumption. Professional economists, maintaining different models of reality, don’t agree on the causes of lower interest rates in specific cases. And, Cowen ignores the incentive effect thereof. It is much like saying, Suppose an entrepreneur is afraid of inflation and responds to an increase in the price of his products by reducing production. There is no reason to think that, in the real world, entrepreneurs take lower interest rates to be a sign of inflation. This happens only in Cowen’s “mirror image” world – the mirror he used must be Alice’s, for his mirror image world bears as much resemblance to the real world as hers did.

We of course agree with Cowen that, *ceteris paribus* there is more “risk” in long-term investment projects than in short-term projects.²⁰ But this is irrelevant. We need both. Moreover, merely because an investment project is relevant to an early stage of a production process does not mean that it is a long-term investment. In fact, it may be a short-term investment for an investor who is not invested in the rest of the process. And, this is true even if the project is relevant to a stage of the larger process that occurs long before the process reaches fruition in the form of consumers’ goods. It is also true even if the project involves durable (capital) goods that will contribute to the production of many “batches” of consumers’ goods over an extended period of time. For example, consider the manufacturer who makes drilling pipe for oil exploration and needs to finance his purchases of steel pipe. He is concerned with the short-term interest rate and is not going to reduce his borrowings to purchase an inventory of steel pipe when interest rates decline. This is obvious when we see people increase their purchases of stocks, especially on margin, and borrow to purchase real estate by selling adjustable rate notes, when short-term rates decline. That is, investors are concerned not with “the period of production,” of some project they invest in, but, rather, they are concerned with “the period for which they are invested” in that project.

Cowen zigs where he should be zagging. He (1997, 81) invents a “mirror image” of

²⁰ Are we contradicting ourselves? We just said that a rose is a rose is a rose: a one year investment is a one year investment is a one year investment, and it does not matter where, in the structure of production it is. But there is a significant difference between a one year investment and a ten year investment, no matter where each enters the production process.

ABCT where when interest rates fall, entrepreneurs attribute this to inflation, when in reality it is the result of increased savings. He castigates Austrians for not addressing “why the mirror image scenario is less plausible than the case they emphasize.” We have a similar complaint about Cowen and other neoclassical critics of Austrianism: why do they not address the issue we are now making up that calls for entrepreneurs to avoid profit making “unicorn” ventures in favor of those that bring losses? The answer to both is that they have not been addressed because they have just been manufactured out of the whole cloth and are silly to boot. Any firm embracing losing unicorn ventures vis-à-vis profit making ones will soon enough be consigned to the dustbin of economics.

Entrepreneurs who act as Cowen would have them do will incur losses and will be weeded out by the market process. The challenge Austrians have faced and met is to explain why the ordinary profit and loss considerations do not preclude the cluster of errors attendant upon the governmental intervention considered in ABCT. The answer of praxeologists is that in the less than full information world firms have no way of distinguishing a fall in interest rates which emanates from increased savings (a greater orientation to the future) from one that is a result of central bank meddling with credit markets. In the imaginary full information model, we note that it is no longer a cluster of errors which accounts for the structure of production being bent out of shape, but rather purposeful human action to this same end, taking advantage of government subsidies.

Another difficulty with Cowen’s (1997, 82) analysis is his expectation that the marginal entrepreneur would be “risk averse.” This of course is not a matter of praxeology, but rather of economic history. Nevertheless, it is more than passing curious that he would rely so heavily on the owners of firms not being risk takers. One would have thought that this would be the expected situation. After all, to set up a business is intrinsically a risky endeavor.

As per Mises (1998), every action is risky, but some are riskier than others, at least if we consider not just the potential for loss, but also the relevant magnitudes. Also, and certainly to the extent that managers are playing with other people’s money, there is a principal-agent problem. It seems certain that agents, who in many cases make the decisions for the owners, and thus are in some sense the entrepreneurs, are more likely to engage in risky behavior. If Cowen thinks that agent-entrepreneurs are risk averse, how does he explain such things as the S&L debacle of the ‘80s, and the various ventures un-

dertaken with governmental funding or implicit guarantees; e.g., Fannie Mae and Freddie Mac; and Enron, etc.?

States Cowen (1997, 82, fn. 7): “The original Austrian theory, for reasons not fully explicated by its advocates, associates the move from long-term investments to short-term investments with an economic bust. Within the same framework, entrepreneurial moves from short-term to long-term investments cause an economic boom. . . .”

Contrary to Cowen, these are points well articulated in the ABCT literature.²¹ But we should clarify. These are not any old “moves” from one to another; very much to the contrary, they stem from governmental incursions into the economy. If entrepreneurs are shifting from long to short or vice versa in response to changing consumer time preferences, then there is no boom or bust at all.

Perhaps it is his insistence on rational expectations that causes him to frame changes in the stock of money in terms of information, rather than incentives. Cowen, apparently, does not see that governmental monetary policy can alter incentives in ways that lead to an unsustainable boom.

4 Inflation volatility²²

According to Cowen (1997, 83): “The economic volatility associated with inflation provides one reason why entrepreneurs might respond to monetary shocks by decreasing rather than increasing long-term investment.”

We agree with Cowen that governmental inflationary policy adds to price volatility, and that this, in turn, renders all decision-making less certain. And, that this has a

²¹ See, for example, Hayek (1935) and Rothbard (1963 [1975]).

²² Cowen (1997) is guilty of a sin common enough among economists, but not serious scientists: a failure to define his terms. Thus, “volatility” makes its first appearance on page 36: “. . . and, increases in uncertainty or economic volatility.” From the context, and material on page 26, it seems that Cowen either views uncertainty and volatility as the same thing or, at least, assumes a very high degree of correlation between them. But, surely, uncertainty and volatility are not the same thing. In that case, it is incumbent upon him to tell us what he means by this word “volatility.” Although it would seem that volatility causes uncertainty, there is no reason to think that uncertainty causes volatility. In fact, an increase in uncertainty might well reduce volatility by inducing people to engage in less risky behavior, risky behavior being itself a cause of volatility.

systematic effect on the structure of production because the more interest-rate-sensitive goods are more risky than those less sensitive. What Cowen gets wrong, or ignores, is the temporal sequence of events. It is only some time after the increase in money/credit has driven interest rates below what they otherwise would have been that the effects are felt on prices; i.e., that the price inflation is felt. It is at *that* point that lenders and borrowers start to build inflation expectations, both as to levels and as to volatility, into their thinking. This causes the former to demand, and the latter to be willing to agree to offer or supply, an inflation premium in the form of higher rates of interest.

Of course, part of the increase in rates is an attempt to reestablish the real rate that had decreased when the nominal rates declined before the inflation expectations changed. But part of the increase is an attempt to boost real rates because of the perceived rise in risk attendant upon expected higher rates of inflation with the concomitant increased risk that results from the fact that an incorrect forecast of any percentage leads to a greater mistake in absolute terms the greater the actual rate turns out to be. For example, if someone expected inflation to be 3% and at the same time realized he might be mistaken, and if he thought he might be off by as much as 33.3%, then if he entered a credit contract at 3% as a lender (borrower) and inflation turned out to be at the high (low) end of his range, 4% (2%), his real rate is 1% less (greater) than he expected, and he is worse off by 1%. Alternatively, if he expected the rate of inflation to be 30% and, again, realized he might be mistaken, and if he thought, again, that he might be off by as much as 33.3%, then if he entered a credit contract at 30% as a lender (borrower) and inflation turned out to be at the high (low) end of his range, 40% (20%), his real rate is 10% less (greater) than he expected, and he is worse off by 10%.

Certainly, the potential for a greater loss at higher expected rates is sufficient to cause an increase in the rates demanded by lenders, and, as a consequence, a reduction in the total pecuniary value of loans contracted. At the higher rates, fewer creditworthy borrowers are willing to take out loans, and lenders become, at least at some point, more demanding in terms of the creditworthiness of borrowers. This leads to a contraction of credit. This is what Austrians refer to as the crisis: it ends the unsustainable boom and precedes the bust. What Cowen (1997, 83) seems to have missed is the timing, when he states: "The economic volatility associated with inflation provides one reason why entrepreneurs might respond to monetary shocks by decreasing rather than increasing

long-term investment.” This is correct, but misleading as it ignores the time element. He implies that the price inflation is concurrent with the monetary shock, which, of course, it is not; rather the inflation, and hence the “economic volatility associated” therewith, occurs later, and therefore, so does the decrease in long-term investment. But according to Austrian economists that, *inter alia*, is precisely what happens when the boom set off by the monetary shock can no longer be sustained. Of course, during the interim, the monetary shocks drive down real and nominal interest rates misleading entrepreneurs into increasing investment.

Here is another way of seeing this point. Consider what happens when the Fed engages in open market operations to increase the supply of money/credit. The Fed buys T-Bills from A, setting in motion a portfolio adjustment process that will eventually affect the yields on all assets. *Ceteris paribus*, if the interest rate falls, this disproportionately impacts the higher orders more than the lower, in a positive direction. A lower interest rate raises all present discounted values of future income streams, but much more so the further away in time from completion they are. For example, at 12% the present discounted value of a dollar receivable 1 year from now is \$0.8933, whereas at 3% it is \$0.971, a percentage increase of only 8.7%. However, at 12% the present discounted value of a dollar receivable 10 years from now is \$0.322, whereas at 3% it is \$0.744, a percentage increase of 131%. That is, a decrease in the yield on an asset with one year to maturity from 12% to 3% increases the capital value by 8.7%, whereas the same decrease yield on asset identical in every way, save that it has 10 years to maturity, would increase its capital value by 131%. Even if we consider that only the first period discount rate for longer-term investments decreases (*i.e.*, if the portfolio substitution process has no effect on yields beyond the first period), the ratio of the present values of long term to short term investments increases, however minimal that rise may be, and therefore, a policy induced decrease in the short rate would disproportionately stimulate long term investments.

This is not the end of the matter for the transmission mechanism posited by Cowen is also problematic. He states (1997, 83): “An increase in economic volatility decreases the reliability of current information and induces entrepreneurs to shy away from long-term projects. . . . Entrepreneurs will be less inclined to make long-term commitments, and will be more inclined to move to short-term assets, such as cash or T-Bills. Inflation therefore may lead to an immediate contraction of long-term investment.” Again, this

is but ABCT, provided the volatility is the result of higher and more variable rates of inflation that occur as the unsustainable boom matures and turns into the crisis.

Cowen here becomes in effect a sort of Johnny one-note. If government inflates, this increases volatility; all the risk avoiding entrepreneurs pull in their horns, fearful of the long term, and pile on, instead, for the immediate run. However, if government *deflates*, this, too, will boost instability and precariousness. Given the same kind of business firms (we must hold *ceteris paribus* conditions, must we not?) this, *too*, will exacerbate unpredictability, to the same end: a rise in risk avoidance, which for Cowen automatically translates into short run investments at the cost of long run ones.²³

The shift from long-term to short-term investments in response either to inflation or to deflation is, for Cowen, but a possibility; investments could also shift from short term to long term, or, we assume, not shift at all, in response to inflation or to deflation. Were one to accept that point of view, the effects of monetary policy could not be expected to be systematic.²⁴ Rather, not just the details, but the very general course of the effects of monetary policy would depend upon the specifics of any situation. This would include the effects upon inflationary expectations and the resultant increase in risk, regardless of whether the policy were expansionary or contractionary.²⁵ Truly, then, the only possible way for the policy makers to achieve their goals would be either blind luck, or else to turn discretionary policy making over to Super Economist; i.e., Allen “the Man” Greenspan. Mere mortal economists would be unable, absent pure luck, to fathom the complexities of the real world sufficiently to gear policy to the desired ends.

²³ However, Cowen (1997, 82) contradicts himself on this matter when he says “. . . excessive entrepreneurial optimism does not imply a systematic distortion in the direction of excess long long-term investment. Entrepreneurs can be overly optimistic about the prospects for short-term investment as well, even in the presence of monetary inflation.”

²⁴ This harks back to the views of the German Historical School, against whom the early Austrians reacted. If there are no systematic effects of policy, there are no economic laws, only historical occurrences.

²⁵ There are two effects of monetary deflation on risk that tend to counteract each other: that felt first tends to increase risk as the change in the pattern and level of prices elevates uncertainty; that felt second, as prices fall and the risk of a given percentage forecast error declines, decreases risk. And, though the former tends to dominate when the deflation begins, the latter tends to govern as time passes. It should be noted that Cowen’s theory concerns a fiat monetary system. So too our analysis. In such a system, the optimal quantity of fiat money is the extant amount (Barnett and Block, 2004), save during a transition, were there to be one, to a commodity money. As the authorities are terrified by a price deflation and know how to defeat one (see Bernanke, 2002), actual price deflation seems to be ruled out. Therefore, and in any case, deflation and deflationary policies are used herein to refer to a decrease in price inflation and a slowing of the growth of money/credit. This seems to be in keeping with Cowen’s meanings.

But this is nonsense on stilts. Here we have two opposite effects: central bank imposed inflation, and then central bank imposed deflation. Thanks to the increased volatility of each, both of them pervert the structure of production in the identical direction. Such a situation would not, of course, render ABCT incorrect; only inapplicable to the real world. One way out of this quandary is to suppose that government's inflationary policy was *not* "volatile." Unless we define any and all statist interference with the economy in this manner,²⁶ this should be possible to accomplish. For example, it could be a gradual process, with no sharp spikes (in either direction.) Or, we may suppose that the central bank has long been inflating at the same steady rate,²⁷ and either continues to do so, or, at worst, alters this in teeny tiny steps. Another alternative is for the central bank to announce its nefarious plans in advance. As well, we could return to our heroic assumption of full information on the part of everyone. Any of these ways ought to put paid to Cowen's claim not that ABCT is incorrect, but that it is irrelevant to the real world, in that central bank inflation may not lengthen the structure of production, due to the fact that *any* of its actions are volatile, which, in turn, may lead to a truncation of the structure of production due to risk avoidance.

5 Confusion of inflation and savings

Neoclassical economists like Cowen have long sought after the Holy Grail of constants in economics. Previously thwarted and disappointed at all turns, Cowen now sees this in savings rates. We are informed by him (1997, 84) that according to ABCT,

Entrepreneurs confuse nominal money supply growth with increases in private saving... To the extent that private saving is either stable or predictable, the postulated monetary misperception will not occur. In the limit, a totally stable rate of private savings implies that entrepreneurs will never associate real interest rate moves with changes in the savings rate... Yet empirical macroeconomists traditionally have found savings to be one of the most stable variables over time...

²⁶ Something with which the present authors, we admit, have some sympathy.

²⁷ Perhaps they have adopted Friedman's (1997) "3% rule." See also Simons (1936). For a critique of the latter, see Block, 2002.

There are problems here. “Most stable” is a far cry from completely stable and thus totally predictable. Due to that little matter of human free will, there *can be* no such thing as a constant in economics (Mises, 1998, 55-56).

Assume, arguendo, per impossible, that the relation between savings and *income* was rigid, while not so with regard to the interest rate. In such a case, Cowen’s criticism would also be rendered impotent.

Again, Cowen focuses only on the cluster of error phenomenon, ignoring the subsidization aspect of inflationary monetary policy. *Even if* entrepreneurs were *never* fooled by compromised market signals, they would *still* have an incentive to pervert the structure of production, as we have seen, in response to governmental financial mismanagement.

Cowen (1997, 84) takes the position that “Unstable private saving implies that misperceptions of the savings rate will cause business cycles even in the absence of distortive monetary polity.” Not so, not so. The ABC refers to *systematic* variations in employment and productivity, etc., not to random changes. In Cowen’s lexicon, *there would always be* a business cycle, due to ordinary changes in market decision-making. But, surely, if the business cycle is *always* with us, and necessarily so, then there is no such thing as a business cycle in the first place. For words and phrases are supposed to distinguish presence or absence of their referent. This would no longer be the case for Cowen. It is as if he were to have said, “Human beings are always sick.” Then, we would have to distinguish two kinds of “sickness”: the ordinary type we now have, from this new overarching sickness. Similarly, if we are *always* in a business cycle, we shall have to distinguish real ones of the sort we have experienced in the past from this new type. It is unclear what intellectual progress is made by such grammatical legerdemain.

Moreover, though Cowen says that, as a matter of empirical fact, savings are stable, yet the savings rate in the U.S. has declined dramatically in recent decades,²⁸ and currently is a matter of great concern to economists.

Finally, Cowen (1997, 84) makes a critical mistake, one often made by some Austrians as well. Cowen purports to have a more realistic theory than ABCT. However, when he states that: “Entrepreneurs confuse nominal money supply growth with increases in

²⁸ See, for example the chart at: <http://research.stlouisfed.org/fred2/series/PSAVERT/112/Max>.

private savings,” and then goes on to examine the “plausibility of such a confusion,” he departs from the real world. It is true that Austrians do sometimes speak that way,²⁹ however, it is misleading. In fact, entrepreneurs do *not* think about “private savings” or “money supply growth.” Rather, the “signal extraction problem” arises because entrepreneurs when faced with lower interest rates cannot determine the cause. (And, as noted above, even if they could, some would still find it profitable to alter their behavior as per ABCT).

An important aspect of this is that interest rates are *not* determined by the interplay of saving and investment. This way of thinking arises because of macroeconomic; i.e. aggregative, analysis. Interest rates are set in credit markets and even in the absence of them, if there were no saving and investment at all, there could *still* be positive interest rates. For example, if there were no investment, but A and B engaged in a credit transaction the purpose of which was solely consumption by the borrower, there would be an interest rate set for the credit transaction. In this case there would be no investment and no saving, as the saving of the lender would be offset by the dissaving of the borrower, yet there would be an interest rate. If entrepreneurs were interested in the causes of a decline in interest rates they would not think in terms of the behavior of savers or of investors re interest rates,³⁰ rather they would think in terms of demanders and suppliers of credit, and they would not limit their thinking to the domestic private sector, but would include the governments at all levels, and foreign borrowers and lenders, both private and governmental, including supranational organizations as well.

So yes, there is a signal extraction problem in that investors (and other borrowers, for that matter) cannot discern whether lower interest rates are the result of a rise in saving, an increase in the money supply, or a combination of both. But more important, it is *irrelevant* to them, as individual decision makers, save in a world of perfect competition, efficient markets, and rational expectations. Neither is the entrepreneur, qua entrepreneur, a macroeconomist, nor is he interested in macroeconomics, save as macroeconomic phenomena affect the profitability of his current ventures and/or the expected profitability of future projects. So what macroeconomic phenomena are of im-

²⁹ For example, Rothbard (1963,18): “Businessmen, in short, are misled by bank inflation into believing that the supply of saved funds is greater than it really is.”

³⁰ This is not to suggest that entrepreneurs are not concerned with the investments of their competitors or suppliers, but that preoccupation is not with respect to the effects of such behavior on interest rates.

portance to him? Not “the” interest rate or interest rates in general, but the particular interest rate(s) he must pay if he wishes to borrow. Not “the” exchange rate or exchange rates in general, but specific exchange rates of currencies he exchanges, if any. Not “the” wage rate or wage rates in general, but the precise wage rate(s) he must pay. Not some economy-wide measure of productivity and changes thereof, but the productivity, and changes, if any, the productivity of his own operations.

We suspect that Cowen, himself, in deciding whether to finance a new, or refinance his old, residence, or for that matter, investments in other real estate, because of a lowered interest rate does not take into consideration the reason(s) for the lowered rate. Is it possible that Cowen, himself, with his understanding of macroeconomics and thus no signal extraction problem, yet alters his behavior when interest rates are reduced because of an increase in the supply of money/credit?

6 Confusion of inflation and investment

Cowen’s next attack on ABCT is that it conflates shifts in supply (savings) with demand (investment). He (1997, 85) states:

The Austrian claim assumes that entrepreneurs attribute a lower real interest rate to a shift in the supply curve for loanable funds rather than to a shift in the demand curve. The Austrian literature, however, does not address why one kind of confusion might be more likely than the other. At least three factors may lower real interest rates: higher non-inflationary savings, inflationary injections into the loanable funds market, and declines in investment demand. The Austrian claim implicitly assumes entrepreneurs confuse the first and second of these causes, and does not consider the alternative possibility of a confusion between the second and third causes.

There are several difficulties here. Consider that there are four sets of interest rates that are worthy of concern:

1. Nominal market rates of interest: actual rates of interest at which credit transactions take place. All parties to a credit transaction face the same nominal market rates of interest

2. Real market rates of interest: nominal market rates of interest adjusted for expectations of inflation/deflation. Parties to a credit transaction face the same real market rates of interest only if they have the same expectations about inflation/deflation.
3. Nominal natural rates of interest: nominal market rates of interest that would exist absent governmental intervention re the stock of money and supplies of credit.
4. Real natural rates of interest: nominal natural rates of interest adjusted for expectations of inflation/deflation.

Note: Because expectations of inflation are the same whether we are considering market or natural rates, real natural rates differ from nominal natural rates by the same amounts as real market rates differ from nominal market rates.

Artificial increases in credit result in lower real and nominal market interest rates, not natural ones, creating a divergence between them. It is this divergence between the market rates on the one hand, and the natural rates on the other, that causes the problem.

More basic and more important, there is an *identity* between real savings and real investment (Barnett and Block, unpublished).³¹ Untold confusion has arisen in economics because of the failure to distinguish between real and financial savings and/or investment. That Cowen does not appreciate this merely demonstrates that he is in thrall to an “academic scribbler”³² of the past, Keynes. For this latter worthy, the two are not at all connected. But this is not at all the case.

The problem with Cowen’s analysis of a shift to the left of the “investment-demand curve” in the loanable-funds analysis he uses, has to do with the basics of human action. It is easy to understand why either the “supply curve of saving,” and/or the supply of money/credit, in the context of “loanable-funds-market” analysis might shift outward/downward. The former would stem from an increase in the strength of preferences by consumers given the same income or a rise in income with the same strength of preferences, or a boost in both; the latter would be the result of expansionary money/credit

³¹ Untold confusion has arisen in economics because of the failure to distinguish between real and financial savings and/or investment.

