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Aims and Scope

The Journal of Prices & Markets, published by the Ludwig von Mises Institute of Canada, is a journal that seeks to improve the understanding of the role of markets in the economy. Submissions should seek to shed light on contemporary issues while being grounded in a praxeological reasoning. Prices & Markets welcomes submissions from a variety of fields such as politics, sociology, and psychology, where ever they can bring relevance to economic and financial questions.

Mission

It is the mission of the Ludwig von Mises Institute of Canada to educate the public to the importance of placing human choice at the center of economic theory, to encourage a revival of critical historical research, and to advance the Misesian tradition of thought through the defense of the market economy, private property, sound money, and peaceful international relations.

"Economics is mainly concerned with the analysis of the determination of money prices of goods and services exchanged on the market. In order to accomplish this task it must start from a comprehensive theory of human action…. [I]t must not restrict its investigations to those modes of action which in mundane speech are called "economic" actions, but must deal also with actions which are in a loose manner of speech called "noneconomic."

Editor’s Introduction

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On November 6-7, 2015, Mises Canada hosted the 4th annual International Conference of Prices & Markets. With the University of Toronto providing the venue, scholars from across Canada and the University States were joined by visitors from the United Kingdom, Germany and Spain for the two-day event.

In total 21 presenters convened to discuss economic and political theory. The eight sessions specifically dealt with microeconomics, methodology, political theory, investments, macroeconomics, monetary economics, libertarianism, and finally, current events in financial markets. The depth in terms of quality of presentations as well as the number of attendees (around 75) was a marked improvement over 2014.

This Papers & Proceedings gives the reader the opportunity to get a taste of the ideas discussed over these two days. While these articles do a good job at spreading the ideas that defined the conference, there is no substitute for being physically present, as several attendees and presenters noted to me afterwards. Next year’s conference will be held at the University of Toronto on Nov. 4-5. Why not start making plans now to be there?

Consumption Tax, Liberty, and Democracy: Financing the Minimalist State

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Classical liberalism allowed for a minimalist state, one limited to maintaining an environment where liberty thrives (Narveson 2009). However, the role of the state has grown in the last 200 years as it took on more redistributive functions (Jasay 1998). For classical liberals, democracy was considered to be the most complementary form of government for capitalism (Hayek 1960). Unfortunately, it also has the ability to provide for unlimited government (Hayek 1960, 116). Democracy is based on the rule of the majority and the majority will be inclined naturally to use the political process to attain what they cannot or have not attained through the economic process (Jasay 1998, 188). Income tax has become the predominant means used by the state to finance its agenda. Because income tax rates can be increased as the state takes on more redistributive functions, it is the perfect tool for a democratically-elected government to carry out the desires of the electorate for more state services. For the libertarian who would tolerate a minimalist state, the need is to find an alternative revenue source to income tax. It is proposed that consumption tax be reconsidered as the alternative. It has the potential to finance the state in its role of defending liberty, while keeping its growth in check.

The Terms of the Debate

For purposes of this discussion, democracy is defined as rule by the people following the majority principle. The majority must maintain adherence to the rule of law and the equal status of all individuals before the law. There must be freedom to discuss, dissent, challenge and exchange information, which in turn provides for a free exchange of goods and services. Ideally, these provisions of freedom must be protected in a constitution. This definition does not assume democracy is limited to the political sphere but recognizes its significant application to economic activity.

Liberty is economic freedom, something not possible without the rule of law. The role of the state is to ensure the rule of law is adhered to. Upholding agreements, promises and commitments is implied when there is adherence to the rule of law (Narveson 2009, viii).

Consumption tax is a broad term that has a number of manifestations. This paper will use a retail sales tax (RST) applied at all points of transaction, including business-to-business and business-to-retail, as the working example of a consumption tax.

Starting with these definitions, the task here is to demonstrate how consumption tax - particularly RST - meets various libertarian and democratic conditions better than income tax.