³² Keynes (1936, p. 383) stated: “Practical men, who believe themselves to be quite exempt from intellectual influences, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back.”

policy. In either case, thymology can give reasons for such behavior. Consider, on the other hand, why “demand for investment” in the context of “loanable-funds-market” analysis might shift inward/downward. There are no preferences that directly affect it. Rather, such a change would always be induced. It would not be an exogenous alteration but, rather, endogenous. Therefore, the burden is on Cowen to explain the causes of the downward/inward shift – it cannot merely be posited. This smacks of Keynes’ “animal spirits.” In fact, changes in investment are induced by a prior change in some other variable; they cannot be as, some changes in consumption are, direct consequences of altered preferences, though, of course, they could be indirect consequences of changed preferences. As we teach our students, the demand for resources is a derived demand; we do not demand resources, *qua* resources, for themselves, but for how they can assist in the production, directly or indirectly, of consumers’ goods.

A shift to the supply curve of savings, though it does cause a reallocation of resources, does not cause a misallocation of resources. The same would be true if the demand curve for investment shifted to the left. Though in both cases, the use of supply and demand is incorrect. There is no supply of saving or demand for investment. There are demands for, and supplies of, various types of capital goods. These demands constitute “the” real demand for investment and these supplies constitute “the” real supply of investment. But in those markets the price is not “the” interest rate, but, rather, the price of the specific good; e.g., \$x/ton of steel or \$Z/welding machine. Though, in fact, it is the specific acts of producing new capital goods (and durable consumers’ goods) that, at one and the same time, constitute both saving and investment. The markets where these goods are exchanged are just that – markets; i.e., processes in which goods are exchanged – in these cases, new capital goods. Or, if one is considering “saving” in the context of “loanable funds market” analysis, then the supply of saving is about financial saving. In that case, the supply of saving is but a demand for non-money financial assets, whether debt (including deposit ‘receipts’ or other forms of “IOUs” such as notes or bonds) or equity certificates. These are more accurately portrayed as markets for financial assets; i.e., the demand and supply of financial assets, than as markets for loanable funds. In any case, it is in these markets for financial assets, including deposits, that interest rates emerge as the exchange ratios of such transactions. Thus, as per above, interest rates are not determined by saving and investment. This is not to say that that plans to produce consumers’ goods

(both durable and non-durable, including services and labor, and capital goods) as well as plans to consume and supply or withhold resources, including natural resources, do not affect interest rates; they do. It is just that these rates are initially set in markets for financial assets. Moreover, other factors enter into the equation as well.

7 Real vs. nominal rates of interest

Cowen (1997) makes two claims in this section, one of which is correctly attributed to the praxeological school, and the second not. He finds no fault with the first, but does with regard to the second. Cowen is here guilty of setting up a straw man, and then (partially, as we will see below) knocking it down. According to Cowen (1997, 88, material in brackets inserted by present authors): “First, the lower real rate [of interest] increases the relative present value of long-term projects. Second, the lower real rate provides a signal about the composition of future demands. In other words, entrepreneurs expect demand to be high for the outputs of long-term projects, and expect demand to be relatively low for the outputs of shorter-term projects.”

It cannot be denied both that Austrians make the first of these two claims, and that it is correct. Indeed, this is an essential aspect of ABCT. Increased investment flows to interest sensitive products³³ in response to a lower real rate of interest, precisely because the latter has a differential effect on long and short term investments, raising the value of both, but disproportionately the former. As Cowen does not call this into question, we move to his second contention.

For one thing, it is by no means clear that this is a legitimate “Austrian claim” (1997, 88). A cite to the praxeological literature on his part would have been very helpful at this point. For another, the phrase “outputs of long-term projects” is ambiguous. Is the “long term project” a consumer durable, such as a house, piano or car, or is it an investment good, such as a cement factory or steel mill? There are several reasons for making this inquiry. First, in some cases it takes a long time to produce a consumer good that is consumed very quickly. For example, some 5 years of growth and development of a coffee tree must initially take place before the product is ready for market (<http://kaffee.netfirms.com/Coffee/CoffeeProduction.html>), after which the time taken

³³ These are traditionally called the higher orders of the structure of production.

to consume it is brief. In other cases, the production time can be trivial, e.g., picking up a gold nugget right off the ground, but that self same consumer good might serve for decades or even centuries. Second, our author (1997, 88) also makes use of the phrase “long term outputs”: “Lower real interest rates will not induce entrepreneurs to conclude that demand for long-term outputs has risen...” What, then, is the relationship between “outputs of long term projects” on the one hand and “long term outputs” on the other? Synonyms, possibly? We are vouchsafed no clarification. Nor does his (1997, 88) discussion of consumer durables shed any light on this mystery: “Real interest rates do have significant predictive power for the demand for debt-financed consumer durables, such as homes and automobiles.” Rather, this opens up even more mischaracterizations of the praxeological position. For if there is one thing that Austrians *eschew* it is all things related to prediction, “predictive power” certainly included. Says Mises (1998, 117-118) on this issue:

Praxeological knowledge makes it possible to predict with apodictic certainty the outcome of various modes of action. But, of course, such prediction can never imply anything regarding quantitative matters. Quantitative problems are in the field of human action open to no other elucidation than that by understanding.

We can predict, as will be shown later, that – other things being equal – a fall in the demand for *a* will result in a drop in the price of *a*. But we cannot predict the extent of this drop. This question can be answered only by understanding.

The fundamental deficiency implied in every quantitative approach to economic problems consists in the neglect of the fact that there are no constant relations between what are called economic dimensions. There is neither constancy nor continuity in the valuations and in the formation of exchange ratios between various commodities. Every new datum brings about a reshuffling of the whole price structure. Understanding, by trying to grasp what is going on in the minds of the men concerned, can approach the problem of forecasting future conditions. We may call its methods unsatisfactory and the positivists may arrogantly scorn it. But such arbitrary judgments must not and cannot obscure the fact that understanding is the only appropriate method of dealing with the uncertainty of future conditions.

Here are two statements of Cowen (1997, 88):

The Austrian claim requires that entrepreneurs use interest rates to forecast the content of consumer demand. Following a decline in real interest rates, long-term

investment rises for two distinct reasons, according to the Austrian claim. First, the lower real rate [of interest] increases the relative present value of long-term projects. Second, the lower real rate provides a signal about the composition of future demands. In other words, entrepreneurs expect demand to be high for the outputs of long-term projects, and expect demand to be relatively low for the outputs of shorter-term projects.

And:

Lower real interest rates will not induce entrepreneurs to conclude that demand for long-term outputs has risen. . .

Here is our reaction. First, Austrians do not claim that entrepreneurs use interest rates to forecast consumer demand. As is explained below, a decline in interest rates causes changes in consumers' demands in the present to which entrepreneurs respond by increasing the quantities supplied of those goods experiencing the increased current demand. Second, as to using interest rates to forecast consumers' future demands, the analysis of this point requires development of some other matters.

Cowen uses the terms, "long-term projects," "the outputs of long-term projects," "long-term outputs," and "the outputs of shorter-term projects." These phrases are problematical, to say the least. He does not define them, yet their meanings are, at best, ambiguous. What is a "long-term project?" A "shorter-term project?" Because he refers to "the outputs of long-term projects" and "the outputs of shorter-term projects," and outputs result from production processes, it would seem that "long term projects" and "short term projects" are production process that take, from beginning to end, a long time or short time, respectively. And, from the context, "long-term outputs" seems to be synonymous with "the outputs of long-term projects." The only other meaning that may reasonably be assigned to the former term is "durable goods," and that certainly cannot also be the meaning of "the outputs of long-term projects," as many outputs of long-term projects are not very durable at all; e.g., gasoline. Moreover, the term "durable goods" is a commonplace in economics that he could have been expected to use had that been his intended meaning. So we assume that the two terms are synonyms, and ask what they mean. As "the outputs of long-term projects" is a less confusing term, we shall examine

it. We ask, then, what do the outputs of different, long-term projects, on the one hand, and of different, shorter-term projects on the other, necessarily have in common? More specifically, what common characteristics do the former have, and what common characteristics do the latter have, that causes the demands for the former to be more responsive to changes in real interest rates than the demands for the latter? In fact, other than the length of the production processes themselves, there does not seem to be any common characteristics among members of either group. And, although the supplies of the goods in the different groups may respond differently to changes in real interest rate, there is no reason for their demands to do so.

Therefore, a far better term to use than “long-term projects” is “interest-rate-sensitive goods.” And second, as we shall see below, it is the demand for interest-rate-sensitive goods, not the outputs of shorter-term projects, that entrepreneurs expect to increase relatively (not necessarily be high) and the demand for interest-rate-insensitive goods, not the outputs of shorter-term projects) that they expect to decrease (not necessarily be low).

Therefore, in order to analyze these statements we must first come to grips with exactly which types of goods are the ones for which the demand is stimulated by declines in real interest rates. There are three types of such goods, all of which may be referred to as interest-rate-sensitive goods.³⁴ These are goods the quantity demanded of which is relatively responsive to changes in the relevant interest rates. There are two ways that interest rates affect the demand for such goods, one direct and the other indirect. In the former, the demand for these goods increases when interest rates decrease, because their future values are discounted less and thus their present values increase. In the latter, the demand for these goods rises because the price of a complementary good, credit, falls.

There are, then, three characteristics of a good, any one of which may be sufficient to make it interest-rate sensitive. The first two are both time aspects, which are a matter of degree. These two affect demand directly. The third is “credit complementarity,” which is also a matter of degree; i.e., the extent to which credit is necessary (or at least the optimal) method of financing purchases of a specific good. Every good may be considered to have two time aspects, which we, designate PT (for period of time) and DR (for durability). Consider, first, capital goods. The value of an individual capital good is tied up in the

³⁴ The more interest-rate-elastic is the demand for a good, the greater is its interest-rate sensitivity.

production process until it is realized in the form of sale to the consumer of the consumer good(s) it was used, directly or indirectly, to produce. This value depends upon the period of time from the application of the capital good in the production, directly or indirectly, of a specific individual consumer good, until that specific individual consumer good is sold to the consumer. This is the PT aspect. The value of the same capital good also depends upon the time period during which it contributes, directly or indirectly, to the production of different individual consumers' goods. This is the DR aspect.

Consider, for example, a stick of dynamite used on 1/1/2005 to blast free a piece of marble which is used solely for the production of one sculpture. This sculpture requires five years of work by the sculptor, and ends up being sold to a collector on 1/1/2010. Note that all of the "work" done by the capital good (the dynamite) was done instantaneously on 1/1/2005, but the value of that work was not realized until 1/1/2010; therefore that value was tied up in the production process for five years; i.e., PT is 5 years. And, as the dynamite contributed to the production of only one consumers' good, its durability aspect may be said to be zero years; i.e. DR is 0 years.

Next, consider a cash register used at the point of sale at a retail store. In this case, the capital good does its "work" with respect to any specific individual consumer good virtually instantaneously, as did the dynamite, but now, unlike in the case of the dynamite, this "work" is tied up in the production of a specific individual consumer good only momentarily; i.e., for the brief time necessary to consummate the transaction. Thus its period of time aspect is virtually zero; i.e., PT is 0 years. However, and unlike the case of the dynamite, which could be used but once, and contributed to the production of but one consumers' good, the cash register can be used over and over again in the production process; i.e., in the production³⁵ of many individual consumer goods. If the cash register is expected to be used for, say, 10 years, then its durability aspect is 10 years; i.e., DR is 10 years.

This example has contrasted the extremes; that is, two capital goods, for each of which one of the time aspects is zero or nearly so). Of course, for a vast number of capital goods, neither time aspect is zero.

³⁵ In our view, selling the good (or for that matter marketing it) is as much "production" of it as what is usually considered manufacturing. That is, the cash register is as much a part of producing as a sweater as is the cotton that goes into it, or the sewing machine that assembles it. See on this Kirzner (1973).

The greater is PT, the earlier is entry of the capital good into the production process. Because there is not necessarily a one-to-one correlation between steps – or, stages – in a production process and PT, it is incorrect to say that as between two capital goods, one with a larger, and one with a smaller, PT, the former is of higher order than the latter.³⁶ However, as between two such goods, one with a larger, and one with a smaller, DR, it is *correct* to say that the former is more durable than the latter.³⁷ We may also consider that a capital good has a composite time aspect, T, such that T depends on both DR and PT in such fashion that, *ceteris paribus*, the greater is either (or both), the greater is T; i.e., the earlier a capital good enters into the production process and/or the more durable it is, the larger is T.

The time aspect is important for consumer goods also. However, in their case there is only one time aspect, the durable (DR). That is, as consumer goods are intended to satisfy wants directly, the only time element of concern is their durability. Thus for consumer goods, the composite time aspect, T, depends solely on DR, and is such that the greater is DR the greater is T.

In addition to the time aspects, there is another factor that makes a good sensitive to interest rates. These are goods, whether capital or consumers', the purchases of which are financed by credit. Although these are usually goods that are relatively expensive, they need not be. Moreover, although most purchases of goods with large Ts are financed by means of credit, the purchases of some purchases of goods with small Ts are also financed by means of credit; e.g., some people use credit to finance vacations.

And, before we consider Cowen's second claim another thing that must be examined is the process of by which the supply of money/credit is expanded. The expansion pro-

³⁶ A possible objection: This does not sound right. Surely, the bigger the PT, the earlier the stage of production? The logic here is that the orders of goods (or stages of production) are really ordinal; i.e., first stage/order, second stage/order, etc, whereas the time period is cardinal.

³⁷ Another possible objection: This sounds correct, alright, but too correct: that is, merely tautological. Our reply: in the standard ABCT literature there is no discussion of the durability issue, only of the time period/stages (orders) issue. According to Barnett and Block (Forthcoming, B) the stages/orders approach is invalid because what is of interest is interest rate sensitivity, which is related to time (cardinal) but not stages/orders (ordinal). And there is no necessary consistency between stages/orders and time; i.e., one process might involve many temporally short stages/orders and another a few lengthy stages/orders. Interest rate sensitivity is also affected by durability (cardinal). However, in this case there is no parallel ordinal setup; i.e., nothing similar to stages/orders.

cess begins when the Fed buys something, say 90-day T-bills,³⁸ in the “open market,” bidding up the price and lowering the yield as it does so. This sets in motion what may be viewed as two different paths of activity.

The first is the direct, portfolio-adjustment process. The sellers of the T-bills receive deposits; i.e., money, at commercial banks.³⁹ These sellers then find themselves with “too much money;” a larger share of their assets held in the form of deposit/money than they think best. As they look for more desirable, substitute, assets for this money they are most likely to look to other (than 90-day T-bills) short-term, low-risk, securities, to replace the ones they sold to the FED. Some may prefer to extend the maturity rather than take on higher (default) risk. They might purchase, e.g., 180-day T-bills. Others, with different preferences might buy high-grade, 90-day commercial paper, instead. Yet others may prefer neither to accept greater default risk, nor to extend the maturity of their portfolios. In such cases, they may prefer to take on some exchange risk, buying say 90-day £-denominated securities issued by the U.K. In any case, as the portfolio-adjustment process proceeds, it affects securities that are more and more risky, and that have longer and longer terms to maturity.⁴⁰ As these securities are purchased, their prices are bid up and their yields fall. As to foreign securities, in order to purchase them, the appropriate foreign currency must first be purchased.^{41,42} And, some of the excess

³⁸ It is true that the Fed is not constrained to operate in the short end of term structure, but that is its standard operating procedure. And, this assumption is conservative re the ABCT, in that operations in the longer end of the term structure have a more direct and greater effect on long-term yields.

³⁹ Thus, the FED has “monetized” part of the U.S. Government’s debt.

⁴⁰ The term to maturity of a financial security or, more broadly, the economic life of any good, resource, or asset, is subjective as it depends on the estimation of the individual concerned – the owner and prospective owners. However, some financial assets also have an objective-in-some-sense term-to-maturity; e.g., a security that purports to mature in 90 days. Equities, for accounting purposes, are treated as perpetuities, and therefore as long-term securities; however, as with any other thing of economic value, from the economic point of view, equities may be considered by relevant parties to be short term. This is not unrelated to Keynes’ (1936) point that that from an aggregative point of view an economy’s liquidity is fixed in the short run and changes only slowly over time, but that individuals are concerned with the liquidity of their own portfolios, not that of the “social portfolio.” Thus attempts by individuals to increase their own liquidity by selling securities and holding “money” do not alter the social liquidity, but only drive down the prices, an increase the yields, of such assets.

⁴¹ We ignore, here, American depository receipts, though a consideration of them would not alter our analysis.

⁴² Re the international aspects, three possibilities arise. First, the U.S. government might try to hold the exchange rate fixed. In that case, it would merely be offsetting part of its expansion of the supply of money/credit. Moreover, it would, in that case be maintaining the dollar in an overvalued condition re the relevant foreign currencies, which would lead to continuing balance of payments deficits, continuing

money will, later, if not sooner, spill over into markets for real assets, especially real estate, bidding up the prices and lowering the yields on these assets and goods, as well. Therefore, we see that the inflationary effects of expansive money/credit policies affect long-term financial and real assets, as well as short-term financial assets and goods.⁴³

surpluses of U.S. dollar (USD) in the foreign exchange markets, and a continuing need to purchase USD in those markets, if the exchange rate is to remain fixed. Second, one or more foreign governments may wish to maintain the USD in an overvalued condition. The usual reason for this is that governments follow mercantilist policies that go by the name of “export led development,” as they try to grow their domestic economies through production of goods for sale, with those sales stimulated by “under pricing” their goods on world markets by means of their undervalued currencies. In such cases, the foreign governments must buy up the surplus dollars in the foreign exchange markets. Essentially, there are four ways they can do this: 1) inflate their own money supplies and use the new money to buy the USD; 2) borrow some of their own domestic money and use it to buy the USD; 3) raise tax collections, either by increases in the tax base, or by increasing tax rates (It is most likely that such interventionist regimes are in the inelastic range of the tax revenue curve; i.e., that range where an increase in the tax-rate “price” would lead to a less than proportional decline the tax-base “quantity” and, thus tax revenues would increase as the rate was raised.). Nevertheless, for a variety of reasons, they are most unlikely to lower rates in an attempt to raise revenues, and thus this method of raising funds for the purpose of intervening in the foreign exchange market is most unlikely to succeed; and, 4) engage in exchange controls. Each of these methods is undesirable in terms of their longer-term, if not also, the short-term, effects on their domestic economies.

⁴³ Let us discuss the concept of inflation. Most think of price inflation only in terms of the prices and, where appropriate, the rental rates, whether actual or imputed, of consumers’ goods and services, and, perhaps some also include the prices of goods-in-process and newly produced capital goods. However, such concepts exclude a vast number of prices involving immense quantities of other goods that are relevant for understanding economics, especially business cycles. These other prices include exchange rates, the prices of foreign currencies. When the government in conjunction with the banking system expands the supply of money/credit, it creates a situation in which there is “too much money.” As is well understood, when individuals have too much of something they try to get rid of the excess, normally by exchanging it for something of which they have a dearth. In the case of excess money, this means spending it. But as the quantity of anything increases, its per-unit value decreases relatively to what it otherwise would have been. And, as we know from basic economic theory, the money will be spent on different goods until its value at the margin tends to be the same relative to every good. Now this will not happen immediately; once the structure of prices has been disturbed by the injection of new money, it will take some time to reestablish a structure appropriate to the new quantity of money. Nevertheless this will tend to happen. In fact, usually when the injections of new money begin the first markets affected are those for financial assets, including foreign moneys. While the prices of these assets are bid up in the initial stages of a monetary inflation, it usually takes some time before the prices of real assets and goods begin to rise in any significant way. This early period is not seen by most as inflationary. In fact, most take the increased prices of financial assets as a positive sign about the condition and direction of the economy, not realizing that these are inflationary price increases. They are price-inflationary in that they are higher prices for the same financial assets; these price increases would not be price-inflationary only if the value of these financial assets had risen for some “legitimate” way; e.g., the risk involved re future cash flows decreased or future cash flows, adjusted for expected inflation, were expected to increase. As “printing” money cannot increase the wealth of a society; else if it could we could end poverty and enrich everyone very quickly and virtually costlessly, there is no reason for the value of the claims to that wealth; i.e., the financial assets, to increase in value. Therefore, the increases in their prices, taken as a whole, are unwarranted; i.e.,

It should also be noted that the quantities supplied of longer-term financial assets in response to increases in the demand tend to respond more slowly than do the quantities supplied of shorter-term financial assets, goods, resources, and real assets, in response to increases the demand for them.

The second occurs as banks invest the excess reserves created in the initial monetization of U.S. governmental debt. If the banks invest by purchasing U.S. governmental securities or preexisting private sector securities, they pay for such purchases by increasing the deposits/money of the sellers; i.e., they do so as did the Fed monetize part of the U.S. Government's debt, or in the case of private securities, the banks monetized private sector debt. This would then become part of; i.e., expand, the portfolio-adjustment process discussed supra. If instead, they buy new governmental or private sector securities, that are being sold in order to refinance existing and preexisting debt, whether maturing or not, then the effects will be felt in the portfolio-adjustment process discussed above. However, to the extent that the preexisting securities are not owned by the banks and are quite similar in characteristics to the new securities, as is likely to be the case, the effects on the portfolio-adjustment process are likely to be trivial. If, however, the banks own the preexisting securities, this will have virtually no effect on the expansion process, as it amounts merely to substituting the new securities for the preexisting ones in the banks' portfolios, without affecting the quantities their excess reserves. The banks' investments have a more direct effect on the economy when they take the form of the purchase of newly-created governmental or private-sector securities that are not used to finance the purchase of preexisting securities. In the case in which it is governmental securities that are purchased, the newly created money will be used to finance the government's current deficit. In that eventuality, there is no way to know which goods would not have been purchased by the government had it avoided deficit financing by reducing its purchases of

price-inflationary. Similarly, when the prices of foreign monies are bid up, that also is price inflationary as we must pay more for the same assets. The only way that would not be price inflationary would be if the assets, the foreign monies, became more valuable; i.e., if the prices of foreign goods and assets denominated in terms of foreign monies fell so that even though we would have to pay a higher price per unit of the foreign money each unit of that money would be able to buy more goods and assets, such that the net effect would be a wash. Only at some remove in time does the excess money begin to have a significant effect in terms of the prices of (domestic) real assets and goods. A useful metaphor is that money is like water in that so as water seeks its own level, in all channels through which it flows, so the value of money of money seeks its own level in (spending) channels through which it flows.

The upshot is that when we understand price inflations to be a phenomena that affect the prices of *everything*, we realize that they commence at the same time that their causes, monetary inflations.

goods, or what goods would not have been purchased by the private sector had it avoided deficit financing by reducing transfer payments or increasing tax revenues.

It is a different matter when it comes to banks investing their excess reserves by creating new money and using it to purchase newly-created, private-sector securities. In that case as the process of money/credit creation continues until there are no, or virtually no, excess reserves, we may make reasonable forecasts of how the new money will affect, directly or indirectly, the structure of purchases in the economy, and thus the course of changes in production.

With this introduction, let us now consider Cowen's claims. Regarding the first, he is correct when he says, "... the lower real rate (of interest) increases the relative present value of long-term projects," provided by long term projects he means not just those with relatively large PTs, but, rather, all projects with relatively large Ts, including consumers' goods whose large Ts are the consequence of their DRs. We must point out that although these provisos clarify his statement, it is still incomplete as it fails to account for those goods that are interest-rate-sensitive because credit is a complement in their purchase.

The problems with his second claim, "... the lower real rate provides a signal about the composition of future demands. In other words, entrepreneurs expect demand to be high for the outputs of long-term projects, and expect demand to be relatively low for the outputs of shorter-term projects" are much more serious."

Austrians do not claim that lower real interest rates provide signals about the composition of [consumers'] *future* demands. Rather, lower real interest rates cause changes in consumers' *current* demands. Specifically, demands for consumers' goods with high values of T increase, both absolutely and relative to those with low T values. In particular, the demands for built-to-order, new, single-family residences rise. And, as is well understood, that boosts the demands for such "big-ticket" items as major house-hold appliances and furniture. Moreover, the demands for these latter types of goods increase independently of the rise in demands for new, single-family residences, as the lower real interest rates induce some people replace older furniture and appliances. Then there is the issue of personal transportation. The lower real interest rates also induce some people to purchase new vehicles. These types of goods all have high T values. Furthermore, to the extent that the expansion of money/credit lowers the real interest rates on revolving

credit, debt service charges decrease. This induces some consumers to borrow additional money, as they can now afford more loans in terms of their debt service loads. In addition to the aforementioned types of consumers' goods, this increased purchasing capacity may be used to buy various other goods. Many, perhaps even most, of these items have low T values, but that is irrelevant in that entrepreneurs respond to the actual increases in demands, both for those goods with low, and those goods with high, T values. Businessmen do not have to use changes in real interest rates to forecast alterations in the composition of demands for consumers' goods. What they must do is respond to the changes in demand consequent on the lowered real interest rates.⁴⁴

Now consider demands for some new capital goods with high values of T , say office buildings. An entrepreneur does not have to know that lower interest rates suggest increased future demands for the relevant consumers' goods; i.e., the consumers' goods to the production of which the workers in the office building will contribute. In fact, different firms with offices in the same building may be involved in different industries spanning the entire time structure of production for early to late entry in the production processes of the economy. Even individual firms may be engaged in activities that range from early entry to late. Yet none of that need concern the entrepreneur. He merely needs to recalculate the present value of his ownership interest, assuming the same expected net cash flows, but using whatever lower discount rate he thinks appropriate given the decline in real interest rates. Of course, he may wish to increase his projected net cash flows as the economy would be expanding. Only if he thought the lower real interest rates would, for some reason, cause a decrease in his net cash flows would he expect the present value of his office building to decrease, and then only if the expected decrease in net cash flows were expected were of sufficient magnitude to offset the decrease in his discount rate. But what is true of office buildings is also the case with other capital goods such as industrial and commercial real estate, including investor owned residential properties,⁴⁵

⁴⁴ And, with respect to the crises and busts, the role played the expansion of the quantity supplied of these high- T -value, consumers' goods, is that when real interest rates rise, demands for these types of goods decline, both absolutely and relative to consumers' goods with low T values. Moreover, increased debt-service expenses cause a decline in the demands for consumers' goods in general.

⁴⁵ Although apartment buildings are viewed as capital goods by their landlords, yet the apartments themselves are viewed as consumers' goods by their renters, and, given that the renters enjoy some of the rights of owners – the rights to use and exclude others from using – it is more correct to refer to both the renters and landlords as owners of different sticks in the bundle of rights.

especially multi-family apartment and condominium buildings and developments, and “plant,” in general, as well as much equipment. That is, without any change in expected net cash flows, the present value of plants, in general, and much equipment, increases. Of course, the present values increase even more if the lowered real interest rates lead to forecasts of rising net cash flows. These enhancements in present values stimulate demands for more plant and equipment, as projects that formerly were seen as marginal, now appear profitable.

What of entrepreneurs not given to present values analysis? Many, particularly smaller, entrepreneurs may merely view interest as an “expense of doing business.” For them, the lower real interest rates are seen to reduce their interest expenses of financing production; e.g., payrolls and inventories, thereby increasing profit margins, and inducing them to *expand* operations. Some of them will be induced to expand operations by purchasing new plant and equipment; i.e., goods with high values of T , now viewed as cheaper because the interest expense involved in financing such purchases would be lower. This effect is probably quite large when it comes to contractors building residential properties on speculation.

We see then, that ABCT neither claims, nor relies upon, interest rate signals re future demands. Rather this theory depends upon claims that changes in interest rates affect current demands, and that there is a pattern to these effects. That is, the demands for goods, whether consumers’ or capital, with relatively high values of T increase, both absolutely and relative to goods with lower values of T .

Speaking of misunderstandings of Austrianism, this is only the tip of the iceberg for our author. Consider in this regard the following (Cowen, 1997, 88-90, emphasis added by present authors): “The Austrian claim postulates not only that the interest-elasticity of investment decisions is *high*...” “The Austrian claim ... specifies ... that consumption demand ... will be *strong* in the relatively distant future.” “The Austrian claim ... requires that *significant* changes in the intertemporal distribution of consumption be correlated with observable changes in the real interest rate. For a change in the real interest rate to *significantly* alter expected project profitability through demand side effects, interest rate changes must imply relatively *large* shifts in expected demand across time. If the real interest rate is low today, consumption in some future period must then be *especially high*. This *prediction* ...” “Success of the Austrian claim ... requires that signals about

aggregate expenditure flows play a large role in determining the success of investment forecasts. . .”

In all of these cases Cowen interprets Austrians making definitive statements about the *strength* of various effects; e.g., “high,” “strong,” “significant” and “large role.” But for this school of thought there are no constants in human action. Economic actors have free will, and are thus able to choose *differently* each time, even when confronted with similar, or, if possible, *identical* data. Austrians *reject* transitivity, as some sort of handcuff for human action. A man may prefer $A > B$ and $B > C$, but when faced with options A and C, pick the latter. Irrational? Not at all. For the first choice, between A and B took place at time T1, between B and C at time T2, and A versus C at time T3. Only the decision maker may say that he prefers A to B, and thus the opportunity cost of A is the subjective value of B to the decision maker. The rest of the world only knows that the decision maker prefers A to every other alternative *he* perceived, some of which might not have been perceived by anyone else, and other “alternatives” perceived by others may not have been perceived by the decision maker. People can, and do, change their minds; they can make different decisions at different points of time, even, sometimes, when the time span between them is very short.⁴⁶ And, a similar analysis applies to *prediction*. Free will, also, renders impossible prediction of the future. It cannot be denied, of course, that entrepreneurs engage in such acts every day; indeed, they sink or swim on the basis of how well they acquit themselves of such tasks. Those who do so as economists, cannot be Austrians. Cowen would do well to consider Mises (1957), where he explains the difference between theory and history and the use made by Austrian economists of supplementary assumptions. We can legitimately use *pattern prediction*; i.e., qualitative, not quantitative, predictions based on theory and the *ceteris paribus* assumption.

As Austrian economists we can for example predict, with the assumption (explicit or implicit of *ceteris paribus*), that if gasoline prices go to \$5.00/gallon, the volume sold in the U.S will decline, though by how much we can have no idea, although we could use history, *verstehen*, experience, to help us get some idea of a ball park range.

⁴⁶ For example, Joe gets up at 6:00 a.m. and prefers exercising to showering; at 6:15 a.m., he prefers showering to eating breakfast; and at 6:30 a.m. he prefers eating breakfast to exercising. Lo and behold, transitive preferences in the space of 1/2 hour. So much for indifference curves, etc.

As Mises (1998, 117-118) stated:

Praxeological knowledge makes it possible to predict with apodictic certainty the outcome of various modes of action. But, of course, such prediction can never imply anything regarding quantitative matters. Quantitative problems are in the field of human action open to no other elucidation than that by understanding.

We can predict, as will be shown later, that – other things being equal – a fall in the demand for *a* will result in a drop in the price of *a*. But we cannot predict the extent of this drop. This question can be answered only by understanding.

The fundamental deficiency implied in every quantitative approach to economic problems consists in the neglect of the fact that there are no constant relations between what are called economic dimensions. There is neither constancy nor continuity in the valuations and in the formation of exchange ratios between various commodities. Every new datum brings about a reshuffling of the whole price structure. Understanding, by trying to grasp what is going on in the minds of the men concerned, can approach the problem of forecasting future conditions. We may call its methods unsatisfactory and the positivists may arrogantly scorn it. But such arbitrary judgments must not and cannot obscure the fact that understanding is the only appropriate method of dealing with the uncertainty of future conditions.

Cowen (1997, 89) makes the claim that “Real interest rates do not signal which particular goods will be in high demand at a given point in time.” But no Austrian worthy of his salt ever claimed that interest rate changes could distinguish between demand for peas and carrots, or canoes and row-boats. However, when it comes to consumer durables such as houses, cars, violins, versus immediately used consumer goods such as coffee, orange juice, tissue paper, the interest rate most certainly does have differential implications. A higher rate favors the latter, and a lower, the former.

Cowen (1997, 89) characterizes it as “ironic” that the Austrians, who eschew aggregation, and criticize it when it appears in other macroeconomic theories, are themselves guilty of this sin in ABCT. This is because “. . . within the Austrian theory itself, the real interest rate, at most, signals the distribution of aggregate demand over time; the real interest rate does not signal how that demand will be distributed across particular products once that time period arrives.” But there is aggregation, and then there is aggregation. The mainstream economics profession sees capital as a homogeneous blob. Neoclassical economists even have a name (or at any rate a letter) for it, all of it: “K.” For Austrians,

in very sharp contrast, capital goods are heterogeneous, consisting of fixed “plant and equipment” of various degrees of specificity and also of goods-in-process of varying specific kinds. For Cowen, unless an interest rate change has different implications for, say, steel than it has for coal, or tea vis-à-vis potatoes, the school of thought engaging in the analysis is guilty of excessive aggregation. This only illustrates once again that Austrianism constitutes a “golden mean” between extremist theories that lie on both sides of it (Garrison, 1982.)

Cowen (1997, 90-91, fn. included) states:

To the extent investors have naïve expectations, they do not fully anticipate the forthcoming effects of money supply growth. Incipient price inflation will not raise nominal interest rates through a Fisher effect. Future price increases will arrive unexpectedly, and *ex post* real rates of interest will be lower than currently observed nominal rates would indicate. In other words, entrepreneurs will have overestimated forthcoming real rates of interest on borrowing. *Ex post* real borrowing rates will be especially low, perhaps even negative.

Investments financed with medium- to long-term debt will reap an unexpected windfall from the arrival of unexpected inflation. Entrepreneurs, by initially overestimating the real rates of interest that will prevail, will have been reluctant to borrow money. To that extent, entrepreneurs will choose too little short-term investment. Real vs. nominal confusions thus counteract the traditional Austrian claim, which suggests that entrepreneurs choose too much long-term investment.⁴⁷

It is hard to overestimate the confusion that caused by his use of “naïve expectations,” which Cowen (1997, 77) defines as: “entrepreneurs underestimate the probability that monetary inflation is responsible for observed changes in the economic data” that he assumes ABCT is based on. What is truly naïve is his assumption of rational expectations, which he (1997, 8) defines as: “Individual economic forecasts are efficient and unbiased; subjective probability distributions for an economic variable correspond to the true distribution. As a result, individual forecasting errors are serially uncorrelated over time.” And, implicit is his assumption that, insofar as expectations are concerned, only rational expectations are not naïve.

⁴⁷ Austrian economists have recognized the possibility of a Fisher effect from almost the beginning of their work in monetary (Mises, 1978, pp. 93-4), but have not considered whether imperfect Fisher effects might counteract traditional Austrian business cycle theory.

It is not, then, that “investors do not fully anticipate the forthcoming effects of money supply growth,” in the sense Cowen means; i.e., underestimating the effects re inflation. Instead, it is that they misestimate the effects first by underestimating them, and then by overestimating them, and not because they exhibit naiveté in the process of forming their expectations. Rather, these are the results of the human condition; i.e., of people operating in the flawed, real world, that necessitates having to make decisions when not even one market is perfectly competitive, much less all markets, and when not even one financial market is efficient, much less all such markets; and, of expectations formed by flawed human beings based in part upon their (bounded) rationality and in part upon their emotions. Alternatively put, Cowen’s “naïve expectations,” which he attributes to ABCT, has nothing to do with ABCT properly understood.

Cowen’s (1997, 90-91) claim that, “Incipient price inflation will not raise interest rates through a Fisher effect” is misleading. When the expansion of the supply of money/credit commences, investors, for the most part, do underestimate the price-inflationary effects re goods (especially as the initial form of price inflation – increases in the prices of financial assets – is taken as a positive sign) that will come at some point in the not too near future (as per Milton Friedman’s long and variable lags). It is *this* that causes expected real interest rates to decline with attendant affects on both the level and structure of demand.

However, after some time, the price-inflation, insofar as goods and resources are concerned, commences.⁴⁸ Unless the expansion of the supply of money/credit was huge, when these price effects start they will be relatively minor,⁴⁹ and entrepreneurs are likely to continue to underestimate them, thereby maintaining real interest rates at reduced levels. It is only as the monetary/credit expansion continues that these price effects become significant. At that point, the Fisher effect comes into play as lenders demand higher inflation premiums. And, having been burned once by earning real interest rates below what they had expected, thereby reducing their capital below what they had anticipated it to be, they tend to become more cautious and conservative, concerned more with preserving their capital, than earning high returns; i.e., they become more risk averse. This causes them to refuse to lend to less creditworthy would-be borrowers, and to tend

⁴⁸ The price inflation begins re financial assets at the same time as the monetary inflation commences.

⁴⁹ As praxeologists, of course, we could not make any such statement, for this science deals not in amounts, only directions. However, the present paper includes elements of theory and applications; i.e., it is not *pure* praxeology. We make this claim, then, not as an apodictic one, but rather as an empirical statement.

to overestimate future, price inflation, thereby demanding inflation premiums that not only cause expected real interest rates to increase more than would otherwise be the case, but to rise to levels in excess of those prevailing before the monetary/credit expansion.

So, yes, Cowen's analysis is correct when he claims that "Incipient price inflation will not raise nominal interest rates through a Fisher effect. Future price increases will arrive unexpectedly, and *ex post* real rates of interest will be lower than currently observed nominal rates would indicate. In other words, entrepreneurs will have overestimated forthcoming real rates of interest on borrowing. *Ex post* real borrowing rates will be especially low, perhaps even negative," but this is only true for the period from the commencement of the monetary inflation until the increases in the prices of real goods and assets becomes significant. It is not correct from that point on, although Cowen implies that it holds throughout, if not the entire cycle, at least throughout the boom phase.

Again, his statement that, "Entrepreneurs, by initially overestimating the real rates of interest that will prevail, will have been reluctant to borrow money. To that extent, entrepreneurs will choose too little short-term investment. Real vs. nominal confusions thus counteract the traditional Austrian claim, which suggests that entrepreneurs choose too much long-term investment," is misleading, if not incorrect.

Although much more could be said about these statements, we focus on the claim that, "Entrepreneurs, by initially overestimating the real rates of interest that will prevail, will have been reluctant to borrow money. To that extent, entrepreneurs will choose too little short-term investment. Real vs. nominal confusions thus counteract the traditional Austrian claim, which suggests that entrepreneurs choose too much long-term investment."

Cowen is correct that entrepreneurs initially overestimate the "real rates of interest that will prevail." The reason this is the case is that the same, beginning-of the period, underestimations of future, price inflation that cause decreases in the expected, real, rates of interest, also cause the real rates of interest realized at the end of the period to be less than those (same underestimates of) expected, real, rates of interest.⁵⁰ However, it is not

⁵⁰ The initiation of money/credit expansions causes both a decrease in nominal market interest rates and an underestimation of future price inflation. This combination results in reductions in the expected, real market rates of interest. However, the, decreased, expected, real market rates of interest, *ex ante*, prove, *ex post* to be higher than the realized, real, rates of interest; i.e. the expected, real rates, of interest decline,

correct that, because the realized, end-of-period, real rates of interest prove to be less even than the underestimates thereof, “entrepreneurs will choose too little short-term investment,” because they “will have been reluctant to borrow money.” That is, borrower-entrepreneurs’ overestimations of the real rate of interest cause them to borrow less than they would have had their estimates been correct; i.e., had their estimates been lower than they actually were. The problem is that although Cowen considers the actions of those entrepreneurs who are borrowers, he fails to take into account the actions of those entrepreneurs who are lenders. The period under consideration is the early stages of monetary inflations. There is no reason to think that lender-entrepreneurs’ expectations of price inflation differ systematically from those borrower-entrepreneurs during those time-periods. Therefore, lender-entrepreneurs’ overestimations of the real rate of interest cause them to lend *more* than they would have had their estimates been correct; i.e., had their estimates been lower than they actually were. Thus, there is no reason to think that, had expectations as to the real rate of interest been correct all around, investment would have been any different than it would have been with the widespread incorrect expectations. Although entrepreneur-borrowers would have desired to borrow more, entrepreneur-lenders would not have been willing to accommodate them. And, in that case, entrepreneurs would not, then, “choose too little short-term investment.” Thus Cowen’s claim that, “Real vs. nominal confusions thus counteract the traditional Austrian claim, which suggests that entrepreneurs choose too much long-term investment,” is incorrect.

8 Interest rate information

In this section Cowen (1997, 91) makes two kinds of charges. First, that Austrians are wrong in that they out rationally expect “even some rational expectations theorists.” He makes this criticism because of his position that “the Austrian claim therefore requires the relative insignificance of the real vs. nominal signal extraction problems” and “when it

but, viewed ex post, they prove to have been incorrect in that they did not decline as much as they should have.

An interesting point is that, although these insufficient declines are the result of the (ex ante) underestimations of the price inflation for the period under consideration, the problem could not be solved by correct, necessarily ex ante, estimations, in the sense that, had the estimations of expected, price inflation been correct to begin with, the problem would not even have arisen.

comes to real vs. nominal variables, the Austrian claim implicitly attributes information-processing skills to agents that even some rational expectations theorists, such as Lucas, do not.” As we explained the relative unimportance of this particular “signal extraction problem” for ABCT,⁵¹ we must reject this claim of Cowen.

Second, Cowen maintains in effect that even if ABCT is true, which of course in his view it is not, there are mitigating factors that weaken its effect. To wit, there is a “counteraction” or “offsetting” phenomenon, whereby some aspects of ABCT cancel out others. States this author (1997, 90-91):

Real vs. nominal mistakes counteract the tendency for chosen investments to be excessively long term, and raise the likelihood of investments which are insufficiently long term. . . . As long as the inflation continues, the real vs. nominal confusion counteracts the permanent vs. temporary confusion. If unperceived inflation continues, so will the unexpectedly low realizations of real interest rates. . . . If entrepreneurs come to anticipate the inflation, or if the inflation stops, the real vs. nominal confusion ceases. In those cases, however, the other signal extraction problems disappear as well, limiting malinvestment. . . . one signal extraction problem offers a kind of insurance against another signal extraction problem. Entrepreneurs underestimate the rate of money growth and conclude that a lower real interest rate is permanent when in fact it is temporary. . . . An error of this nature, however, will be partially remedied by the decline in borrowing costs brought on by unexpected inflation. The two postulated errors tend to offset each other.

There are problems here. This criticism incorrectly multiplies factors. It says, in effect, that X “counteracts” or “offsets” Y when X and Y are merely but different aspects of the same thing. For example, consider “Real vs. nominal mistakes counteract the tendency for chosen investments to be excessively long term, and raise the likelihood of investments which are insufficiently long term.” Focus on a confusion between real and nominal interest rates, of the sort where the entrepreneur is either fooled into over (e.g., mal) investing in the higher orders of the structure of production and/or subsidized into doing so. This does not at all “counteract the tendency for chosen investments to be excessively long term,” it *is* the tendency for chosen investments to be excessively long term.

⁵¹ That is, some entrepreneurs would find it profitable to reallocate resources in response to a monetary shock even though from the perspective of the all-knowing economist such reallocations will prove to be misallocations from the point of view of society-as-a-whole.

How, then, can one and the same thing counteract itself? Eating sweets and fatty foods leads to weight gain. The one inevitably follows the other. They are biologically connected with one another; that is, it is a law of nutrition that this be the case. The one can hardly “counteract” or “offset” the other. Similarly, real vs. nominal interest mistakes, in ABCT, lead to excessively long term malinvestments. The one inevitably follows the other. They are economically connected; e.g., according to the tenets of ABCT. Again, one can hardly “counteract” or “offset” the other.

The problem arises in large part from Cowen’s use of the concept of “long-term investments” instead of the correct concept – interest-rate-sensitive goods. This makes it virtually impossible to analyze his claim (Cowen, 1997, 90-91, footnote omitted) that, “Real vs. nominal confusions thus counteract the traditional Austrian claim, which suggests that entrepreneurs choose too much long-term investment.” His uses of the phrase “real vs. nominal confusions” are, themselves, confusing. Certainly he does not mean that entrepreneurs do not understand the difference between real interest rates and nominal interest rates (interest rates being the relevant variables in this part of his work). In fact, the only reasonable meaning that may be assigned to our author’s phrases is that entrepreneurs’ ex ante estimates of expected, price inflation prove to be erroneous, ex post. However, such errors or mistakes do not “counteract the traditional Austrian claim.” Rather, they are an important, though not the sole, *cause*, of the Austrian claim.

This is not, as he states, that entrepreneurs choose too much long-term investment, but rather that there is malproduction, especially in the form of excess production of *interest-rate-sensitive* goods. Because as explained, supra, even if we assume arguendo, per impossible, that an expansion of money/credit would lower actual nominal interest rates in the face of correct expectations as to the course of price inflation, the lowered actual nominal interest rates would be sufficient to cause a misallocation of resources in the direction of interest-rate-sensitive goods. Therefore, that (because of misestimations of expected, price inflation) expected real interest rates also decline reinforces, not counteracts, the effect of the decline in the actual nominal interest rates.