The Libertarian Position on Taxation

Minimalist state libertarians have said little about alternatives to income tax for financing the state. Each of Hayek's major works offers some insight into the discussion of liberty, democracy, taxation and their interrelatedness. He observed that successful democracies manage to restrain the abuse of majority rule by placing other values in a constitution (Nishiyama and Leube 1984). Machan (2010) specified that the right to life, liberty and the pursuit of happiness are inalienable rights that provide the basis for liberty. Their inclusion in a constitution seemingly provide a check for societies that value liberty and small government. Machan went a step further than Hayek by recognizing the need to constitutionally restrain the resources of the state, noting the U.S constitution was flawed by entrenching both liberty and the right of the government to taxation, particularly income tax. Hayek (1960, 1988, 1994) and Jasay (1998) talked about democracy as seemingly complementary to a liberal economy, but also having the propensity to erode liberty by facilitating redistribution of wealth. Machan (2010) was well aware of this paradox of democracy, that it can complement liberty but also erode it by facilitating the redistribution of wealth. He also recognized that the fault is not in democracy but in the decision to entrench in a constitution the right of government to tax income. A burgeoning state results when the majority is able to sanction an increase in government services, coupled with the power to tax income. The people unwittingly give the government more than they would do so consensually (Nishiyama and Leube 1984, 403-4). The myriad types of tax which are imposed at all levels of government support this claim, as well as the complicated nature of tax codes in most jurisdictions. In Canada, The Income War Tax Act of 1917 was 11 pages long; today's

Income Tax Act is over 2800 pages long (Clark 2013, 213). Hayek (1960) wrote specifically about how progressive taxation robs from the successful. He did not venture into what would be a better form of taxation.

Consumption Tax as the Solution

The imposition of a consumption tax in lieu of income tax would check the inevitable growth of the state. As individual income grows, a growth in tax revenues does not necessarily follow in a consumption tax regime. Individuals may choose to save rather than consume more. The state still has the ability to raise the consumption tax rate. The difference is that the choice to actually pay higher taxes by continuing to purchase non-essential goods is now in the hands of the consumer. If the increased rate of consumption tax is deemed to be excessive, or for purposes that the taxpayer does not agree with, they have the choice of curtailing consumption until a future date, particularly for items which are not essential. By doing so they rob the state of the increased revenue it sought through the tax increase. The consumer can exercise control over the otherwise unlimited taxing authority of the state and the majority it represents. In the sense that democracy is control by the people, the people in their role as consumers can exercise immediate and effective control over the state. It can happen without recourse to violence. At the same time, the state is unable to use its monopoly over coercion to enforce the tax increase. It cannot force people to spend their money. In contrast, in the income tax regime, it has the potential to garnish wages and seize assets to ensure its revenue demands are met.

The public exchange argument clarifies the differences in two relationships: that of the taxpayer and the state, and that of two traders in a regular market. With corporations, you may take or leave their offers, whereas, as Higgs (1997, 325) noted, the government can use force against you if you resist entering into its deal. The impact of this dynamic, which characterizes an income tax regime, is lessened in a consumption tax regime. In the latter, the consumer has the choice to withhold purchases or seek substitutes, denying the state its revenue without violating any law. Control passes from the state to individuals.

Central to the libertarian disdain for taxation is the concept of self-ownership (Feser 2000, 225). Feser refers to the eyeball anecdote to explain how the self-ownership concept works (226). If everyone is forced to give up an eyeball so that those without sight might be able to see, it would be considered morally repugnant. However, there is nothing immoral about volunteering to do it. In the same vein, it is morally repugnant to force someone to pay taxes. In a consumption tax regime, consumers can respond to increases in the tax rate by consuming less. The self-ownership concept of libertarianism is less threatened in the consumption tax regime than it is in an income tax regime.

In an income tax regime, it might be argued that individuals can deny the government tax revenue by earning less. However, this also means the individual has less property for his own enjoyment. In a consumption tax regime, the property is earned and retained in the form of cash or investments. Control reverts to the individual as to whether he uses this property to buy goods or services. Many consumers opting to defer purchases could force an immediate reversal of high taxes, or at least deny the government an increase in revenue. Even without the assistance of others, an individual could choose to do this by consuming less, deferring spending on non-essentials entirely, or opting to buy second-hand goods that are not subject to consumption tax. They could exercise discretion and decision-making, as is the expectation in a praxeological view of the world.