9 Investor interpretation of interest rates

In this section, Cowen maintains that there are “offsetting” or “counteracting” effects which render ABCT impotent. Only now, the factors at issue are the long- and short-term real rates of interest, not the phenomena mentioned above. He (1997, 92) states: “Monetary inflation tends to lower short-term real rates more than it lowers long-term real rates; the resulting signals limit entrepreneurial tendencies to malinvest.”

The problem, here, is the ambiguity involved with the phrase “limit entrepreneurial tendencies to malinvest.” If what Cowen means is that demands for interest-rate-sensitive goods do not increase as much as they would if expected long-term real interest rates declined as much as do expected short-term real interest rates, then he is correct, but his phrasing is misleading. If he means that because the short-term real rates decline more than do the long-term rates, “shorter-term projects” become more attractive than “longer-term projects,” then, in general, he is incorrect. What he neglects to consider is that, *ceteris paribus*, the longer the expected stream of net cash flows, the greater will be the increase in the present value for a given decrease in the discount rate. This “economic life effect” is very powerful. Therefore, even though when a money/credit expansion begins, and both the actual nominal, and expected real, short-term interest rates decline more than do their long-term counterparts, the present values of the expected longer streams will increase more than those of the expected shorter streams,⁵² whether the real or nominal interest rates are used to do the discounting.

Our author (1997, 93) also takes another crack at ABCT in this section by reiterating his objection to it on the ground that “Banks generally will not be fooled about current monetary policy – banks themselves receive the new inflationary monetary reserves. Under the Austrian claim, *someone* – at the very least the new money recipients – must know inflation has taken place rather than an increase in private savings.” This is unexceptionable if he means that banks (and, for that matter, anyone else who is paying attention) are aware of the Fed’s stated monetary policy.⁵³

⁵² Of course, one can make up examples where Cowen would be correct. For the combinations of relatively large differences in the declines between the short- and long-term rates, and relatively small differences between what are considered to be short- and long-term projects that are required to achieve Cowen’s result are most unrealistic.

⁵³ In the current era of the Fed, the stated policy takes the form of a target for the Federal funds rate.

But, the “must” is entirely unsustainable. First, as Cowen (1997, 94) himself acknowledges, it is the rare “investor who understands the Austrian theory.” When professional economists either ignore ABCT entirely, or reject it with derision,⁵⁴ it is difficult to see how knowledge of it can percolate into the investment community.⁵⁵ Moreover, because most bankers, as most economists, are not Austrians, even were they to realize when the receipt of reserves was an injection of new money, this would not affect their operations. This is so because to the extent that their investments are short term, they are able to raise the rates they charge when price-inflation materializes; and, as to longer-term investments, banks frequently package mortgages⁵⁶ into Mortgage-Backed Securities, including Collateralized Mortgage Obligations, which they then sell, earning the originations fees and, sometimes, fees for servicing them.

Second, it is exceedingly likely that even bankers, all-knowing creatures that they are, will be “fooled” about monetary polity. Cowen’s great trust in them is hard to reconcile with their failure to know if we are in a trough or a peak in the business cycle at any given time, let alone a quarter or more into the past. How often does the National Bureau of Economic Research revise its estimates as to the pattern of business? It is an everyday occurrence (<http://www.nber.org/>). If experts at that august institution are “fooled,” then it is more than likely this applies to everyone else as well. Moreover, open market operations are conducted only between the Fed and “primary dealers,”⁵⁷ (and/or their customers).⁵⁸ Any funds transfers are made between the Fed and these dealers’ (or their customers’) clearing banks. Thus, banks in general have no knowledge of specific

⁵⁴ For example, Yeager (1986, 378) said: “I want to support modern Austrianism by helping rid it of an embarrassing excrescence.” ABCT was what he was referring to as an “embarrassing excrescence.”

⁵⁵ We speculate, however, that knowledge about, and appreciation for, ABCT is more prevalent among professional investors than in academia, since the latter do not directly and financially suffer from erroneous opinions as do the former.

⁵⁶ Actually these are notes, usually made in connection with residential properties, secured by mortgages.

⁵⁷ At present there are but 22 of them: ABN AMRO Bank, N.V., New York Branch; BNP Paribas Securities Corp.; Banc of America Securities LLC; Barclays Capital Inc.; Bear, Stearns & Co., Inc.; CIBC World Markets Corp.; Citigroup Global Markets Inc.; Countrywide Securities Corporation; Credit Suisse First Boston LLC; Daiwa Securities America Inc.; Deutsche Bank Securities Inc.; Dresdner Kleinwort Wasserstein Securities LLC.; Goldman, Sachs & Co.; Greenwich Capital Markets, Inc.; HSBC Securities (USA) Inc.; J. P. Morgan Securities Inc.; Lehman Brothers Inc.; Merrill Lynch Government Securities Inc.; Mizuho Securities USA Inc.; Morgan Stanley & Co. Incorporated; Nomura Securities International, Inc.; UBS Securities LLC. See on this http://www.ny.frb.org/markets/pridealers_current.html.

⁵⁸ Some are conducted with foreign official and international institutions.

open market operations, whether as to the value of transactions⁵⁹ or the nature thereof. This holds true for temporary ones, involving repurchase agreements or reverse “repos,” or permanent ones involving outright purchases or sales, or the specific portions of the term structure involved. Therefore, only ex post can banks be aware of the nature of the reserves they receive – preexisting reserves or reserves newly created. Ordinarily, unless a bank receives reserves directly from the Fed, either for the account of a primary dealer or a customer of a primary dealer, it has no idea whether the reserves are newly created or not.

Third, as we have argued above,⁶⁰ *even if, arguendo, no one* is “fooled,” still, the extra money flowing into the credit market will *subsidize* entrepreneurs into making unsustainable investments in the higher orders of production.

10 Validation of inflationary investments

Here, Cowen (1997, 94) argues that “Even if an initial burst of money growth increases the term-length of investment, it remains an open question whether these new investments are necessarily malinvestments.”⁶¹ But it is not really an “open question,” for he (1997, 94) also says: “Constant rates of nominal money growth, or nominal money rules, may sustain the new long-term projects to some degree.”

Our author (1997, 94) considers two cases; first, “an initial burst of unexpected inflation, followed by maintenance of that inflation rate for the foreseeable future.”

Let us quote Cowen at length on this, to ensure there are no misunderstandings that arise from such a source.⁶² He (1997, 95) says:

I see the “natural rate of interest” as an incomplete concept; the more important relation is whether investors’ expectations are consistent with forthcoming market demands and supplies. In Austrian models the interest rate *always* clears the market

⁵⁹ When it enters the open market, the trading desk of the NY Fed does not reveal the value of the intended transactions.

⁶⁰ See also Block (2001), Barnett and Block (unpublished).

⁶¹ As throughout, Cowen does not make clear exactly what type of investments these are.

⁶² Had Cowen quoted from, or more fully cited the Austrians he criticizes, his misinterpretations of them might well have been fewer.

for loanable funds. In that sense the market rate is always a “natural” rate or an “equilibrium” rate. If expectations are sufficiently sophisticated, this real interest rate will not induce disequilibrium, even if it has been lowered by monetary inflation. If entrepreneurs know that inflation caused the lower real rate, they do not necessarily respond with malinvestments. They can simply borrow the new funds and make safe, short-term investments. I am not suggesting that entrepreneurs always see through inflation, but the example shows that we cannot blame the level of the interest rate *per se*. Intertemporal discoordination arises, not when interest rates are at “incorrect” levels, but when entrepreneurs misinterpret the information contained in interest rates and other market signals. Inflation may increase the likelihood of incorrect forecasts, but business cycle theory should focus on the derived expectational errors, rather than assuming that any inflation-induced interest rate movement necessarily creates distortions of a particular kind.

There are problems here.

In his reliance on “sufficiently sophisticated expectations,” again Cowen relies upon a virtually all-knowing economic actor. In this, he takes the side of the socialists in the Austrian vs. Socialist Calculation Debate,⁶³ only he substitutes his new brand of omniscient entrepreneur for the central planner. The relevant Austrian insight in this calculation debate is that it is *only* (accurate) market signals that give us even a hope and a prayer of attaining rational economic calculation. The entrepreneur is not a magician.⁶⁴ Be his expectations ever so “sophisticated,” he simply cannot be relied upon to ferret out optimal savings, investment, time preference rates, structure of production, etc. With all the possible sources of error, the entrepreneur requires market price signals, and accurate ones at that, if his calculations are not to lead to substantial misallocations of resources and concomitant losses. Cowen writes as if a modern complex economy is somehow equivalent to that of a Robinson Crusoe – Friday scenario, or perhaps that of the Swiss Family Robinson, with fewer than a dozen economic actors all told. Then, and only then, can the economy limp along, or, perhaps, even thrive, as Cowen would have it, in the absence of market price and interest rate signals. “See through inflation,” indeed.

⁶³ For the opposite viewpoint see Boettke, 1991, 1993; Gordon, 1990; Hoppe, 1989, 1991, 1996; Keizer, 1987; Klein, 1996; Lavoie, 1981; Mises, 1975, 1981; Rothbard, 1976, 1991; Salerno, 1990, 1995

⁶⁴ Still less so, of course, is the central planner – at least the former but not the latter benefits from the weeding out process of capitalism. Entrepreneurs who misread prices, or act in defiance of them, are disproportionately likely to lose profits, and ultimately be drawn into bankruptcy. The ones who remain are less likely to exhibit this calculational error.

Cowen seems to have great faith in the power of rational expectations. It is as if by invoking the term “rational expectations,” or in this instance, “sufficiently sophisticated expectations,” monetary inflation, regardless of its effect on the real rate of interest, cannot cause a misallocation of resources. But he hoists himself on his own petard. For, if, as he assumes, “expectations are sufficiently sophisticated,” then of course, “this real interest rate will not induce disequilibrium, even if it has been lowered by monetary inflation.” But the reason is not, as he thinks, because: “If entrepreneurs know that [monetary] inflation caused the lower real rate, they do not necessarily respond with malinvestments.” No, the reason is that if they know the real interest rate was lowered by monetary inflation they know an impossibility. That is, with the ability to form such sophisticated expectations, as soon as the monetary inflation begins, they will discern the price inflation to follow,⁶⁵ and, in response, drive nominal rates up by the amount of the expected price inflation, thereby maintaining the real interest rates at their “natural” levels; i.e., at the levels that would have prevailed in the absence of the monetary inflation. Therefore, there would be no malinvestments because the monetary inflation would not have caused a decrease (or increase) in real interest rates.

Cowen (1997, 95) also maintains that: “Intertemporal discoordination arises, not when interest rates are at ‘incorrect’⁶⁶ levels, but when entrepreneurs misinterpret the information contained in interest rates and other market signals.” Of course, if an entrepreneur misinterprets correct market signals he will cause intertemporal discoordination. But entrepreneurs who do so are soon driven from the market and, therefore, such errors do not cause business cycles. Rather, it is when, and because, “interest rates are at ‘incorrect’ levels,” that sufficient entrepreneurial errors arise to cause massive intertemporal discoordination; i.e., business cycles.

Now to his second point. How does the analysis change for Cowen under the assumption of constant monetary growth? He starts off this section of his work on a high note, exhibiting, but for one single word, a correct understanding of ABCT. He says (1997, 96-97, emphasis added by present authors):

Proponents of the Austrian claim offer a primary argument why constant rates

⁶⁵ Of course, with such sophisticated expectations, the inflation would follow instantaneously.

⁶⁶ We find the quote marks around this word highly problematical. It implies that there is no such thing as a correct level, even in principle.

of money growth may not sustain new investments. Once the new inflationary funds spread through the economy, old spending/saving patterns will reassert themselves. Banks channeled the entirety of the inflationary burst into the loanable funds market, but the recipients of the invested funds *probably* will not save the entirety of their new income. These fund recipients will demand goods and services in accordance with their previously expressed market-place demands. The Austrians argue consumers will demand goods and services consistent with the pre inflation structure of production, rather than with the post-inflation structure.

The problematic one word is of course “probably.” If this were eliminated from the above quote, Cowen might have been saved his subsequent misinterpretations of ABCT. For the latter is predicated upon different round recipients of the new inflationary money revealing different time preferences, or, in Cowen’s (1997, 97) Keynesian expression of this phenomenon, “marginal propensities to consume.”⁶⁷

But ABCT makes the *ceteris paribus* assumption, and takes it seriously. *Of course* if the market participants magically change their time orientation in precisely the manner that will justify the new structure of production based upon the inflation, then there will be no ABC. But *why* should we expect the people to change their savings – consumption choices in the right direction (e.g., more of the former, less of the latter), neither over or under shooting that precise additional amount necessary if the decisions of the entrepreneurs, based upon the inflation, are to be proved correct? Cowen is speaking of a dream world, fashioned, expressly, to undermine ABCT. Well, we “concede.” If such a world were actually to exist, ABCT would not be able to explain it.

If, somehow, magically, people can be induced to change their time preferences, after the fact so to speak, so as to ensure that what previously appeared to be a malinvestment was no longer that, then ABCT would not be wrong, but the ABC would be nullified. And thus ABCT would not *apply* to such a situation. In other words, assume the following. We are now at equilibrium with an interest rate of 5%. The government pumps money into the credit market, lowering the interest rate to 2%. Entrepreneurs lengthen the structure of production by reallocating resources to higher (earlier) orders of goods. It looks as if the ABC is in the process of getting started, because it appears as if this reallocation of resources will prove to be a malinvestment. That is, we expect it soon to

⁶⁷ For a critique of this concept, see Hazlitt (1959, 49, 98-134, 429)

be discovered that the people are back at the same old lemonade stand, saving and investing and consuming as if their time preferences, which give rise to the old interest rate of 5%, have not changed. Whereupon a miracle occurs. Cowen waves his magic wand, and, *mirabile dictu*, time preferences fall, and with them the interest rate, to, you'll never guess what, yes, precisely 2%. Thus, the reallocation of resources prove in fact not to be misallocations/malinvestments, but rather to be warranted by these new lower time preferences.

But there is simply no reason to suppose this to be a realistic model of the actual world. Nor can we acquiesce in Cowen's notion that the banks, as the "first-round fund recipients" of the new inflationary money will act, *qua consumers* any differently than anyone else, to wit, second, third, etc., round recipients of the new monies.⁶⁸ Bankers, to be sure, can be relied upon to act differently than non-bankers in their professional capacities. There is, after all, such a thing as specialization and the division of labor. But we need not assume that this is necessarily so for bankers in their capacity as consumers. Indeed, *ceteris paribus* methodology *requires* us to posit that this is *not* the case.

Cowen would have a more accurate picture of ABCT in his mind if he assumed, *arguendo*, that each and every economic actor had precisely the *same* time preference orientation, and that it did not change by one iota in response to his constant money growth scenario.

States this author (1997, 97) however: "Entrepreneurs can avoid being fooled if they recognize that expenditure patterns do not remain constant across differing rounds of received funds." But no advocate of ABCT ever made any such claim. Rather, the usual assumption in this school of thought is that the very likely different spending patterns of the people in the different rounds would not be *systematic*. Cowen, here, is creating a straw man and then attempting to knock it down. His attempt fails. *Even if* entrepreneurs "realize that latter-round recipients of the newly spent funds need not allocate those funds in the same manner as the first-round recipients" (1997, 97) this would *still not* undermine the Austrians' finding that artificially lowering interest rates through inflation will entice entrepreneurs to malinvest, and that these placements would be unsustainable once the *unchanged* time preference rates of the populace again registered.

⁶⁸ The banks, *qua* first round recipients, are producers, not consumers.

Cowen (1997, 97-98, footnotes added) maintains that:

The Austrian claim implies that for one kind of forecast – inferring the spending and saving preferences of latter-round fund recipients – fixed positive rates of money growth may increase the volatility of the environment. Several hypotheses attempt to explain why this signal extraction problem might become worse; each hypothesis is plausible, but none is necessarily compelling. In each case the validity of the Austrian claim relies on the postulation of yet another set of signal extraction problems.

One hypothesis notes that inflation disrupts the link between the rate of interest on loanable funds and consumers' intertemporal marginal rate of substitution. Investors no longer have access to a price signal which directly expresses the intertemporal marginal rate of substitution on non-inflationary funds. Positive rates of money growth create a wedge between the savings rates of first-round recipient of funds and latter-round funds recipients. Price signals reflect marginal rates of saving – those of bank shareholders – which are not representative of the economy as a whole.^{69,70}

At this point we must distinguish between preferences in the praxeological sense and preferences in the thymological sense. Properly understood, an individual, on the basis of his “thymological preferences,” chooses from among only those alternatives of which he is aware. A monetary inflation that changes the set of alternatives perceived by an individual may cause him to change his behavior. In that case, monetary inflation is the cause of a change in his “praxeological preferences,” as revealed by his actions; i.e., his preferences in the praxeological sense. But there is absolutely no reason to think that this would change his “thymological preferences.” Therefore, it is necessarily true that the marginal rates of savings, as manifested by praxeological preferences, of first-round recipients are different from those of latter-round recipients; i.e., “not representative of

⁶⁹ Surely, Cowen is referring to the preferences of banks' depositors and borrowers, as well as their shareholders; i.e., owners. It is the joint interactions of these people that affect the quantity and quality of bank credit and interest rates.

⁷⁰ The relevant preferences are praxeological, not thymological, and, as praxeological preferences are only manifested in action, such preferences are necessarily marginal.

the economy as a whole.”⁷¹ And, it is precisely those praxeological preferences that are relevant in this context.⁷² Of course, individuals’ praxeological preferences are not the same either because their thymological preferences are different, or because they have different perceptions of the sets of available alternatives. Regarding this point of Cowen, it matters not one whit whether one or both of factors is responsible for the divergences in praxeological preferences.

This argument suffices to defeat Cowen’s point, in that we have shown that the first of his three plausible, but not compelling, hypotheses, is in fact compelling. Therefore, based on Occam’s Razor, we do not address the other two hypotheses.

Cowen (1997, 99) concedes that “Entrepreneurs will sometimes forecast the real effect of inflation incorrectly, and will sometimes choose unsustainable long-term investments.” What he fails to acknowledge is that this is the “cluster of errors” of ABCT (Rothbard, 1963). It is not, merely, that “sometimes” entrepreneurs misallocate investment resources. Very much to the contrary, they do this *all the time*. That is, entrepreneurial error is a constant and continual occurrence; it takes place *every day*. And, these errors are in *all* directions: sometimes in the direction of excessively “long-term investments,” sometimes in the direction of excessively “short-term investments.” Even when they get this aspect correct, there are still numerous other errors possible: purchasing factors that are not complementary to what already exists, misunderstanding changing consumer tastes, etc.

If that were all there was to the matter, the weeding out process of profit and loss would soon enough put paid to their mistakes. That is, there is a word for entrepreneurs who err excessively: “bankrupt.” Thus, at any given time, absent government subsidies to the contrary, we can posit that the entrepreneurs now active are the best the population can support. True, they still commit errors, but minimally, at least compared to other institutional arrangements.

⁷¹ One might note that: 1) it is probably only people who have bought into modern, mainstream macroeconomics with its use of representative agents and utility functions (a totally non-praxeological concept) who would even think it worth mentioning that different people have different preferences; and, 2) that only one so schooled, who having mentioned it, would suggest that, though “plausible,” it is not “necessarily compelling.”

⁷² Of course, when Austrian economists speak of the misallocation of resources that occurs during the business cycle, that misallocation is re thymological preferences, as there can never be a misallocation re praxeological preferences.

The real problem is not that there are errors, but that sometimes they are *systematic*; that there is a *cluster* of them, and preponderantly in one direction. That this should be the case calls for *explanation* and only ABCT has been so far able to account for this phenomenon.

When one student misses a question on an exam, it is his fault. When the entire class does so, poor students but good ones too, then we cannot rule out the hypothesis that it is the fault of the professor. A similar consideration applies here. When one or a few entrepreneurs misallocate resources in the direction of more interest-rate-sensitive goods, it is their fault and they pay a penalty. When most or all investors do so, it is by no means clear they are to blame. Here, the economy in general suffers. In such a case, we look seriously at the possibility that they were systematically misled. And who or what is the possible culprit? Why, it is false signals in the form of non market prices and rates of interest, according to ABCT. And these in turn come to us courtesy of the monetary/credit inflation engendered by government in conjunction with the banking system.

Consider now Cowen's (1997, 100) charge: "Under the Austrian claim, only those entrepreneurs who make new investments during an inflationary boom will misallocate resources; previously invested resources should not become unprofitable."

But this is clearly wrong. Let us argue here by analogy. Assume a market in equilibrium,⁷³ whereupon government somehow contrives matters so that there soon are greater investments in pencils than there otherwise would have been but for this intervention. The producers of these new superfluous (from the point of view of unchanging consumer tastes) writing implements will lose money. But what of the previous firms in the industry, the marginal one earning normal profits and the infra marginal ones earning economic profits at the outset of our little mental experiment? According to the "logic" employed by Cowen, they would be safe. After all, these "previously invested resources" should not become unprofitable; "only investments made within a particular time frame should become unprofitable" (Cowen, 1997, 100), and the "particular time" is *after* the governmental intervention into the pencil market.

⁷³ We appreciate Garrison's (2001) emphasis on the point that economics must explain not only the boom bust cycle, but also the possibility that the economy ever avoids these two alternatives.

But a moment's reflection will convince us that "pencils are pencils are pencils."⁷⁴ The market little knows, and distinguishes, if anything, less, between properly (before government promotion of excessive pencils) and improperly (after) invested pencil resources. It is an equal opportunity destroyer of profits in this industry, given that there are too many pencils available. That is, given the increase in the supply, the prices of pencils will decline. Consider the firms, new or old, that made the new investments in pencil production. Some of their sales can be explained by an increase in the quantity demanded of pencils resulting from the decreased prices, but some could be expected to come at the expense of firms that did not make new investments. Additionally, competition for resources in the pencil industry will rise. The combination of these factors will put a squeeze on profits in the industry, and not only for those firms that did not engage in new investment.

Moreover, if, as is to be expected, prices of pencils decline, firms in other industries will find that their sales are affected. And, those that have to compete for resources with the pencil industry find the prices that they have to pay higher for those resources.

Now return to macro theory. The same considerations apply. *Not* "only those entrepreneurs who make new investments during an inflationary boom" will suffer losses. *All* of those who misallocate resources will suffer. This includes both those who before, by stipulation, were investing correctly, and those, who, again by stipulation, were not (they were either fooled or subsidized into making these investments). To further mix our metaphors, a rising tide raises all boats.

Therefore, it is clearly incorrect to argue that "previously invested resources should not become unprofitable."⁷⁵

⁷⁴ We are speaking her thymologically, not praxeologically.

⁷⁵ Given that Cowen's point, were it correct, would apply to excess investment regardless of the cause, examples that prove it to be incorrect occur with great regularity. Consider the investments in retailing that become unprofitable because of new Wal-Mart stores. However, if one desires examples arising specifically because of a monetary induced decrease in interest rates, there are the declines in profitability of older office and apartment buildings when new structures of those types arise precisely because of such lowered interest rates.

11 Conclusion

We have thoroughly discussed Cowen's (1997) numerous critiques of ABCT. We have not seen our way clear to agreeing that any of them call for revision of this theory. However, we are indeed and nevertheless very grateful to this author on several grounds. First, his commentary shows great familiarity with the Austrian analytical apparatus; there was thus very little of "ships passing in the night" in our disagreements with him. To the contrary, we have achieved real disagreement, something not to be spurned in intellectual debate. Second, the thoroughness and yes, severity of his criticism, have forced us to a deeper appreciation of ABCT than otherwise we would have had.

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Evidence and Myths about Tax Competition

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Abstract: This paper examines various arguments addressed in favour and against tax competition. We pay attention to definitional matters of tax rates and bases, review empirical evidence concerning development of corporate taxes in the EU and the OECD countries over last decades and investigate whether anything suggests that there has been interdependence in corporate tax rate setting across countries. Furthermore, we recapitulate efforts done both by the OECD and the EU to stop tax competition. Finally, we argue that tax competition is not harmful and that it emerges as a means of constraining governments to discipline.

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1 Introduction

It is rather clear why one should be interested in tax competition. The immediate reason is that tax competition is a phenomenon of utmost relevance in present days and a political issue, most markedly at the EU level. And a related reason is that tax competition is subject to a number of misunderstandings that pervade the debate about its merits and demerits.

In our eyes, answer to the questions how tax competition influences economic performance and whether tax competition is harmful or not depends mostly on the assumptions one makes about the behaviour of government. If one assumes that governments are largely benevolent and efficient institutions, one will probably conclude that tax competition – as the process of uncooperative setting of tax rates in order to attract mobile tax bases – leads to inefficiently low amounts of public goods.¹ Yet, as we will try to show, this indispensable assumption cannot, for a number of reasons, be satisfied. However caricaturing it might sound, present day governments behave more like Leviathans and constraining them to fiscal discipline – whether it should be by means of a fiscal constitution or otherwise – is needed.

This part is an attempt to define cogently the phenomenon of fiscal competition and to review and critically analyze the current state of knowledge of the issue. In the same spirit, we will offer some basic facts about the forms that tax competition might take.

We will show what has been the development of tax rates and tax bases during the past decades and examine whether one can infer that there is an interdependence in tax setting.

Furthermore, we will focus on the question if tax competition decreases welfare, and we will briefly discuss the alleged problem posed by tax havens. Hence the goal of this paper is to demonstrate that tax competition emerges as a praiseworthy phenomenon and that many of the accusations that are being brought against it do not hold.

With these aims, in Section 2 we will propose a definition of tax competition and discuss definitional problems of related terms, in Section 3 we offer a model of tax com-

¹ Yet Kehoe (1989) provides an elegant demonstration that such competition can be efficient in the long run.

petition in which government as a revenue maximiser. The purpose is to show various forms that fiscal interactions among governments might take. In Section 4 we discuss some more or less known facts about tax competition and review existing empirical evidence and in Section 5 we try to answer the question whether tax competition is a harmful thing or whether it should be rather cherished. Section 6 concludes.

2 Definitions and basic characteristics

It might seem that there is little or no controversy when it comes to the definition of tax competition. Yet the issue can become, as we will show, a bit perplexing.

The needed requirement for tax competition is a high mobility of capital and/or labour. Mobility of capital can be increased for instance by technological changes which allow individuals to move their funds electronically across continents or by relaxation of exchange controls. Yet high capital mobility does not mean that capital have to move across borders. The sufficient condition for capital mobility is that capital can move across borders at low costs.

The result of an increase in capital mobility is that jurisdictions can tax capital with more difficulties. The process of tax competition is thus a process of attracting mobile tax bases to jurisdictions by lowering tax rates. By its nature, the process of tax competition is a process of interdependent setting of tax rates and tax bases.

If we narrowed the definition of tax competition, we would require that tax policies influence the allocation of tax revenues across government treasuries. This excludes a broad subgroup of government interactions known as “yardstick competition.” In yardstick competition, voters compare tax system in their own and neighbouring jurisdictions to assess their performances and to vote accordingly. Yet there is no interdependence between government budgets as such, as the competition actually take place within jurisdictions among different political candidates. On the whole, it is clear that yardstick competition is a fairly different phenomenon than tax competition in the strict sense, although in reality difficult to distinguish from the latter, for the two models of government interaction predict much the same results.

As a matter of fact, fiscal interactions among nations entered on the scene of eco-

conomic theory with Tiebout (1956) who presented a model of competition for mobile households, showing that, under certain assumptions including personal mobility, a diversity of competing jurisdictions can bring about an efficient output of public goods – each jurisdiction offering a different bundle of both public goods and tax burden appealing to individuals with different tastes. In economic literature, tax competition is usually associated with the taxation of mobile capital².

Yet it should be stressed that the mobility of labour is a phenomenon that deserves our attention as well. OECD (2001b) finds that there has been a substantial rise in migration for economic reasons. Some of these reasons are personal income taxes which vary between countries, in particular for the high-income individuals.³ Thus, from a realistic perspective, it is not utterly acceptable to distinguish between “mobile capital” and “immobile labour.” There are a number of factors of production with greater or lesser degree of mobility, including various forms of capital and labour. Yet for analytical purposes it is useful to simplify the situation by considering just two factors of production – the mobile one and the immobile one – and by assuming that capital is the mobile factor. This allows us to consider just one tax as susceptible to be the subject of competition for mobile bases – the corporate income tax. Nevertheless, when speaking of tax competition later on in this paper, we will provide at least anecdotal evidence on “brain drain” caused by tax differentials.

2.1 Measures of Capital Taxation

To observe whether there is a competition among states to attract mobile tax bases one needs to make explicit the ways how we can measure taxation of corporate income. The traditional way to measure the impact of corporate taxation is through the cost of capital

² The Tiebout model was applied, almost unaltered, to competition for mobile firms by White (1975) and Fischel (1975).

³ Numerous factors seem to have increased the mobility of labour. As Edwards and de Rugy (2002) put it: “First, the Internet has increased information about foreign opportunities and allowed firms to broaden international job searches. Second, falling travel and communication costs have made it easier for workers to take employment in foreign countries and maintain close contact with their relatives. Third, emigration restrictions in many formerly repressive regimes have been eliminated. A fourth trend is the increased technological ability to perform work in foreign countries while residing elsewhere (...) Fifth, regional trading pacts have allowed increased worker mobility. (...) Sixth, a number of countries have raised immigration limits for highly skilled workers.”

– the latter being equal to the pre-tax rate of return of an investment project. To do so, one is obliged to use the tax rates and tax bases delimited by legislation. The simplest measure of corporate taxation is the statutory rate, i.e. the rate defined by legislation. This is 19 per cent in the case of Slovakia, 12.5 per cent in the case of Ireland and so forth. However widely this measure might be used to compare various tax systems, its applications are limited. To infer that low statutory rates mean low actual tax payments would be grossly erroneous, for these depend equally on the tax base.

The definition of the tax base varies across countries and is usually extremely complex. It covers almost everything from investment allowances to deductibility of pension contributions, the extent to which expenses can be deducted and so on. Hence it is almost impossible to establish a single measure which would stand for tax base. Empirical literature has so far greatly simplified the matters by focusing on one aspect of tax bases – on capital allowances. If a firm invests a sum of money, this usually cannot be fully deduced from the tax base, but is usually spread over the expected life of the asset. The intuitive measure of such allowances is their present discounted value as a percentage of the initial cost of the asset. This is equal to zero if the tax system has no allowances at all and 100 per cent if the legislation permits the deduction of costs immediately. Now it should be clear that the rate of inflation has an impact on the value of allowances, for it changes the nominal interest rate. Thus an increase in inflation would decrease the present discounted value of allowances.

By effective tax rates we understand uniquely measures based on tax legislation, be it effective marginal or average tax rates. As Devereux, Griffith and Klemm (2002) assert, the usual approach to summarise the combined effect of tax rate and tax base is to analyse a hypothetical investment that just breaks even (a marginal investment). In this case, the proportionate difference between the pre-tax and post-tax required rate of return is known as the effective marginal tax rate (EMTR).

It should be noted that the EMTR discerns solely the effect of taxation on marginal investment and permits saying what will be incentives to carry out marginal investments. Thus this measure does not tell us what will be incentives to perform particular investment projects within the set of profitable investments. The impact of taxation on choice between them depends mainly on the proportion of total profit paid in tax. This proportion defines the effective average tax rate (EATR). If a firm has to choose between two

investment decisions, one with a higher pre-tax profit, but also with a higher EATR, then the tax might lead the firm to choose the option with a lower pre-tax rate of return.

Apart from this, one could use alternative measures of corporate taxation, particularly those based on corporate income tax revenue. The virtue of this measure is that it is simple to calculate across a wide range of tax systems and allows to make time series or comparisons easily across countries using the proportion of corporate income tax revenues to GDP or to total tax revenues. This is the method used for instance by Mendoza *et al.* (1994), and with few minor changes by Eurostat (1998) or Carey and Tchilinguirian (2000). Mendoza *et al.* introduce measure called "effective tax rates".⁴ In the case of capital, these are basically the rates found by dividing total tax revenue from capital taxes by an estimate of the operating surplus of the economy.⁵ The substantial problem with this measure is that it would be equivalent to the effective tax rates as described above only if the tax base used by the fiscal legislation was equal to the profit defined by economic criteria; which is not the case in vast majority of empirically relevant cases. As Devereux, Griffith and Klemm (2002) put it, by using aggregate data and data on tax revenue, this measure says nothing about actual incentives individuals face. This should justify, at least in our eyes, certain preference we give to measures based on tax legislation, particularly for the purposes of this work, i.e., for purposes of establishing sound empirical evidence that there actually exists such thing as tax competition.

3 A Simple Model

What do we mean when we say that there is interdependence in tax setting? What exactly should we observe when jurisdictions compete for tax bases? To answer these questions in terms of standard microeconomic theory, one could consider the following simple model of tax competition, inspired by Deheija and Genschel (1998). We use their model as a starting point and elaborate it for instance by studying the properties of capital allocation and by introducing other forms of fiscal interaction than just a simple Nash game of simultaneous rate setting.

⁴ As we will see below, we understand by "effective tax rates" a different measure, based on tax legislation and we prefer rather to call the "effective tax rates", used by Mendoza, Razin and Tesar (1994) implicit tax rates.

⁵ This is a particular definition of pre-tax capital income.

Before introducing the model itself, it might be of interest to underline what assumptions can one make about fiscal behaviour of governments. On the one hand, one can distinguish models of government as a benevolent institution, seeking to maximize welfare of citizens. Following this distinction, one can easily imagine a model of government seeking to attain other ends - reelection, personal income and so on. On the other hand, it is important to distinguish what information do government possess while attaining the given ends. In this respect, one can distinguish between models of a perfectly informed government and government which desperately lacks information. From our perspective, it is realistic to assume that governments are both Leviathan and badly informed. Yet for the purposes of the model which follows, the governments engaged in the revenue maximizing game will be perfectly knowledgeable about what they are doing. This can be excused by the fact that this approach makes the model easier to construct and to follow for the reader.

This model describes revenue maximising governments competing for mobile capital which is the only source of tax revenue. There are two distinct countries indexed by $i=1,2$. Each country uses a production function with decreasing returns to scale

$$Y_i = F_i(K_i), F_i' > 0, F_i'' < 0, \lim_{K_i \rightarrow 0} F_i'(K_i) = +\infty. \quad (1)$$

Different production functions for different countries reflect not so much the differences in technology, but rather differences in population. In the Cobb-Douglas case of $Y_i = A_i \sqrt{K_i}$ the constant A_i could stand for these differences. The total stock of capital is fixed and is distributed among the two countries so that

$$K_1 + K_2 = \bar{K} \quad (2)$$

where \bar{K} is a constant. Government uses one tax instrument solely, a capital tax defined by

$$r_i = (1 - t_i)F_i'(K_i) \quad (3)$$

where r_i is the after-tax return from capital and the price of output is normalised to unity. In other words, the tax puts a wedge between the real return from capital and the after-

tax return. The government is assumed to behave as revenue maximiser and faces the following problem.

$$\max_{t_i} R_i(K_i) = t_i F_i(K_i), i = 1, 2 \quad (4)$$

The revenue-maximising assumption corresponds well to the Niskanen's (1971) characterisation of public servants as budget maximisers. This assumption seems to us as good approximation of a Leviathan-like government without complicating the matters by introducing a model of government decision-making process or a model of voting as in Besley and Smart (2001) or in Janeba and Schjelderup (2004). However interesting their models might be, we find it advisable at this moment to introduce a more simple model showing uniquely the fundamental features of the process of tax competition.

The maximisation problem is trivial if there is no capital mobility, that is, if K_1 and K_2 are constant. In this case, the function maximised is a monotonic transformation of t_i , as the total output $F_i(K_i)$ is constant. In that case both governments will choose t_i equal to one and extract the whole of the output. This situation, however, is not of particular interest for us.

We focus our attention more on the opposite polar case – situation in which there is perfect capital mobility across countries. Common sense compels us to say that the real world situations are somewhere in between, yet what is of interest to us is that they seem to be closer to the situation of capital mobility.

Under perfect capital mobility, capital moves from one country to another until the after-tax return is equalised:

$$(1 - t_1)F'_1(K_1) = (1 - t_2)F'_2(K_2) \quad (5)$$

Now, provided that

$$K_2 = \bar{K} - K_1 \quad (6)$$

the arbitrage condition can be restated as

$$(1 - t_1)F'_1(K_1) = (1 - t_2)F'_2(\bar{K} - K_1). \quad (7)$$

Hence K_i is a function of t_1, t_2 .

Lemma 1. K_i is strictly decreasing in t_i and strictly increasing in t_j for $i, j \in \{1, 2\}, i \neq j$.

Proof. According to (7):

$$\frac{F'_1(K_1)}{F'_2(\bar{K} - K_1)} = \frac{1 - t_2}{1 - t_1}. \quad (8)$$

From (1) it follows that $F'_1(K_1)$ is decreasing in K_1 and $F'_2(\bar{K} - K_1)$ is increasing in K_1 . Hence the term on the left hand side of (8) is a decreasing function of K_1 . Moreover, the term on the right-hand side is increasing in t_1 . Thus if t_1 increases by a Δt_1 , the right hand side of (8) increases. As a result, K_1 must decrease accordingly. In the same way, an increase in t_2 decreases the left-hand side of (8) and K_1 must then increase as well. The proof for K_2 can be done analogously. \square

Now, (4) can be put in the following way:

$$\max_{t_i} t_i F_i(K_i(t_1, t_2)), i = 1, 2 \quad (9)$$

It is important for further analysis to say how governments perceive each other's tax rates. If each government considers the tax rate of its counterpart as a constant, then tax competition will be a Nash game of simultaneous tax rate setting and the outcome can be characterised as a Nash-Cournot equilibrium. This can be the case when the competing jurisdictions are of much the same size.

In a Nash game, both governments face the problem laid in (19). The first order conditions are

$$\frac{\partial R_1}{\partial t_1}(t_1, t_2) = 0 \Leftrightarrow F_1(K_1(t_1, t_2)) + t_1 F'_1(K_1(t_1, t_2)) \frac{\partial K_1}{\partial t_1}(t_1, t_2) = 0 \quad (10)$$

$$\frac{\partial R_2}{\partial t_2}(t_1, t_2) = 0 \Leftrightarrow F_2(K_2(t_1, t_2)) + t_2 F'_2(K_2(t_1, t_2)) \frac{\partial K_2}{\partial t_2}(t_1, t_2) = 0 \quad (11)$$

Solving (10) and (11) gives us reaction functions of both governments

$$t_1 = \varphi_1(t_2), t_2 = \varphi_2(t_1). \quad (12)$$

The solution of (12) yields the uncooperative Nash-Cournot equilibrium tax rates t_1^* , t_2^* . Existence of the equilibrium follows from theorem 4.1.1 of Ichiishi (1983, p.57), as the function of government revenue $R_i(K_i(t_1, t_2))$ is concave.⁶

One can imagine a situation when one of the countries behave as Stackelberg leader. This is the situation described by Altshuler and Goodspeed (2002) who noticed that European countries might well be behaving as Stackelberg followers with respect to the United States, while behaving as Nash players with respect to each other. Formally, the situation when one of our governments is a Stackelberg leader could be formally described as follows.

Without loss of generality, the country 1 is the Stackelberg leader. Hence, his maximisation problem is

$$\max_{t_1} t_1 F_1(K_1(t_1, \varphi_2(t_1))), \quad (13)$$

as he would expect the follower to act according to its reaction function. The solution of (13) yields the Stackelberg equilibrium tax rates \tilde{t}_1, \tilde{t}_2 .

The third situation we would like to depict here is the one in which the governments cooperate in order to maximise the total of their revenues. The equilibrium tax rates \hat{t}_1, \hat{t}_2 would be

$$\arg \max_{t_1, t_2} R_{total}(t_1, t_2) = \arg \max_{t_1, t_2} \{t_1 F_1(K_1(t_1, t_2)) + t_2 F_2(K_2(t_1, t_2))\} \quad (14)$$

It is not straightforward to find the equilibrium tax rates of the maximisation problem governments face when engaged in cooperation. The intuition tells us that government will cooperate to drive tax rates up to one. Moreover, the formulation of the problem might suggest that the governments should simply choose some revenue maximising vector of tax rates \hat{t}_1, \hat{t}_2 .

From an algebraic perspective, it is not true that (1, 1) is the revenue-maximising vector of tax rates. The reason for that is that K_i is not defined for $t_j = 1$ and the allocation of capital between the two countries is in that case a bit perplexing. Common-

⁶ It is not difficult to realise that the function $R_i(K_i(t_1, t_2))$ is concave. It is sufficient to observe the first order conditions given by (20) or (21) and to notice that the first derivative of $R_i(K_i(t_1, t_2))$ is decreasing in t_i .

sense compells us to say that if $t_i = 1$ and $t_j \neq 1$ then $K_i = 0$ and $K_j = \bar{K}$, which can be considered to be a sort of corner-solution. Yet if both tax rates are equal to one, then the allocation of capital between the two countries would be arbitrary. A conceivable - and the simplest - way of understanding it would be to assume that if tax rates are equal to one, then the allocation of capital would remain the same as in *previous* tax setting. The nature of a cooperative equilibrium could be better understood using the following remark.

Remark 2. Under cooperation, $(t_1, t_2) \rightarrow (1, 1)$ and $\frac{1-t_2}{1-t_1}$ is constant.

The function maximised in (14) can be restricted from above as

$$t_1 F_1(K_1(t_1, t_2)) + t_2 F_2(K_2(t_1, t_2)) \leq F_1(K_1(t_1, t_2)) + F_2(K_2(t_1, t_2)) \leq M \quad (15)$$

where M is the maximum of $F_1(K_1) + F_2(K_2)$ for $K_1, K_2 \in \langle 0, \bar{K} \rangle \times \langle 0, \bar{K} \rangle$. Let us denote (K_1^*, K_2^*) the vector of capital allocation maximising $F_1(K_1) + F_2(K_2)$. Furthermore, let us put

$$\frac{F_1'(K_1^*)}{F_2'(K_2^*)} = \alpha. \quad (16)$$

Hence from the arbitrage condition (15) it follows that to attain the maximum of $t_1 F_1(K_1) + t_2 F_2(K_2)$, governments should set tax rates so that

$$\frac{F_1'(K_1^*)}{F_2'(K_2^*)} = \frac{1-t_2}{1-t_1} = \alpha. \quad (17)$$

As we stated previously, for the vector of tax rates $(1, 1)$ the arbitrage condition and subsequently the equation (26) give no information about allocation of capital between the two countries. As a matter of fact, governments always face an initial vector of tax rates (t_1^1, t_2^1) for which it is not necessarily true that $\frac{1-t_2^1}{1-t_1^1} = \alpha$. Hence if both governments immediately chose $t_1 = t_2 = 1$, the outcome would retain the same characteristics as to allocation of capital between the two countries as the previous state. Hence if this allocation was not (K_1^*, K_2^*) , the revenue collected will be inferior to M . To collect maximal revenue, governments will have to ensure that $\frac{1-t_2}{1-t_1} = \alpha$.

Once this condition is satisfied, nothing restrains the governments from driving up their tax rates to one simultaneously and collecting at the limit the whole of the capital returns.

It is of course unrealistic to suppose that the vector $(1, 1)$ can in reality be attained. The reason is that if government taxed away the whole of the return from any investment, no one would embark on any investment activity and, in a longer run, the capital stock \bar{K} would have to change accordingly. Yet this longer-term effect is not depicted in our model.

4 Some Evidence

It is true that since the late 19th century modern welfare states have been funded primarily by levying progressive income taxes, both on corporate and personal income. As a result of increased mobility of capital, one is tempted to assert that taxing mobile factors has become increasingly difficult.

What is the empirical evidence for such claim? To begin, it might be interesting to raise some anecdotal evidence for the effects of taxation on the movement of mobile labour. As Edwards and de Rugy (2002) put it, there are many indications that migration motivated by fiscal reasons has been on the rise. John Roth, the former CEO of top Canadian high tech firm, Nortel, warned the Canadian government on several occasions that high tax rates have lead to an outflow of his best managers and engineers to the United States. In the same manner, one can recall the persistent outflow of young Irish to the United Kingdom and United States. This trend seems to have been reversed by corporate tax cuts in 1981, followed by personal income tax cuts. During the last decade, Ireland has experienced a marked increase in immigration and a fall in emigration.⁷

In the same spirit, one could talk about increased mobility of capital. Relocations of industries between countries for fiscal reasons are abundant and obvious to perceive. More importantly, there is evidence for a markedly high capital mobility that has increased over time, as Leibfritz et al. (1997) argue. Alfano (2001) extends their analysis to

⁷ See Ireland Central Statistical Office (2001).

sensitivity to tax differentials. Yet evidence for capital mobility is not easy to obtain. As Griffith and Klemm (2003) point out, high degree of capital mobility should be translated into rates of return being equalised across countries. However, the rates of return differ for a number of reasons, including country-specific risks or bias to investment, hence testing capital mobility is a non-trivial task.