The politicized democracy as practiced in most liberal democracies has problems. Minorities, and occasionally majorities, are often disenfranchised between elections. The shortcomings of democratic institutions in the first-past-the-post electoral systems are particularly notorious in this regard. Parties may win majority governments after having received much less than half of the popular vote.

In the current version of legislative democracy practiced by most Western nations, the majority can use the political system to get what the economic system does not allow for (Jasay 1998, 188). If the state serves to provide people with what they want, it must have resources to do so. If the state were restricted to using RST it would have to raise this tax to provide the expanded revenue necessary to satisfy the wishes of the electorate. In turn, prices would rise consistent with the increase in RST. Voters could not elect a party that promised to redistribute wealth in the interests of the majority, then sit back and let it happen with no repercussion to their own wealth. This would be possible in an income tax environment where the tax burden could be more heavily shifted to those with wealth. Instead, in a universally-applied RST environment, all voters would have to back up their votes with their wallets. The state can only provide services to the extent that people are willing to consume beyond a necessary threshold of goods and services. The ability of government to provide increasing services would no longer be possible based on the ability of the majority to take from the wealth of one group to satisfy the wants of another. Democracy as practiced at the electoral polls and in the market would be linked, with the latter determining what actually transpires in terms of government spending. Both the political process and the market involve one individual and one vote. The difference is that in the market individual consumers can exercise their vote as frequently or infrequently as they desire and have it count.

Mises recognized the ability of the market rather than politics to serve as the ultimate platform for democracy. He compared the market to a democracy by noting that each successful businessman was successful because of a market plebiscite that had been decided in his favor (Long 2008, 138). A product or service was deemed useful when enough consumers purchased it to make its production profitable. At the same time, those who did not purchase were not without a voice. They could choose a substitute product or not purchase at all. Consumers were not forced to buy, nor were rivals kept from entering the market to compete at any time. Using arguments constructed by Mises and others, the case can be made for the market rather than politics to serve as the forum for democracy (Long 2008, 138). Democracy is enhanced when individuals have a continuous ability to exercise a vote, this time with their pocketbook rather than their ballot.

In its simplest form, democracy means rule by the people (Birch 2007, 109). In their distrust of direct democracy, the drafters of the U.S. constitution institutionalized representative government (112). Democracy became representative and politicized rather than direct. It need not be. Diamond (2003) observed that liberty was protected by limited government and the rule of law long before the modern versions of representative government were in vogue. In the same way that a large state is not necessary for liberty, neither is the presence of democracy dependent solely on political institutions. Economic activity in a free market provides for direct democracy outside of politics. Liberalism depends on a coexistence of freedom in both economic and political venues, a trait that was noted by Mises (1963). He also noted the need for government to be restricted if the freedom equation between economics and politics was to work. Government would ensure the rule of law, the key ingredient for liberty (281). Popper (1966, 329) shared this view that government must be present to protect freedom, but should be given no more power than necessary to fulfill this basic function.

Conclusion

Liberty and democracy are compatible, but characteristics of democracy, particularly the premise of majority rule, can harm liberty by allowing the state to take on a greater role than the administration of justice. Income tax is an accessory to democracy in providing the means for the growth of the redistributive functions of the state. The substitution of a RST for income tax can change this dynamic significantly.

Hayek was well aware of the fact that liberty was derailed by the growth of the state and the interventionist policies that accompanied it. Rather than give in and admit defeat, he advocated assessing the causes for the derailment and trying again to establish a truly liberal economic and political order (Hayek 1994). To get back on track requires keeping a policy of freedom for individuals as the only guiding philosophy for any decisions that are made for change (262). The Friedmans recognized the intimate connection between politics and economics. In their estimation, the market allows for unanimity without conformity, a system of effective proportional representation (Friedman and Friedman 1962, 23). Capitalism and democracy were once deemed complementary, but liberalism has been eroded over time by the match. Substituting consumption tax as the means of financing the state can unite economics and politics once again in their promotion of liberty.