Nevertheless, the evidence in favour of increased capital mobility is persuasive. And the intuitive reasoning tells us that when taxing mobile factors becomes increasingly difficult, the tax burden is shifted on immobile ones and on consumption. At this moment it should be emphasised that it is problematic to assume that labour behaves as an immobile factor and that personal income tax is a tax on this immobile factor. However, for the purposes of simplicity and keeping this discussion manageable we are forced to distinguish between capital and labour as between mobile and immobile factors. Avi-Yonah (2000) points out that the two fastest growing taxes in OECD countries in last decades have been consumption taxes (from 12 per cent of total revenue in 1965 to 18 per cent in 1995) and payroll taxes (18 per cent to 25 per cent).⁸ Even though the personal income taxes have not risen over that period (from 26 per cent of total revenue to 27), the total tax burden has grown from 28 per cent to almost 40 per cent, which is due mainly to the increase in consumption and payroll taxes, which seems to support our claims.

Devereux, Griffith and Klemm (2002) observe data on tax revenue on corporate income as a proportion of GDP for the OECD countries during 1965-1999 and find that they have remained fairly stable, yet varied strongly across countries. In the same way, Carey and Tchilinguirian (2000) observe a small rise in the implicit tax rates on capital for OECD average during 1980s and 1990s. These data are a bit difficult to interpret reasonably, for they are not entirely consistent with the development of the statutory tax rates and the EATR, as presented below. One explanation might be found in the Laffer curve – lower rates might have boosted profitable investment, rising corporate income tax revenues as a portion of the GDP (or other variable, such as the operating surplus). If we consider data on corporate tax revenues as a portion of total tax revenues, we see a

⁸ It can be of course argued that the increase of payroll taxes has been needed to keep on financing the PAYG pension systems in time of unfavourable demographic changes. Yet for the purpose of this work it is immaterial to study which of the two phenomena had more important impact on the rise of payroll taxes – whether it was the need to finance the PAYG systems or the increased mobility of capital. Suffice it to say that the two factors worked in the same direction – towards an increase in payroll taxes.

marked decrease. This suggests that governments may rely less on corporate taxation as a source of revenue and are shifting the tax burden to other sources of revenue.

Let us turn to measures based on tax legislation. The data for OECD countries are rather clear – statutory tax rates were falling between 1982 and 2001, the unweighted mean statutory rate going from around 48 per cent to around 35 per cent.⁹ Equally important, however, was the development of corporate tax bases. Throughout 1980s and 1990s the weighted mean of rates of allowance fell from 83 per cent to 74 per cent, which means that the tax bases broadened during that period. Nevertheless, the expansion of tax bases was partly compensated by lower rates of inflation.¹⁰ At this moment, the development of the tax burden in recent decades might seem rather unclear. With rates decreased and bases broadened, one cannot conclude unequivocally. But what is the evidence provided by Devereux, Griffith and Klemm (2002) for the EMTR and EATR? The weighted mean of EMTR has remained stable over the 1980s and 1990s. The picture is relatively mixed, with more than half of the countries having decreased their EMTR and some countries having increased it. The weighted mean EATR fell over the period from around 41 per cent to around 34 per cent. For very low rates of profit (investments close to the marginal), it has remained almost unchanged, but for highly profitable investments the rate converges to the statutory rate which has fallen substantially.

On the whole, one can conclude that there has been a decrease in corporate taxation over the recent past. Governments do tax capital less than they did before. This does not mean that the overall tax burden has decreased over the past decades, only that the tax structure has changed, taxing more heavily labour and consumption than capital.

This conclusion in itself, however, is not sufficient to affirm that there has been any form of fiscal competition. To do so, we need to present evidence that tax rates have been changing in a mutually dependent way. Fortunately enough, empirical studies suggest that such evidence exists. Since the pioneering study by Case, Rosen and Hines (1993) who estimate fiscal reaction function for the US states, there has been a growing empirical literature on the subject, basically finding that the EU and the OECD nations have been setting taxes interdependently. Altshuler and Goodspeed (2002) investigate fiscal interdependencies among a subset of EU Countries and find that European countries

⁹ See Devereux, Griffith and Klemm (2002, p.11).

¹⁰ Ibid, p.12.

interact strategically in setting their capital taxes. Devereux, Lockwood and Redoano (2002) study data from 21 OECD countries between 1983-1999 to conclude that countries actually compete not only over the statutory tax rates, but also over the EMTR and the EATR. More recently, Redoano (2003) has confirmed previous findings concerning fiscal interaction within the EU. The evidence is aptly summarised by Altshuler and Grubert (2003):

The evolution of country effective tax rates between 1992 and 1998 seems to be driven by tax competition. Countries that had lost shares of U.S. manufacturing affiliate real capital cut their rates the most over the period. Further, smaller countries and those with high initial average tax rates experienced larger declines in effective tax rates relative to the average.

In a nutshell, there appears to be sufficiently robust evidence to claim that there actually exists such thing as tax competition.¹¹

4.1 Multilateral Initiatives

Not only tax competition exists, but it has been an issue at the international level. There have been several initiatives by international bodies to subject tax competition to control and regulation and our account of development of tax systems would hardly be complete without mentioning at least two major international organizations that have attempted to tackle tax competition – the OECD and the EU institutions.

One of the best known initiatives against tax competition was the one started by the OECD in 1998 after publishing OECD (1998). The report focuses on allegedly harmful tax practices in member states and in so-called tax havens. The report was followed by another one, OECD (2000) which monitors the progress accomplished and somewhat elaborates the arguments against what it calls “harmful tax competition.” The report divided harmful tax practices into two categories – “preferential tax regimes in member countries” and practices used by jurisdictions outside the OECD, deemed to be “tax havens.”

¹¹ Though for instance Desai (1999) argues that the “race to the bottom” feature of tax competition seems to be attenuated by foreign tax credit systems

Both categories were defined by roughly the same criteria – by corporate taxes that allowed a significantly lower effective level of taxation than those that applied in member states and a lack of transparency and exchange of information (otherwise known as financial privacy). To qualify as a tax haven, the OECD used the criterion of a “lack of substantial activities” from the part of companies incorporated in the jurisdiction. However, the criterion turned out to be quite impossible to interpret and was eliminated later on.¹² OECD (2000) contained a list of 47 “harmful” practices within member states and 34 jurisdictions meeting the criteria of “tax havens.” Any of these that would have been considered uncooperative – not agreeing to abandon the aspects of their tax systems that were considered harmful – were threatened with “defensive measures.” It is important to note that these were not limited to simple enforcement of existing tax regimes, but went largely beyond that, introducing penalties for dealing with such jurisdictions.¹³

The report recommended to member states deemed to have harmful tax regimes to eliminate features considered harmful which basically meant to raise tax rates and/or restrain financial privacy. A similar advice was given to non-member jurisdictions, deemed to behave as tax havens.

By 2001, 5 jurisdictions had pledged to eliminate their “harmful tax practices.” These were Aruba, Bahrain, the Isle of Man, the Netherlands Antilles and the Seychelles.¹⁴ According to OECD (2004b), all of the 47 “harmful” tax practices within member states, which were mentioned in the 2000 report, have been either abolished or amended so as

¹² See OECD (2001), p.10.

¹³ According to OECD (2000), member states should:

- Disallow deductions, exemptions and credits that would have otherwise been applied to transactions with uncooperative tax havens.
- Adopt controlled foreign corporation legislation and/or apply them in a consistent manner
- Deny any exceptions to the application of regular penalties in the case of transactions involving entities operating in uncooperative tax havens.
- Impose withholding taxes on certain payments to residents of uncooperative tax havens.
- Enhance audit and enforcement activities with respect to transactions with uncooperative tax havens.
- Not enter into tax conventions with uncooperative tax havens and consider terminating such conventions.
- Impose charges or levies on certain transactions involving uncooperative tax havens.

¹⁴ OECD (2001), p.9.

not to be “harmful” any more. Likewise, the overwhelming majority of non-member jurisdictions identified in 2000 as “tax havens” are now “committed to transparency and effective exchange of information.” The remaining unco-operative tax havens were Andorra, the Principality of Liechtenstein, Liberia, the Principality of Monaco and the Republic of the Marshall Islands. With the intention of having competition based on economic rather than on fiscal considerations, the OECD has introduced the concept of “global level playing field.” The campaign aims at stopping business migration to jurisdictions where transparency and effective exchange of information is not at OECD-required level, that is, where financial privacy is respected.¹⁵

In like manner, there were several initiatives at the EU level to regulate tax competition, although the issue of direct taxation is not covered by powers of EU bodies. Furthermore, any decisions the EU might take in the area of direct taxation must be taken at unanimity. Nevertheless, member states are constrained to some degree by provisions of existing treaties that define properties of the single market. According to the Community Law, member states must not:

- Hamper the freedom of movement of persons, businesses and capital and the freedom to provide the cross-border services.
- Distort conditions of competition through the provision of tax breaks and relief in the form of state aid.
- Discriminate on grounds of nationality in areas falling within the scope of the EC Treaty.¹⁶

The first attempt to deal with issues of corporate taxation can be found in the Neumark report of 1962 which concluded that a harmonisation of tax bases was desirable in order to simplify existing European tax systems. The proposal was repeated in the European Commission memorandum of 26 June 1967. More recent attempts to harmonise tax bases include the European Commission (2001).

¹⁵ See OECD (2004a).

¹⁶ See Chetcuti (2001).

More interestingly, in March 1969 the European Commission published a memorandum demanding harmonisation not only of tax bases, but also of tax rates¹⁷, followed by the 1975 Action Programme, which received, however, little attention from the Council. Raising the problem again, a 1992 review done for the European Commission suggested a harmonisation of corporate tax rates at a minimum of 30 per cent, which was perceived as relatively acceptable at the time, yet hardly conceivable nowadays.¹⁸

In 1997, the Council of the EU adopted a code of conduct on corporate taxation, which was marked by a new, voluntary approach. The member states were called to avoid behaviour considered as harmful. By harmful it considered “those business tax measures which affect, in a significant way the location of business activity within the Community.”¹⁹ That is, the code banned tax measures that were giving preferential treatment to a group of firms and offering a significantly lower tax rates than those usually applied in the Community. On 1st December 1998 a joint statement by France and Germany called for “a rapid progress towards tax harmonisation in Europe.” As the code itself contained no mode of its enforcement and was meant as voluntary, it remains unclear what real effects it might have and whether the wishes of French and German politicians can come true.²⁰

Gammie (2003) points out that the European Court of Justice (ECJ) played a important role in forming national tax policies, basically by ruling against certain practices, considered unacceptable under European law, particularly under the European Community Treaty. It is questionable, however, to what degree the ECJ decisions are relevant for the purposes of the present work. Scarcely has the ECJ tackled a lawsuit concerning tax rate differentials as such, more often it has happened that corporations were taking member states to court for limiting the possibility of reporting profits according to their wishes.²¹ In *Hurd v Jones* the ECJ ruled that a member state was justified in levying a tax on remuneration paid to its own nationals where remuneration paid to nationals of

¹⁷ It should be underlined that the 1969 memorandum contained a proposal to abolish the withholding tax on bond interest, yet it was stated that this proposal could be tackled with less urgency. See *ibid.*

¹⁸ See European Commission (1992).

¹⁹ See Council of the EU (1998).

²⁰ See Chetcuti (2001).

²¹ Most national tax systems discriminate against transactions with foreign countries by using transfer pricing legislation or controlled foreign corporation regimes. All these should be, strictly interpreting the EC Treaty, considered illegal.

other member states were exempt of tax, provided that the situation was wholly internal to the member state. The same reasoning has been used by the ECJ in situation where nationals of a member state were subject to higher rate because they did not reside in that state yet kept most of their assets or worked there. Nevertheless, this does not mean that member states are free in discriminating against their own nationals if they are seeking to exercise one of the freedoms guaranteed by the EC Treaty. To complicate the matters, the ECJ position on this particular point has not been entirely equivocal – in *Bachmann v Belgian State* it ruled that a business may be required to be established in the host state, if this is deemed to be necessary for attainment of an objective of public interest. On the other hand, in *Asscher v Staatssecretaris van Financiën*, the ECJ held that it was unjustifiable for Netherlands tax authorities to apply a higher rate to a non-resident on the basis that no social security contributions had been levied on the income of the non-resident in Netherlands. On the whole, the history of the ECJ rulings does not give us much information on the core of what interests us in this work – competition in taxing mobile factors of production. More generally speaking, scepticism about the possibility of tax rate harmonisation in Europe under consensual mode of decision-making is in our eyes appropriate. On the other hand, the current status quo is far from being the definitive one. Particularly, if the Constitution for Europe is adopted, a possibility of transferring the issue of direct taxation under majority rule will arise with the famous “flexibility clause.”²² In this case, the Council of the EU might unanimously decide to take majority rule decision powers about any issue deemed necessary.²³

5 Is Tax Competition Harmful?

Given the concerns tax competition raises worldwide, it is appropriate to ask whether it really is something that should be feared, or whether it is a rather harmless or even praiseworthy phenomenon. Before discussing the pros and cons of tax competition, one should clearly say what the alternative to tax competition is - it is tax harmonisation and abolition of preferential regimes. This raises the question whether - once tax competition

²² See Treaty Establishing a Constitution for Europe, Art. I-18.

²³ We subject the EU Constitution to criticism elsewhere, particularly in Roháč(2004).

is abolished - governments do not compete in different, less efficient manners, such as subsidising foreign investments, etc.²⁴

There are many arguments opponents of tax competition put forward. If we skip equity matters for the moment, we can find two main categories of objections raised against fiscal competition. First, it is argued that tax competition changes international allocation of capital in an inefficient manner, with capital as a mobile factor flowing to areas where it is taxed less, regardless of genuine economic considerations. Second, it is asserted that tax competition leads to a deterioration of tax bases, ultimately causing underprovision of public goods. The first argument can be found in a number of publications. Says OECD (2000):

[T]he project (the OECD Project on Harmful Tax Practices) is about ensuring that the burden of taxation is fairly shared and that *tax should not be the dominant factor in making capital allocation decisions*. (OECD 2000, p.5, emphasis added)

The same argument is developed in OECD (2004a). It is claimed that when investment decision are influenced by tax considerations, this results into an inefficient allocation of capital across countries. Peggy Musgrave makes this point this way:

Resources and capital in particular will flow to locations where taxes (or more precisely, net fiscal residuals) are lower, thereby distorting the regional allocation of factor use and thereby impairing the efficiency of the private sector.

(...)

Each jurisdiction taxing on a source basis will tax income accruing to foreigners so as to maximize the advantages it can derive therefrom. Lower rates of tax rates will attract foreign capital and raise the base, while higher rates will increase revenue from a given level of foreign capital. The outcome will depend on the elasticities of capital inflow responses, but there is no reason to expect that they will match the domestic share called for by the rules of international equity. (Musgrave 1991, p.286)

One is compelled to admit that, if capital taxation was coordinated so as to equalise EMTR and EATR across countries, mobile factors would be allocated geographically in

²⁴ Janeba (1998) combines competition over strategic trade policies with tax competition and shows - perhaps surprisingly - that competition leads to elimination of wasteful subsidies. Likewise, Janeba and Smart (2002) finds that a restriction on tax preferences can induce governments to behaviour leading to inefficient outcomes.

an efficient manner. Hence, a coordinated action might seem to be needed to harmonise capital taxes and to bring out the latter outcome. As the European Commission states,

[S]ome harmonisation of business taxation (both corporation tax and the personal taxation of dividends) may be required to prevent distortions of competition, particularly of investment decisions. Where tax systems are non-neutral – i.e. where relative post-tax rates of return do not correspond to relative pre-tax rates of return – resources will be misallocated. (European Commission, cited in: Mitchell (2004, p.14))

The argument has some internal logic. It sees the core of the problem in the existence of tax differentials and it proposes is tax rate harmonisation as remedy. Now the harmonisation is to be achieved by introducing a minimal rate, as in European Commission (1992). But if the problem of capital misallocation is caused by differences in tax rates among countries, than introducing a maximal rate is a solution that would be equally appropriate. Yet we are not aware that anyone who subscribes to the argument against tax competition presented above would ever propose such maximal tax rate. It should be admitted that distortions capital allocation are caused not only by capital tax differentials, but also by the absolute value of tax rates. Capital taxation in itself discourage investment by taxing away corporate profits and individual capital gains, as for instance Alesina *et al.* (1999) demonstrate in their model. In the same manner, capital taxes distort intertemporal allocation of resources by taxing deferred consumption more heavily. As a result, one should underline that in order to reduce distortions caused by capital taxation, it is crucial above all to decrease the tax rates and not to equalise them at an arbitrary level.

In our eyes, tax competition might well offer a solution to the alleged problem of misallocation of capital caused by tax differentials. If tax competition was a “race to the bottom,” then the final outcome would actually be a tax rate harmonised across countries and harmonised at a rate of zero per cent, thus eliminating capital tax distortions altogether.

The second argument used in favour of tax harmonisation is the argument closely related to the idea of a “race to the bottom.” It is argued that if tax competition is unconstrained, competing nations would set lower and lower rates on mobile factors, en-

dangering their own tax revenues and ultimately supplying an inefficiently low level of public goods. Furthermore, if public goods manifest positive externalities across borders, inhabitants of low tax jurisdiction areas bordering with high tax jurisdictions will tend to behave as free riders and elect representatives that will supply them a lower amount of public goods, as they will benefit from cross-border spill-overs. This is an especially strong argument, pervasive in literature on tax competition since Oates (1972) and the pioneering article by Zodrow and Mieszkowski (1986). In this spirit, Avi-Yonah (2000) states:

Tax competition, in turn, threatens to undermine the individual and corporate income taxes, which traditionally have been the main source of revenue (in terms of percentage of total revenue collected) for modern welfare states. The response of developed countries has been first, to shift the tax burden from (mobile) capital to (less mobile) labour, and second, when further increased taxation of labour becomes politically and economically difficult, to cut the social safety net. (Avi-Yonah 2000, p.1)

It is true that competition forces government to increasingly switch from taxation of capital to of taxation of labour income and consumption taxes. But is it something that should be denounced? We do not think so. As we argue in Part 1, capital income taxes are especially harmful for intertemporal allocation of resources and affect significantly growth rates. A transfer of tax burden from taxation of capital for instance to generalised consumption taxation would then be most welcome. But what if tax competition truly endangers the amount of social security services, or public goods in general? Razin and Sadka (1989) find in their model:

If (...) there is not sufficient coordination with the rest of the world to allow each country to tax its residents on their income from capital in the rest of the world, then tax competition leads to no tax whatsoever on capital income (...) Naturally (*sic*) the outcome of tax competition in the case in which the countries cannot tax their residents on capital income from the rest of the world is welfare inferior to the case where they can. Thus there are gains for competing countries from tax coordination. (Razin and Sadka 1989, p.4)

Peggy Musgrave (1991) puts it this way:

Movement, in particular of capital, to low-tax locations permits the owner who resides in a high tax location to act a free rider enjoying a high level of public services without contributing to their cost. As a result, voting patterns will be distorted, burdens will be shifted, and an inefficient level of public provision will result. (Musgrave 1991, p.286)

To arrive at such conclusion, the above mentioned authors must make one important assumption. They must presume that governments behave as benevolent welfare maximizing agents which were initially supplying the efficient amount of public goods. If this was the case, then tax competition would really lead to a welfare-deficient situation.

Yet these assumptions are completely detached from reality. First of all, it should be clear that the vast majority of government activities have little to do with providing public goods and that we are witnessing an important expansion of government spending, which is due mainly to inefficiencies inherent in government operation.

These may include a lack of knowledge on the part of the voters and government officials and lack of incentives to acquire relevant knowledge (rational ignorance). In addition, voting procedures are unstable and competition on the political markets is imperfect (public goods are “sold” in bundles). Furthermore, one should mention the existence of rents and incentives for rent seeking and discretion on the part of public servants and politicians. What is more, interest groups may and do exercise pressure in order to attain state of affairs that is desired by them, usually to the detriment of the general public. It should be noted that judiciary and public servants themselves represent extremely powerful interest groups, mainly by their agenda setting power. Their activities may often be described as behaviour of budget maximising bureaus.

Moreover, government behaviour through time is a source of inefficiency. Governments change periodically, which induces a myopic behaviour like deliberate redistributive manipulations in order to acquire votes and so forth.²⁵

²⁵ Rogoff (1990) describes in detail systematic distortions in public expenditures as a function of elections. Block (2003) provides evidence for this model of government behaviour, using data for a large number for developing countries. In the same spirit, Drazen and Eslava (2005) offer both a model of the Political Budget Cycle and evidence using data from Colombian municipalities.

It is for all of these reasons that democratic governments tend to grow, resembling often to the well known Leviathan. At the current point of time, no reduction in the scope of their activities can possibly affect the quantity of public goods provided and, indeed, each and every reform aiming at this reduction is badly needed. Thus, if tax competition restricts governments in their taxing powers, it is something that should be hailed and not feared.

Another set of arguments raised against fiscal competition is of normative nature. It is unfair, it is alleged, for one group of individuals to be able to switch their income-earning assets to low tax jurisdictions, while the majority of the general public has to pay high taxes in the jurisdiction of residence. It is utmost problematic to refute an argument based on normative assumptions concerning distribution of wealth in a society, for it often boils down to argument about what one believes or not to be morally right and wrong. Nevertheless, several remarks deserve to be pronounced about the above presented normative position.

First, with the increased mobility of capital, it is not that difficult even for the general public to invest abroad and to avoid paying taxes in high-tax jurisdictions. What once was privilege of a few is now a common practice, and thus this argument loses much of its initial appeal.

Second, if we assumed that tax avoidance is practiced mainly by a high-income minority, it is still difficult to say that it would be something morally unacceptable. High income individuals pay a lot more in taxes than low income people do though they consume basically the same public goods. Is this fair? One might respond affirmatively by pointing at a need of solidarity within a society, yet this response would be completely arbitrary. It is equally defensible to say that everyone should pay exactly the same amount in taxes and that a higher taxation of rich people is morally wrong; the latter being the normative position to which we adhere. In that case, tax avoidance is a most justifiable act.