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Asymmetric Information and Market Failure: A Market Process Perspective[1]

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The theory of market failure has dominated welfare economics for nearly a century. Bator's (1958, p. 352) "Anatomy of Market Failure" identified three categories of market failure, namely "generalized indivisibility, public goods, and, last and least, nonappropriability." General indivisibility refers to general problems of monopolization, public goods to situations of non-rival consumption with limited exclusion giving rise to free rider problems and nonappropriability to what are now called externality problems. Bator (1958, p. 354) also lists failure by existence, failure by signal, failure by incentive and failure by structure as an alternative taxonomy of market failure categories. Failure by existence refers to a situation where at least one optimal tangency condition on a production possibilities frontier or isoquant does not exist. Failures by signal and by incentive refer to technical conditions required for profit maximization by firms and failure by structure has to do with situations where small numbers of firms serve a particular market. Bator's normative standard in each of his lists is the theory of

1 A previous version of this paper was presented at the International Conference on Markets and Prices, at the University of Toronto in November, 2015. I am thankful for the comments and suggestions received from conference participants.

perfect competition. Failure of actual social situations to conform to the assumptions of perfect competition constitutes market failure.

Economists multiplied categories of market failure in the second half of the 20th century. Boadway and Bruce (1984, Chapter 4)) list decreasing costs, what is sometimes referred to as conditions of natural monopoly, non-competitive behavior, when market participants are not exclusively price takers, externalities (arising from a lack of property rights), externalities in production or consumption, public goods and asymmetric information as categories of market failure. Their primary concern on the category of asymmetric information has to do with problems of adverse selection and moral hazard in insurance markets. But they do refer to differences in information between buyers and sellers of used cars, a central topic in Akerlof's paper (Boadway and Bruce, 1984, p. 123). Again, the normative standard is the theory of perfect competition with its assumption of perfectly informed agents. Departures from the assumptions of the theory of perfect competition give rise to inefficiencies. In general, market failures are said to arise when voluntary exchange leads to departures from Pareto Efficiency or Kaldor-Hicks efficiency.

Even in the Walrasian neoclassical economics literature, the existence of market failure is a necessary but not a sufficient condition for an economic justification for government intervention in market exchange relations. It is necessary condition because, in the absence of the documented existence and persistence of a market failure, there is no basis for a claim that government intervention would improve efficiency. But the mere existence of one or more market failures is not sufficient to justify government action, since such action entails the possibility of non-market or policy failure. As Wolf (1979) explained, the policy cure may be worse, in terms of efficiency outcomes, than the market failure disease. So the sufficient condition for an economic justification of policy action by government is that the proposed policy action passes an *ex ante* efficiency improvement test which takes market and non-market failure categories into account. Wolf (1979) called this Implementation Analysis.

Of course, the foregoing is premised on the validity of the efficiency of the Pareto or the Kaldor-Hicks efficiency criteria as concepts. Rothbard (1956, 1979), Hayek (1945), Schumpeter (1943), Kirzner (1973), Cordato (1992) and others Austrians have raised fundamental concerns about the validity of Kaldor-Hicks efficiency as a concept, in particular. Among other things, the application of Kaldor-Hicks efficiency flies in the face of the subjective theory of value and Hayek's (1945) characterization of the nature of knowledge. And the connection between market failure theory and the theory of perfect competition, especially the idea that any departure of the hypothesized requirements for perfectly competitive equilibrium[2] constitutes a market failure and as grounds for action by government, is controversial from a market process perspective.

The Paradox of Transaction Costs in Market Failure Theory

One interpretation of a diagnosis of inefficiency is that potential mutual gains from

2 Although Schumpeter's *Capitalism, Socialism and Democracy* is best known for its exposition of creative destruction, it could more accurately be interpreted as a systematic and compelling critique of the theory of perfect completion, a theory that Schumpeter rejects.

exchange are not being fully exploited. The marginal cost of the supplier of the last unit is less than the value of the marginal benefit of that unit to the buyer. This divergence is the basis for calculations of deadweight losses. But this interpretation of inefficiency begs a question. Why aren't individuals engaging in these apparently mutually beneficial voluntary exchanges? The standard response is that these exchanges don't occur because of the effects of transaction costs. Transaction costs are the value of resources used up in making, or attempting to make, a market exchange. They consist of search costs, which are incurred as potential parties to an exchange undertake efforts to find possible exchange partners, negotiation costs, which are incurred when, after having found one another, potential exchange partners bargain over the terms of the intended exchange, and, finally, concluding costs, which are incurred after a successful exchange when parties verify that they indeed received what they bargained for. So, inefficiency, in the form of apparently mutually beneficial voluntary exchanges that are not consummated, arises because the mutual gains from the exchange in question are less than the transaction costs that would be incurred if the parties undertook to make an exchange. But this creates a quandary for market failure theory. If transaction costs are preventing apparently mutually beneficial exchanges from taking place, then in what sense can we say that market failure leads to inefficiency? Information is not free[3]. But, in the case of transaction costs and the diagnosis of market failure, the conventional theory seems to rest on a normative standard that transaction costs are zero. Another way to frame this question is to ask if transaction costs are real costs. Normally, economic efficiency implies that people are taking all of the relevant costs and benefits into account in making resource use decisions. But the implicit standard in the transaction cost interpretation of inefficiency is a situation where people ignore transaction costs. Carl Dahlman (1979) has suggested that economists would be using their time more productively if the primary focus of their research involved looking for ways to reduce transaction costs.

Asymmetric Information as a Category of Market Failure

This paper examines the category of market failure generally known as asymmetric information, from a market process perspective. Asymmetric information as a category of market failure came to prominence with the publication of George Akerlof's (1970) "The Market for 'Lemons.'" This paper, according to Google Scholar in September, 2015, had received over 22,000 citations. Löfgren *et al* (2002, p. 197) describe Akerlof's 1970 paper as "probably the single most important contribution to the literature on the economics of information," and that it, along with work by Akerlof's co-Nobel recipients Michael Spence and Joseph Stiglitz (Löfgren *et al* 2002, p. 195), has "transformed the way economists think about the functioning of markets."

Akerlof sets out to develop an economic theory markets where goods of varying quality are exchanged. This theory is offered as an explanation of, among other things, certain features of labour markets and also as an explanation of why "Business in underdeveloped countries is difficult". He also suggests that this theory can be used to characterize the economic costs of dishonesty. The second paragraph in the introduction of "Lemons" states

There are many markets in which buyers use some market statistic to judge the quality of

3 See Demsetz (1969) for an insightful analysis of this issue.

prospective purchases. In this case, there is incentive for sellers to market poor quality merchandise, since the returns for good quality accrue mainly to the entire group whose statistic is affected, rather than to the individual seller. As a result, there tends to be a reduction in the average quality of goods and also in the size of the market. It should also be perceived that in these markets social and private returns differ, and therefore, in some cases, governmental intervention may increase the welfare of all parties. Or private institutions may arise to take advantage of the potential increases in welfare which accrue to all parties. By nature, however, these institutions are nonatomistic, and therefore concentrations of power – with ill consequences of their own – can develop. (Akerlof, 1970, p. 488)