What is of interest for us is that in the real world, tax competition emerges as a means of subjecting governments to more discipline and allows individuals to escape the burden of prohibitively high taxation. That is the commonsense argument we try to put forward in this work. This idea emerges from a particular vision of the government,

notably the one presented in Buchanan and Brennan (2000). This vision does not take the benevolence and the efficiency of government for granted and attempts to provide economic insights into the political processes. As a matter of fact, economic theory of tax competition which overlooks the role of political processes misses what is crucial in the whole issue. There have been several attempts to model effects of tax competition on welfare, taking into consideration the existence and nature of politics. Besley and Smart (2001) for instance consider both yardstick competition and tax competition in the strict sense. The latter is modelled as an increase in marginal costs of public goods. The authors represent the political process as a game with imperfect information from the part of voters, who cannot *a priori* distinguish “bad” (those maximising their own rents) from “good” (those maximising voters’ welfare) politicians. They find that tax competition may enhance welfare if it leads to an increase in the ability of voters to detect bad political incumbents. Yet if there are other means available to discipline officials, tax competition can conceivably decrease welfare.

Among other attempts to represent tax competition within a more general framework of a model of political processes, Janeba and Schjelderup (2004) deserve mentioning. Their paper present a comparative public finance model of both European-style parliamentary democracies and US-like presidential-congressional systems and show that increasing tax competition is likely to improve voter welfare. The main merit of their work is that they speak in the language of standard tax competition theoreticians, uniting in their models both the distorting effects of tax competition and distorting effects of political process itself and they show that increased competition can indeed improve utility.

6 Concluding Remarks

This work attempted at several things. First, it tried to define cogently the subject of tax competition and to show empirical evidence for its existence. Second, we reviewed major reactions to tax competition on the part of international policy-making organisations. We then argued that much of the rationale for restraining tax competition – as proposed by the OECD or the EU – does not hold if one takes into account knowledge of how governments work.

Methodology of our work might have struck one as being rather idiosyncratic. We attempted to reconcile standard economic analysis with sensible reasoning, inspired in many respects by teachings of the Austrian School. We are aware how risky this attempt is. We know that for instance the model we use can easily be criticised from a number of perspectives. Assumptions made about production, behaviour of government and related technical details such as twice continuous differentiability can be perceived as grossly simplifying and unjustifiably restrictive. From our perspective, however, it would be counter-productive to abandon altogether the mainstream concepts that we use. We want to emphasise that if we did so, we could not say too much about the subject, for purely aprioristic reasoning some Austrian economists employ has its severe limits. The nature of fiscal competition is, in our eyes, to some extent empirical and forces one to employ methods of scientific investigation that do not yield aprioristic conclusions and eternal truths, but only statements of validity limited by the character of model from which they are derived, or by significance of evidence provided. Furthermore, we believe that there could be a broader consensus on the issue of tax competition as its merits can be demonstrated not only in the context of aprioristic reasoning, as suggested by the Austrians, but also in a framework of rather mainstream economic theory.

Hence, we would be happy if this paper helped to bridge cleavages between mainstream public finance theory and the Austrians, as we believe that fiscal behaviour of governments and the need of restraining irresponsibility of elected officials is a theme that should be appealing to economists endorsing a number of different methodological positions.

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**Economic Growth and Unequal Wealth Distribution:
A Dynamic Approach**

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JEL Classification: B52, B53, D3, D63

Abstract: This article surveys various equity-based arguments from Marx to Rawls, in favour of income redistribution by means of public policy. Political explanations, the role of luck versus merit and the problem of the legitimacy of wide income differentials, are also discussed. The article argues that income and wealth inequality, due in great part to luck, is an inseparable part of economic growth, and even necessary for political freedom. A survey of data published by the United Nations shows that most people today enjoy higher per capita incomes than in 1975, during which time the world's population almost doubled. The article claims on the basis of this data that the world has entered a new phase in economic development, during which productivity growth surpasses population growth on a broad scale. People are becoming richer, but income disparities persist because they are an intrinsic part of the growth process.

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The unequal distribution of wealth and income is a constant source of irritation in any society. In traditional societies, inequalities in material riches are simply part of life and may go largely unquestioned for generations. One is born into a particular social class and can expect little change in the course of a lifetime. Wealth and status are not a matter of personal effort or achievement, but are determined by the lottery of birth and blood-lines. This may have served as a form of enforced legitimation in the past, but is not acceptable in modern societies.

However, modern societies also generate inequalities of wealth and income. How legitimate are they in societies where all are in principle equal before the law and where privilege is supposed to be a thing of the past? On what grounds should we strive for a “better” (i.e. more equal) distribution of income? What might be the cost of achieving such an objective? Are we moving towards a less privileged, more equal society, based largely on merit and personal effort where such differences in wealth as might subsist could be considered entirely just?

Possible answers to some, I fear not all, these questions will be discussed in what follows. A first section will be devoted to some of the more important theories of inequality and the merits – or not – of income re-distribution. A second section will look at some data on the link between economic growth and income inequality. A third section will attempt a dynamic interpretation of economic history with regard to the distribution of income and a fourth and final section will offer some tentative conclusions.

1 Theories of inequality

1.1 The Marxist interpretation of inequality

This view is discussed not because it is past history, but because it is based on an untestable hypothesis and is therefore not a matter for scientific discourse, but rather belief pure and simple. And many people still believe in it. According to the Marxist view, all social relationships are based on power. The employer exploits the worker, the landlord exploits the tenant, the business firm exploits the customer, the doctor exploits his patient, etc. This is a very persuasive view of the world because it explains and exonerates all personal failures. It denies all progress since Roman times. The Enlightenment never

happened. All is “false consciousness”¹. Power and privilege are all. In fact we have never left traditional society and we need to break its bonds by violent revolution before emerging from the chrysalis, so to speak, as fully-fledged “modern man”. If you believe this, dear reader, read no more. You are prisoner of your beliefs and can go no further in your understanding of how the world works.

1.2 The Enlightenment view

To those who believe that the Enlightenment did produce a change, allowing for a more open, more competitive and more meritocratic society, sheer power and privilege of birth is no longer society’s main organizing principle. The moment there is competition “exploitation” in the Marxist sense cannot exist. The employer has to compete with other employers in the market place for talent. A person’s wage is a market price, determined by supply and demand, not just a matter for arbitrary decision by a powerful boss. The land-lord has to compete with other suppliers of accommodation, including tents and caravans. The firm is in competition with other companies and cannot charge simply what it pleases for any old defective product, and expect to survive. There are plenty of alternatives. Competition is all that is needed.

1.3 But what about luck?

If income inequalities were truly a question of merit in a competitive world, then they might perhaps be legitimate. But who can deny the role of luck? If I am lucky enough to be born in Western Europe of reasonably prosperous parents, I will start out in life ahead of the pack, through little merit of my own. If well-meaning social engineers (of which there are plenty) decide that we should create a more just society by correcting partially for this factor by imposing heavy death duties on the estates of wealthy parents, what is to be done about the sheer luck of intelligence, genes or happy circumstance?

¹ See i.a. Michel FOUCAULT, *Le Pouvoir psychiatrique: Cours au Collège de France 1973-74*, Gallimard, Paris, 2003. Foucault is a leading contemporary proponent of the modern Marxist view, and believes that we are all manipulated by hidden power structures. Roger SCRUTON, a contemporary philosopher of a different persuasion, surveys modern Marxists in *Thinkers of the New Left*, Longman Group Ltd., Harlow, 1985.

In fact, we cannot correct for luck, and we shall see in a moment that it is an essential part of what makes modern society relatively free and prosperous. The reason why we cannot correct for luck is that counteractive measures land us in dangerous territory. They inevitably violate people's sense of property rights. The principle of "finders keepers" is a deeply ingrained part of the human psyche. What I find (by luck, perseverance or intelligence) is mine by right, and belongs to no one else. The unlucky person who finds nothing *ab initio* must persuade me to part with what I have justly acquired by offering something in exchange – work, goods or money. The transaction must be voluntary, or the transfer is not legitimate.

To correct for luck through social policy implies a violation of these principles of just possession². It involves using force to take from someone who enjoys legitimate possession, and to give to someone who has offered nothing in exchange and, as we all know, two wrongs do not make a right. . .

In practice, all modern societies try to resolve the problem of luck *versus* merit by taxing highly successful people exceptionally severely. But anyone can see that this is unjust, for it does not resolve the question of what part of income, in a particular case, is due to merit and what to luck, even supposing that this could actually be ascertained. Progressive taxation is therefore necessarily unjust, and one cannot even say that it is on the whole more just than, for example, a flat tax, for one cannot simply make rash generalizations about the source of above-average incomes.

1.4 Maximin: The Rawlsian condition

According to John Rawls³ unequal income distribution is legitimate if (a) it incites people to greater effort, (b) the poorest gain the most from the process of economic growth (the "maximin condition" and (c) democracy is not endangered. Of these cumulative conditions the first and last are easily met, but what about (b)? In point of fact, on condition the process of economic growth is considered in its entirety, this condition is also easily met, for economic growth has allowed billions of people to live rather than die an early death, hence the world population explosion of the 20th century. If life is worth

² See David HUME, « Justice and Property » in *Treatise of Human Nature* (1737).

³ John RAWLS, *A Theory of Justice*, Harvard University Press, Harvard, 1971.

living, and is preferable to death, then we must acknowledge that economic growth has radically improved to lot of the least fortunate. We shall see below that many poor people today even enjoy rising standards of living, and that we are now engaged in the second stage of economic growth, where average *per capita* incomes rise above subsistence level. Whether this can continue indefinitely until all 6-7 billion of us enjoy the same (high) level of real income is a separate question which will not concern us here, for this would lead us into entirely speculative territory.

1.5 Diminishing marginal utility

Neo-classical economics supplies a seemingly irrefutable argument in favour of taxing the rich and giving to the poor: the principle of diminishing marginal utility as applied to income. Thus 100 EUR in the hands of a wealthy person is neither here nor there to them, while the same 100 EUR in the hands of a poor person greatly adds to their welfare. Therefore, institutionalized transfers from rich to poor improve social welfare. The logic is irrefutable in a static sense, if we agree – for the sake of argument – that the utilitarian calculus is acceptable. But even the utilitarian calculus fails if we consider the secondary and tertiary effects of income re-distribution, in other words, their dynamic implications. Of these there are many. Here are just a few:

Income re-distribution is never just a case of taking a mere marginal 100 EUR from the rich and giving it to the poor, but of taking a wholly disproportionate share of high incomes to feed the ever-growing needs of the state-sponsored redistribution system. This systematic creaming-off of higher incomes is justified in the name of equity, or social justice, not marginal utility. Far from not feeling the loss of their income, the seriously wealthy spend a great deal on tax advice, and largely succeed in avoiding (often perfectly legally) what they consider to be punitive taxation on what they believe is rightly theirs.

The end results of this are many: a) the very rich do not pay the high marginal taxes theoretically aimed at them, b) the middle classes pay most of the taxes, c) the disincentive effects are huge⁴, d) thus reducing the economic input of large numbers of energetic and gifted people and e) reducing the job opportunities for the less gifted. In the end, it is the

⁴ According to Martin FELDSTEIN “Tax Avoidance and the Deadweight Loss of the Income Tax”, *The Review of Economics and Statistics*, November, 1999, the US loses two dollars of real output for every extra dollar of taxes collected at federal level.

latter who suffer the most from income re-distribution, the exact reverse of the Rawlsian condition.

On a purely ethical plane, social engineers should never forget Confucius' story of the fish: give a poor man a fish, he eats for a day; teach him to fish, he supports himself for the rest of his life. State handouts are like giving a poor man a fish a day. He becomes dependent on (and subservient to) the source of fish. Any sensible adult would prefer to have a job and enjoy the security and pride of providing for themselves and their families. By depriving the poor of jobs, income re-distribution confiscates their freedom and dignity. Some even get fooled into doing nothing with their lives.

1.6 Debt towards society

I have often heard honest socialists say that the wealthy owe a debt to society, and that progressive taxation is the correct way of paying it off. The argument goes as follows. Without society, I am nothing. I can achieve nothing. So, if I am successful in my business ventures, I "owe" society a share in my success. A modified version of the argument goes like this: the rich have more to lose than the poor in the breakdown of law and order, so they should be prepared to pay more for its preservation.

In my humble opinion, these are woolly arguments and/or rash generalizations. They do not give us a rule for deciding on what society's share might be. The successful business has paid all its bills, taxes and wages, has robbed no one, and has obliged no one to buy its product at a price which covers all costs and leaves a profit. In what sense does this individual "owe" anything more to anyone? Profit is exactly that which is theirs. They discovered it: it did not exist before, and they have created it. Finders keepers.⁵ We pay taxes so that government keeps law and order, and protects our property. These are public goods in the sense that all benefit from them, and all should, in justice, pay for them in equal part. We cannot assume that the poor have less of a stake in law and order than the wealthy, indeed I can think of several plausible arguments which go the other way. We cannot go around asking people by how much they benefit from law and order, and charge according to each individual's marginal utility, just as a seller of

⁵ See in particular Israel KIRZNER, *Competition and Entrepreneurship*, University of Chicago Press, Chicago, 1973.

shoes cannot charge different prices for the same shoes according to the intensity of the desire of his customers to possess them. He has to sell to the enthusiastic buyer, as to the marginal customer, to the rich and to the poor, at the same price. A poll tax (everybody pays the same absolute amount, like for a pair of shoes) is the only just way to pay for public goods like law and order, and furthermore it provides a simple and clear rule to be followed.

Note that this question should be kept distinct from the issue of income re-distribution as a matter of social justice, which was dealt with under point (5).

1.7 Enlightened self-interest

There is a neo-Marxist argument in favour of income re-distribution which goes something like this: the capitalist class has reached an underlying consensus that it is safer for them in the long run to agree to progressive tax systems for the sake of social peace. Income differentials resulting from raw market forces are simply not acceptable or legitimate in modern society, and the alternative to income re-distribution would be revolt, arbitrary expropriation and social unrest, which are far worse than heavy taxes.

This type of argument may indeed explain the post World War II consensus between Left and Right to build the Welfare State across the whole of Western Europe. However, it is not a philosophical justification of income re-distribution. It is purely opportunistic and depends on the circumstances. If circumstances change, the underlying consensus will change too. In fact, if it becomes apparent that income re-distribution causes high unemployment and low incomes for the poor, and increases the probability of social strife, intelligent capitalists might think again. . .

1.8 Market failure?

Without going as far as Marxism, many people agree with one of the basic tenets of neo-classical economics: the market is fine as far as it goes, but it needs constant adjustment, regulation and supervision because it is inherently imperfect. In particular, it cannot be relied upon to ensure everyone a job and a decent standard of living. According to this view, government must step in to supply jobs, housing, health, education, support

in old age, etc. The market failure hypothesis stands in contrast to the efficient market hypothesis, which states that markets are efficient enough for most purposes and that it is government intervention which is prone to failure.

It ought to be a matter of simple empirical verification as to which hypothesis is confirmed by the facts. However, the interpretation of the facts is in dispute. For the moment, the market failure hypothesis is dominant and explains the current craze for high taxation and ever-growing government regulation. The results, however, are disappointing: high unemployment, low growth, prisons operating at well over capacity. For the market failure people, this is evidence that even more government action is needed; for the efficient market people, that less is required. The debate continues.

1.9 The moral imperative?

Even if we agree that inequalities in material condition are a natural part of life, are we not morally obliged to come to the help of our fellow human beings in distress? Most people would immediately reply in the affirmative, although some might limit the extent of their generosity to fellow citizens, or their own immediate neighbourhood, rather than accepting responsibility for the whole of humanity.

But the real question is who should be responsible. If the state is entrusted with the distribution of alms to the poor, the action loses all moral value, since the agents of the state do not give away their money, but that which has been taken, by force, from others. It is not a voluntary process on the part of the donors (an inadequate term for which I cannot find an alternative). The recipients, for their part, feel no gratitude. The normal pattern of reciprocal social obligation breaks down and is replaced by resentment and false claims.

The moral imperative to succour those less fortunate surely exists, but it cannot become a task to be undertaken by the state. It must remain voluntary and preferably individual if it is to retain its moral value. One might be able to justify succour to the poor at the lowest possible local government level, on terms agreed upon by the community.

1.10 Justice and property rights

A defence of inequalities based on property rights takes the debate onto an entirely different level. Thus for Locke⁶ the right to material property is only one aspect (but an inherent and inseparable aspect) of individual property rights which encompass the right of possession over one's own body, one's right to freedom of thought and conscience, and the right to the fruits of one's own efforts. Interference by others with any one of these freedoms is a violation of property rights in the broadest sense and is felt to be deeply unjust. Conversely, I have no right to interfere in other people's property rights. According to Locke, this rule makes for social harmony.

David Hume takes the argument one step further and with regard to material possessions claims that justice in possession is ensured if (a) possession is stable and recognized, (b) possessions are transferred from one to another by mutual consent and (c) contracts freely entered into are executed in good faith by the parties. According to these rules, I can only acquire someone else's property by gaining their consent, usually by offering something in return. Voluntary exchange is the usual way of acquiring things. If these rules are followed, the resulting distribution of "things" is legitimate.

Further elaborations of the rules of just conduct in exchange are developed by Hayek⁷ and de Jasay⁸ in a negative fashion: catalaxy results in orderly social relationships as long as exchange is free from privilege, fraud and violence.

For these thinkers, the role of the State can safely be limited to the protection of property rights in the broadest sense. If the rules are just, and enforced, the results are just. An on-looker to a transaction has no right to any part in the resulting creation of wealth. Can someone claim compensation for the loss of an opportunity to exchange? Suppose a competitor drives me out of business, or reduces my profits. Can I justly claim compensation for loss of income? The answer is no. One of the rules of the game is that there should be no privileges. Each player takes his or her chance in an open and competitive environment. In the end it is competition which ensures legitimacy.

⁶ John LOCKE, *Essay concerning the true original, extent and end of Civil Government*, 1690.

⁷ F.A. von HAYEK, *Law, Legislation and Liberty*, Vol. 2, *The Mirage of Social Justice*, University of Chicago Press, Chicago and London, 1976.

⁸ Anthony de JASAY, *The State*, Liberty Fund, Indianapolis, 1998 (first edition Blackwell Ltd. 1985).

Does forced compensation by the state become legitimate if it is decided upon by a pre-agreed, politically legitimate democratic process? To this question we now turn.

1.11 The politics of income re-distribution

Having briefly summarized various strands of thinking with regard to the distribution of material possessions, it seems to me difficult to come down firmly in favour of compulsory re-distribution by the state from a philosophical point of view. It is lacking in moral content, it violates individual property rights in the broadest sense, it is inefficient and degrading, and possesses no safe limitation of state action. In short, there is no acceptable theory of re-distribution compatible with freedom, dignity and justice.

On the other hand, there is a very convincing explanation of re-distribution based on the politics of majoritarian representative democracy. It is always in the short-term interest of the 51% majority to tax the remaining 49% minority. There is therefore a permanent built-in constituency in favour of re-distribution in any democracy. Add to this government failings and political realities, and we can see why organized interest groups soon become the principal beneficiaries of state sponsored re-distribution. Privileges, which were supposed to disappear in the modern age, return. So does keeping to the democratic rules make re-distribution legitimate? The answer is surely negative. The tyranny of the majority, or the tyranny of special interests, cannot confer legitimacy on a decision concerning property, no matter what decision rules are followed. Legitimacy can only be guaranteed by following the principles described above. Politics and property do not go well together.

1.12 Unequal income distribution and freedom

We now come to the most important element in our discussion. At any one time, a modern economy is in the process of adapting to change. Some sectors are expanding, others declining. All members of society participate in this process, some on the winning, and some on the losing side. The game never ends, so opportunities are constantly renewed to inspire the latter to do better next time. This renewable game of competitive exchange is so much more rewarding than the old game of tradition, privilege and oppression that

it has produced the wealth of the modern era. But for the process to work, the chance of success must be balanced by the risk of failure at all times. This dual incentive system is needed not only to motivate people to follow the sign-posts to success and avoid the indicated danger zones. It is essential as a guide to an uncertain and unknowable future. Price signals encoded in economic success and failure distill all the dispersed knowledge available in real time at any one moment⁹. New information is constantly absorbed. No one can know but a small fraction of all existing information, and it is essentially unknowable in the whole, or to any of the economic agents who are actually taking decisions. However, economic agents acting on the basis of the partial information encoded in price signals, and using their own specific knowledge, are in fact acting in a coordinated manner, despite their inherent ignorance. F. A. von Hayek received the Nobel Prize in Economics for having discovered the coordinating function of the price mechanism. It allows us to be forward-looking in an uncertain world. Without it, our economy would become static and predictable, as it used to be in traditional societies. And what is static and predictable is very soon taken over by one tyrant or another.

Income inequalities and the uncertainties which attend all human endeavour are therefore an indispensable part of our freedom. As Hayek says¹⁰, it is our inevitable ignorance of so many essential matters which forces us to rely on chance to see us through. We need the liberty to explore all possible avenues, in order to find solutions to problems. We cannot use liberty just for those situations where we know it will work. Partial liberty is worthless. The economy would grind to a halt and fall easy victim to whatever great tyrant came along. This is the nature of the link between uncertainty, competitive markets, wealth creation and liberty.

Consequently, income inequalities are part of our liberty and wealth, and have to be endured – or enjoyed. Empirical evidence suggests that the latter is more appropriate. To this question we now turn.

⁹ F. A. von HAYEK, « The Use of Knowledge in Society » *American Economic Review*, Vol. XXXV 1945, pp. 519-30, reprinted in *Individualism and Economic Order*, University of Chicago Press, Chicago & London, 1948.

¹⁰ F. A. von HAYEK, *The Consitution of Liberty*, Routledge, London, 1960.