The introduction does not explain the nature of the "market statistic" that buyers are characterized as using. Later, in his illustrative example of the markets for new and used automobiles, Akerlof (1970, p. 489) clarifies what he has in mind, stating that, in the market for used cars, "good cars and bad cars must still sell at the same price, since it is impossible for a buyer to tell the difference between a good car and a bad car." The inferences that Akerlof derives, specifically that bad cars will drive good cars out of the market, even to the point that no transactions take place at all, rest on these two strong assumptions: that products of different quality must sell for the same price and that there is no way for buyers to discern differences in quality. His welfare conclusion that government intervention may increase the welfare of all parties, however, assumes implicitly that while it is impossible for buyers to differentiate between goods of varying levels of quality, this differentiation is possible for the government agency authorized to intervene. Although Akerlof admits that private institutions may arise in response to a demand for product quality information, he concludes that such institutions will be inherently "nonatomistic," meaning that there cannot be competitive supply of product quality assessment services. There is something about this category of service provision that makes it inevitably susceptible to monopolization. In the penultimate section of the paper, Akerlof identifies some of the types of private institutions that can emerge as responses to limitations of knowledge about variations in product quality. Sellers may offer warrantees, shifting the costs of variable product quality from the buyer to the seller. Brand-names and franchising can build consumers' trust through maintaining consistency in product quality over time and across locations. And occupational licensing can provide assurance of qualifications, including educational achievement, can mitigate uncertainty about quality in services. But this discussion does not explain the basis for Akerlof's claim that these institutions are inherently nonatomistic.

The Market Process Perspective

One of the aims of this paper is to contrast the market process perspective on market exchange relationships in the context of variations in product quality with the Walrasian neoclassical perspective, as represented by Akerlof's analysis. Both perspectives take the existence of variations in product quality as a given. Both focus on the demand for and supply of information. Both reach welfare conclusions. But the foundational assumptions, and consequently, the inferences reached, are in stark contrast. The primary difference between the two perspectives has to do with the characterization of the nature and the distribution of knowledge about, in this context, knowledge about product quality. The Walrasian neoclassical perspective assumes that objective knowledge of product quality exists and that it is known at least in part by sellers and that it is known in its totality by a typically unnamed entity or individual, but that it is not known and cannot be known to buyers. This objective knowledge of product quality is generally represented as a unidimensional index, with high index values representing high quality and low index values representing low quality. The Walrasian neoclassical perspective emphasizes the role of information as an input to market exchange. The market process or Mengerian/Austrian/Hayekian neoclassical view, in contrast, differentiates between objective and subjective categories of knowledge and rejects the idea that any individual or agency is capable of knowing the totality of subjective knowledge, which is characterized as distributed in the minds of individuals. The Mengerian/Austrian/Hayekian neoclassical perspective emphasized the importance of information as an output of market exchange. There may be objective aspects to some quality attributes of used cars, such as the age of the car and the cumulative miles driven over its lifetime, but there are subjective elements as well. Classic cars may attract a price premium from some buyers but not from others. Some people like red cars and other people prefer blue cars.

An Empirical Study of the Lemons Problem

Eric Bond (1982) analyzed the market for used pickup trucks in the United States, looking for evidence of Akerlof-type lemon effects. This market would appear to be a prime location to look for such effects. Pickup trucks are utilitarian vehicles used for agricultural, commercial and personal purposes and they are often "rode hard and put away wet." Bond, used data on trucks between one to five years old from the *1977 Truck Inventory and Use Survey*, which is part of the U.S. Census of Transportation. He compared the maintenance required by trucks purchased used and trucks purchased new, adjusting for vehicle age and mileage. He found no difference in maintenance requirements across the two populations and concluded that the market for used pickup trucks had not degenerated into a market for lemons.

Bond tests a somewhat weaker version of Akerlof's hypothesis, in that he was looking for evidence of lower quality in trucks that had been sold as used vehicles compared to trucks sold new, controlling for age and mileage, and that this would result in a reduced volume of transactions in the used pickup truck market than what would be consistent with efficiency. The strong version of Akerlof's hypothesis is that bad products would drive good products out of the market completely and there would not be any transactions at all. Clearly, there is a well-developed market for used pickup trucks in the United States. Bond makes a passing reference (in footnote 6, p. 274) to a finding that pickup truck owners who report doing their own maintenance are more likely to purchased used trucks. This goes to the heart of one of Akerlof's foundational assumptions, that buyers cannot assess product quality. An assumption of informationally homogeneous consumers is at variance with the division of knowledge that exists in actual markets for used vehicles. In addition, service records, independent mechanical evaluations and inspection by experienced vehicle owners can all mitigate lemons effects in actual markets. People who do more of their own automotive maintenance acquire differentiated knowledge relative to people who don't do their own mechanical work. This knowledge provides a basis for buyers to assess product quality. They can use this knowledge in their own purchasing decisions, they can offer advice informally to family and friends, and can even offer used vehicle assessment services to others, probably subject to some certification requirements.