2 Empirical evidence

Although unequal income distribution is essential to the process of economic growth, a modern society based more on merit than on privilege turns out – unsurprisingly – to be less unequal than traditional, autocratic or totalitarian societies. Societies, as they move from a traditional to a modern form of government, begin to enjoy economic growth. But the process has to start somewhere. In the very first stage of transition from traditional to modern, only one economy starts to move. Historically, this was England of the late Restoration period. A gap in prosperity opens up between the first mover and all others, and inequality between individuals and nations grows. The process is the same between as within societies. To begin with, only a few pioneers move ahead, and income disparities grow. Prosperity nevertheless spreads outwards, employment grows and opportunities open up, gradually touching ever larger numbers of people. At this early stage in the process, growth takes the form of a decline in infant mortality and a larger population. There are actually more poor people than ever before, and the gap between rich and poor is large and growing. The situation looks hopeless if one takes a static view. But if we look back, we see many babies surviving infancy who otherwise would have died, and if we look forward, there comes a time when productivity improvements begin to show up as actual growth in average *per capita* incomes, instead of just population growth. Economic historians place this moment around 1815 in Great Britain, but it came later to the rest of Western Europe and North America,¹¹ and for the rest of the world we can say that it only began to occur on a large scale in the 1980s.

In the data which is presented below, we shall be mostly using the United Nations composite relative Index of Human Development (IHD), since this is more comprehensive than mere *GDP per capita*. It aims to capture social indicators like life expectancy and literacy as well as standard wealth creation *per capita*. The higher the index, the more prosperous the country is, with 1.0 being the maximum. At the time of writing, this place is occupied by Norway, with an index rating of over 0.9.

Table 1 shows the demographics of growth from 1975-2002. The world's population almost doubled, from 4 to 7 billion, confirming that a great deal of productivity growth

¹¹ T.S. ASHTON, « The Standard of Life of the Workers in England 1790-1830 » in F.A.HAYEK, *Capitalism and the Historians*, Phoenix Books, University of Chicago Press, 1954, pp. 123-155

went into improved life expectancy, as is to be expected in the first stage of economic growth. However, real GDP *per capita* also grew in the developing world (see Table 2), not very fast as yet, but enough to suggest that many countries had embarked on the second stage of the growth process, i.e. where productivity growth starts to outstrip population growth. It is significant that the highest per capita income growth rates were registered by the poorest countries (see Rawls' maximin condition above). It should also be noted that the developing countries most advanced on this second stage in an absolute sense, those which the UN describes as being "medium income" countries, contain the bulk of the world's population. This suggests that we are not dealing with a few isolated examples, but that growth in material welfare is a widespread, general phenomenon.

Table 1

Demographics of economic growth, 1975-2002				
	Populations concerned (millions & %)			
	1975		2002	
	(millions)	(%)	(millions)	(%)
"High" IHD countries	972	24	1,282	18
"Medium" IHD countries	2,678	67	4,759	67
"Low" IHD countries	354	9	1,022	14
Total in sample	4,004	100	7,063	100
World population	4,068		7,197	

Source: UNDP, Human Development Indicators 2004, T.5 "Demographic Trends"

Table 2

Average real GDP per capita annual growth rates, 1975-2002	
	%
High income countries	2.1
Medium income countries	1.4
Low income countries	2.2

Source: UNDP, Human Development Indicators 2004, T.13 "Economic Performance"

It is true that these results are heavily influenced by the extraordinary economic development of India and China, which overwhelms the experience of many smaller countries which are not developing at all. However, if growth is a dynamic process which spreads partly through trade and partly through imitation, the fact that these two giants appear to have achieved the second stage of economic development will soon have a measurable impact on their neighbours and trading partners. Anecdotes of China investing in raw material extraction in Africa, for example, are an example of how growth can spread outwards, in this case particularly quickly since China is such a large new player in the game.

We should note from Table 2 that the high income countries also experienced rapid per capita income growth. This means that the per capita income gap between the rich and the poor did not narrow during the period under examination, but that most grew richer all the same.

Table 3 shows how the IHD has evolved since 1975 for “high”, “medium” and “low” countries. It shows that medium level IHD countries enjoyed the largest increase, followed by the poorest countries. Rich countries have hardly progressed at all, but that is to be expected, given the composite nature of the index. In these terms, the period 1975-2002 has been one of rapid catch-up growth for the developing world as a whole.

Table 3

Index of Human Development, 1975-2002			
	IHD 1975	IHD 2002	Growth of IHD 1975 = 100
“High” IHD countries	0.830	0.850	102
“Medium” IHD countries	0.504	0.682	135
“Low” IHD countries	0.352	0.445	126
<i>Source: UNDP, Human Development Indicators, T.2 & T.5, own calculations</i>			

This fact is confirmed by Table 4, which shows a substantial narrowing of the gap between the “high” IDH and other countries during the period considered. Thus in 1975 the IHD index for medium level countries stood at 61% of the index for rich countries,

while by 2002 their status relative to rich countries had risen to 80%. The relative status of “low” IDH countries, in the meantime, had risen from 42% to 52%.

Table 4

The gap narrows, 1975-2002		
	1975	2002
“High” IHD countries	100	100
“Medium” IHD countries	61	80
“Low” IHD countries	42	52
<i>Source: same as Table 3</i>		

It is therefore impossible to escape the conclusion that the gap between rich and poor nations is narrowing in terms of the HD index, and that even on a simple *per capita* basis, the poorer are becoming richer. The majority of humanity has finally reached the beginning of the second stage of economic growth, where productivity outstrips population growth.

This observation is not incompatible with growing numbers of very poor people, as we have already pointed out. The UN estimates that the number of people surviving on less than 1\$ a day actually declined slightly from 1.3 billion in 1993 to 1.1 billion in 2000¹². This is obviously still far too many, and far more than in, say, 1950 and we cannot but be concerned about the problem. However, as already explained, this is the normal pattern in the first stage of the economic growth process.

3 Economic growth: a dynamic process

We have already described how growth has to start somewhere, with only one or possibly a handful of pioneers, and then spreads out.

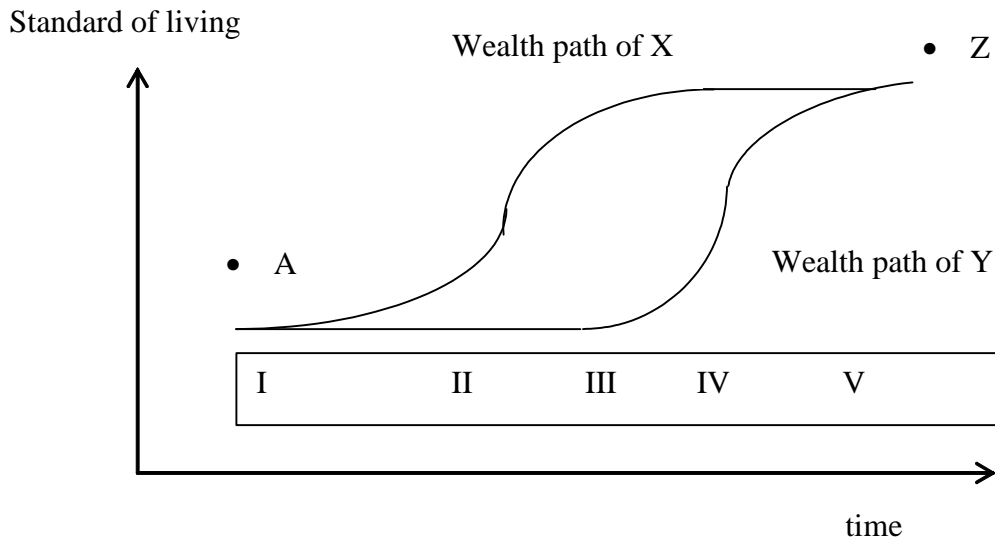
Referring to Graph 1, let us consider the growth paths of individuals X and Y (or country X and country Y if one prefers to think in collective terms). To begin with,

¹² UNDP, « The State of Human Development » in *Human Development Indicators, Human Development Report 2004*, p. 129.

at stage I, point A, both are equal in poverty. Nothing has happened yet to change the traditional structures of government, people are not yet aware of their property rights in a broad, Lockian sense – i.e. their basic human right to property and equal treatment under the rule of Law. The beginning of the growth process does not require that everyone should become aware of these basic human rights simultaneously, just that a few should take the risk and start to act. They may or may not duly move ahead, depending on how existing political and religious elites view the matter. Let us suppose that we are in Enlightenment England of the latter 17th century. Individual X creates great riches for himself and his family. The income gap between this family and others grows (stage II), and after a while even looks permanent and intractable (stage III). But at stage IV, Y starts to imitate X, and the gap between them begins to close. By stage V, X and Y enjoy similar standards of living once more, but at a much higher level of wealth than at stage I. They will be copied by more and more people (whose wealth paths are not shown). Of course point Z is not an equilibrium, just a starting point for another round of pioneering, wealth creating discovery. Unequal wealth distribution is an inevitable part of the process of discovery and is necessary for economic growth.

Graph 1

The dynamic process of economic growth



Until the whole world is drawn into the growth process, which will happen in due course, at any one time one can always point to dramatic, growing and seemingly intractable income disparities such as illustrated at stage III. This is because some societies are forging ahead, while others have yet to start. Referring to Table 2, one can see that rich countries have continued to grow in real per capita terms almost as fast as the poorest. This is remarkable, because they were already considered rich and developed in 1975, and to grow fast from a high level is no mean achievement. The inevitable corollary is that the relative income gap is wide and growing. However, (a) there is no reason why rich countries should stop using their intelligence to raise productivity and (b) the poorest are benefiting from the process, as already described. Absolute standards of living are rising in most countries.

However, for those who worry more about income distribution than poverty reduction, it should come as some comfort to note that income distribution “improves” slightly (i.e. becomes more equal) as incomes rise. This should not surprise us, since a

modern competitive society, based on free markets and the rule of law, has in fact thrown off the old traditional institutions based on privilege, where the distribution of income was permanently and highly skewed.

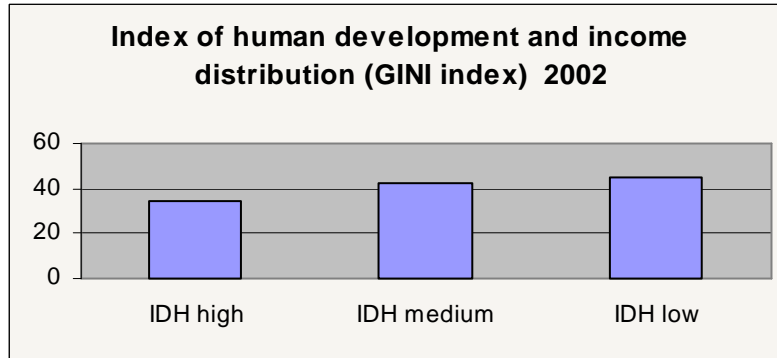
To illustrate the point, Table 5 shows the proportion of national income earned by the middle class (defined as being the 60% of the population between the two extremes of the 20% poorest, and the 20% richest) in four broad categories of countries, grouped according to income levels. There is a clear and simple relationship between higher incomes and a bigger middle class, just as one would expect. Table 5 is deceptively simple, but it represents weighted averages for over 150 countries.

Table 5

Economic growth favours the middle class, 2002		
	Per capita income (Luxembourg = 100)	% national income earned by the middle class*
High income countries	95	53
Advanced countries	82	49
Medium income countries	61	45
Low income countries	40	43
* defined as the 60% of population between 20% poorest and 20% richest		
<i>Source: Own calculations derived from UNDP, World Development Indicators, 2004, Tables 1 & 3</i>		

Further evidence can be derived from relating Gini coefficients of income distribution to levels of economic development. Again, there is a clear relationship in the expected direction (see Graph 2): as we move to the right, towards lower levels of IHD, the GINI coefficient rises, showing a slight “worsening” of the income distribution.

Graph 2



Source: UNDP, *World Development Indicators*, 2004, Tables 2 and 4.

However, the main point is that even highly developed countries still demonstrate wide income differentials, despite devoting a large and growing share of national income to the cause of greater equality. This is indeed a paradox. I believe that it can be explained by suggesting that the market undoes every evening what was carefully stitched up during the day by the social engineers. Penelope is waiting for her wandering Ulysses. It is basically a waste of time to fight the market by redistributing incomes. It is both costly (in terms of wasted effort and lost income) and ineffective (inequalities of every sort, often more political than market-based, continue to flourish). Far better leave incomes where they are earned, and ride the wave of economic growth.

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Book Review

Jesús Huerta de Soto. *Money, Bank Credit, and Economic Cycles*. Translated by Melinda A. Stroup. Auburn: Ludwig von Mises Institute, 2006.

The book under review is the first English edition of Prof. Jesús Huerta de Soto's book *Dinero, Crédito Bancario y Ciclos Económicos* which first appeared in Spain in 1998. A second edition of the book followed at the beginning of the year 2002 in the wake of worldwide economic events illustrating the great timeliness of the book and the considerable relevance of its subject matter. In the meantime previous reviewers of the book had urged the translation of the book into English¹, a task now completed as a result of the great effort of Melinda A. Stroup, who wrote the first English manuscript of the entire book, and of the determination of Lewellyn H. Rockwell, Jr., President of the Ludwig von Mises Institute.

The contribution made by the book's author cannot simply be categorized as belonging exclusively to a particular sub-discipline within economics. Most naturally it addresses macroeconomists and monetary theorists, but it can equally be considered an exploration into the now rapidly expanding field of new institutional economics, or into the Law and Economics of money and banking. Experts of the work of F. A. Hayek will recognize it as the accomplishment of a long-awaited feat: an integration of Hayek's early work on money and business cycles with his later work on legal theory, institutional economics and spontaneous order. Some commentators had started raising doubts about the compatibility and ultimate consistency between these various strands of thought in the old master's multifaceted oeuvre.² With Dr. Huerta de Soto's accomplishment, the various pieces of the Hayekian puzzle have been shown to consistently fit together yielding a coherently integrated picture capable of explaining a wide variety of juridical, historical and economic phenomena.

As Hayek explained, man is as much a rule-following animal as a purpose-seeking one.³ Where economic agents' behaviour is governed by particular abstract rules of conduct, spontaneous order will emerge and social life will run its course in a well-ordered and coordinated fashion. To the contrary, whenever those rules are violated on a more or less significant scale, life in society will become dis-coordinated and a process of de-civilization will set in. With unprecedented thoroughness and clarity Prof. Huerta de

¹ See in particular L. Yeager (2001, 255) and J. G. Hülsmann (2000).

² See in particular U. Witt (1997). This author argues that Hayek's early work on the theory of the business cycle is difficult to make sense of in terms of his later work on spontaneous economic order and believes that Hayek pursued two different and basically incompatible research programs consecutively.

³ See Hayek (1973, 11).

Soto has detailed what exactly those rules of conduct are in the domain of money and banking.

One of the main theses of the book is indeed that whereas the economic analysis of juridical institutions has thus far had almost exclusively microeconomic implications, the approach to the economic analysis of juridical institutions developed by the Austrian School yields critical implications and conclusions that are essentially macro-economic in nature, elucidating macro-economic phenomena like inflation, recurring boom-bust cycles and stagflation, besides their devastating consequences.

The juridical foundations are treated in the first and third chapters of the book. Chapter 1 (1-36) deals with the different legal logic inherent in the monetary irregular-deposit contract on the one hand, and the loan contract or *mutuum* on the other, explaining their inherent mutual incompatibility at a fundamental level. In Chapter 3 (115-165) the author considers different theoretical attempts to come up with a new contractual framework aimed at justifying banks' lending of demand-deposit funds to third parties; it is shown that these attempts at justification are riddled with an insoluble logical contradiction and are therefore doomed to failure.

Chapter 2 (37-114), which presents various historical examples of violations of the legal principles governing the monetary irregular-deposit contract by bankers and authorities in three different historical instances, by itself is worth the price of the book. If it is undeniably true that historical experience amply illustrates the relevance of the book's main theses, historians who have made important contributions to the historiography of money, credit and banking have mostly been unaware of the conclusions of the Austrian theoretical analysis and have often had recourse to somewhat inadequate theoretical tools. This chapter reviews and integrates the celebrated work of some of the most important historians from the perspective of the theoretical analysis developed in the book.⁴

Chapter 4 offers a detailed description of the credit expansion process and occupies

⁴ The three historical instances are the Greco-Roman world; the Mediterranean trading cities of the late Middle Ages and the beginning of the Renaissance; and, finally, the emergence of the first important government banks beginning in the seventeenth century. The reader is offered fascinating introductions into the work of such important historians like Raymond de Roover, Raymond Bogaert, Michael Ros-tovtzeff, Jean Imbert, Henri Pirenne, Abbott Payson Usher, Marjorie Grice-Hutchinson, Carlo Cipolla and Ramón Carande, among others.

a central place in the book because it paves the way toward a comprehension of the processes through which banking institutions and their stockholders expropriate great amounts of wealth from all of the rest of society. This chapter precedes the chapters devoted to the theoretical analysis of the business-cycle effects of credit expansion (Chapter 5, 265-395) and to a highly interesting series of additional considerations on the theory of the business cycle (Chapter 6, 397-508).

Some critics will perhaps object that the author resorts to a mono-causal explanation of such complex phenomena like business cycles and may want to point to the possible advantage of taking a more eclectic approach when analyzing the causes of business cycles. However, it can be pointed out that mainstream writers generally “sin” even more excessively in this respect since these authors do not discuss or criticize the Austrian theory – if they mention it at all – while the book under review offers a thorough criticism of rival approaches to the understanding of business cycles. The author’s critical analysis and refutation of the alternative explanations for business cycle phenomena offered by the monetarist and Keynesian schools is contained in Chapter 7 (509-600).

Chapter 8 (601-714) offers a fascinating overview of past as well as more recent controversies relating to the role of a central bank as well as a brilliant refutation of the rationale for both central banking and fractional-reserve free banking.

On the critical side, advocates of a system of fractional-reserve free banking will likely remain unconvinced by the way the author portrays the internal dynamics of a fractional-reserve free banking system, contained in the section devoted to the analysis of such a banking system (664 ff.), in particular as regards the author’s suggestion that fractional-reserve free banking will inevitably evolve towards a system of central banking. The main issue can be summarized as follows.

In Table VIII-2 on page 667 of the book the author conceives of the interaction pattern between banks in a fractional-reserve free banking system as a classic prisoner’s dilemma, a conceptualization which is here intended to elucidate the typical “tragedy of the commons” effect which will appear under fractional-reserve free banking: bankers face the almost irresistible temptation to be the first to initiate a policy of expansion, particularly if they expect all other banks to follow suit to one degree or another. In the prisoner’s dilemma configuration comprising two banks, if either bank expands credit

alone, its viability and solvency will be endangered by interbank clearing mechanisms, which will rapidly shift its reserves to the other bank if the first fails to suspend its credit expansion policy in time. Furthermore, the situation in which both banks simultaneously initiate credit expansion – a strategy which yields the same large profits to both – represents the mutually cooperative outcome, while the situation in which neither of the banks expands and both maintain a prudent policy of loan concession represents the outcome of mutual defection. Prof. Huerta de Soto concludes that it follows from this interaction configuration that the two banks will face a strong temptation to arrive at an agreement and, to avoid the adverse consequences of acting independently, initiate a joint policy of credit expansion, and particularly, to urge authorities to create a central bank.

However, and even if the author's conclusion remains fully relevant in view of the historical evidence presented in the book, the aforementioned argument, as it stands, clearly presents a theoretical gap. Without a more detailed description of how, in the absence of extra-market devices and interventions such as those of a central bank, the two banks will actually coordinate their courses of action upon the mutually cooperative outcome (in-concert expansion), the argument is not entirely tight. Indeed, according to the logic of the prisoner's dilemma game all players will end up defecting so that no over-expansion will ensue.⁵ This is the conclusion Prof. L. H. White (1995, 16) seems to have had in mind when he wrote:

“Concerted expansion by a multiplicity of independent banks is implausible for the same well-known reasons that the attempt to build a stable cartel arrangement among many firms is unlikely to be successful in any industry in the absence of a legal mechanism enforcing cartelisation. Any firm not abiding by the cartel agreement could capture whatever benefits the agreement is supposed to bring the industry to a greater extent than a firm adhering to the agreement.”

This does not mean that the argument is wrong or useless. In fact the conclusion is well supported by historical evidence. It does seem to mean, however, that the conclusion refers only to one theoretically possible scenario – the one which historical events have

⁵ In the prisoner's dilemma setting players cannot reach the mutually cooperative outcome because they cannot get together to make a binding agreement to expand together. It is here assumed that the prisoner's dilemma is played as a non-cooperative game.

actually taken – and not to the only possible scenario. Indeed, there are reasons to believe that economic forces would tend to limit the practice of fractional-reserve free banking even in the hypothesis that fractional-reserve banking were considered fully legitimate from the ethico-juridical perspective.⁶

A relatively underexplored topic in the literature concerning proposals for banking reform in general and concerning the theory of a 100-percent reserve requirement in particular relates to the unavoidably complex issues surrounding the transition towards a genuine gold standard. Such questions relate to the “economics of transition” in the field of money and banking and constitute a legitimate topic of research in themselves. Partly taking inspiration from earlier proposals, and partly going beyond these, the book contains an original proposal in this respect which can be expected to fuel future debate in the relevant literature.

In the final chapter of the book (715-812) the author thus details five basic stages of the process of reform and transition toward the preferred monetary and banking system (788 ff.). In this process which would culminate in complete banking freedom subject to legal principles and in a single, worldwide monetary standard, today’s private bankers would be converted into mere managers of mutual funds, to which banks would transfer all of their assets and claims (except for the portion corresponding to their net worth). The shareholders of these mutual funds would consist of two groups, on the one hand the holders of current demand deposits who have opted for replacing these deposits with mutual-fund shares, on the other hand – and here resides the originality of the book’s proposal – the holders of treasury bonds who would receive, in exchange for them, the remaining shares in the mutual funds to be established with the assets of the banking system.

In conclusion, it should be stressed that the book under review has put the multidisciplinary method and approach into practice with great effectiveness. It is no exaggeration to assert that the strongest argument in support of the author’s case ultimately derives from the fact that the results of the historical-evolutionary, the theoretical (or economic) and the juridico-ethical analyses converge on a similar overall conclusion.

Obviously if the analytical results reached from the perspective of such various angles

⁶ See my (Winter 2006).

all converge and point in the direction of the same overall conclusion, one is likely to have hit upon some important truth.

Even if it may be difficult at this time to gauge in any precise manner the effect the book will have on the economics profession at large, there can be no doubt the book is destined to become a classic, both by virtue of the subject matters that are treated and in virtue of the manner in which they are treated: thoroughly and authoritatively.

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