A Market Process Critique of Asymmetric Information Theory

From a market process perspective, there are three main problems with the state of market failure theory on the question of asymmetric information. The first problem is that the theory is often over-generalized, along the lines of "asymmetric information causes market failure (inefficiency)." What economists generally have in mind is really "Fraud causes market failure (inefficiency)." Asymmetric information is a broader category of phenomena than fraud. If fraud is the primary underlying concern, this has implications for the nature of the research program that economists should develop to address the inefficiencies arising from dishonesty.

The second problem is that the current theory, which rests on a foundation of the theory of perfect competition, assumes away the process of social coordination and adaptation to change that is central to the market process perspective.

A third problem is that the existing theory fails to acknowledge problems of asymmetric information in the policy process. In doing so, it commits what Demsetz has called the Nirvana Fallacy, comparing the performance of actual social institutions with an idealized government solution. A more balanced approach is needed.

The Division of Labour and the Division of Knowledge

Adam Smith, Ludwig von Mises and Friedrich Hayek all emphasized the division of labour as integral to social progress. Hayek (1945) linked the division of labour and specialization to the division of knowledge. The division of labour and the specialization that it requires leads to a distribution of knowledge among individuals, knowledge that they acquire in the pursuit of their specializations. Hayek (1945) explains that much of this knowledge is tacit and subjective. A considerable portion of the knowledge of the specialist is acquired in experiences occurring after the completion of formal education. Given the unique experiences of practitioners of a particular profession or trade, we should expect differentiation of the knowledge possessed by individuals. And differentiated perspectives across professions and trades, each with its own set of personal experiences of practitioners, generate even more asymmetric information.

Adam Smith's thesis is that the division of labour is the engine of social progress. He also argues that the division of labour is limited by the extent of the market. A more complex system of market exchange facilitates more complete division of labour and knowledge. But the relationship is synergistic. More complete division of labour and knowledge also facilitates extending market exchange relationships. Entrepreneurial alertness, which itself is a form of asymmetric information,[4] forms the basis for increasing the extent of the market,

4 Kirzner defines entrepreneurial alertness as an individual noticing an opportunity that has previously gone

as entrepreneurial action introduces a new good or service in response to the newly perceived opportunity. The division of labour and knowledge also is synergistic with the extent of the market in that individuals pursuing more and more specialized roles become less and less self-sufficient and need the voluntary cooperation and mutually beneficial exchange relationships with other increasingly specialized individuals to sustain themselves. The architect may not know how to raise wheat, grind flour and bake bread. And the baker may not know how to design the building in which the bakery operates. So they possess asymmetric information. But this very asymmetry is necessary for the social progress that is driven by their specializations.

There is a second sense in which a market process perspective sheds light on information asymmetry as a category of knowledge and clarifies the scope of what economists should really have in mind when they talk about problems of asymmetric information. Every market exchange involves asymmetric information. Without asymmetric information, not only would there be no Smithian social progress, there would not be any market exchanges at all. Praxeology teaches us that for a market exchange to occur, the buyer must value what the seller is offering more than what the buyer gives up in the exchange. And the seller must value what the buyer is offering more than what the seller has to give up. Asymmetric valuations are therefore necessary for market exchanges to occur. As Hayek (1945) explained, valuations are part of the important, but often academically undervalued, category of knowledge of the particular circumstances of time and place. If buyers and sellers were not in possession of asymmetric information, they would have no interest in exchange. In addition of values or preferences, individuals also act on the basis of subjective perceptions and expectations.

As Kirzner (2005) and Mises (1998, p. 325) explained, there is a difference between knowledge and information. Two people when confronted with the same information (data) may very well interpret it differently. Until recently, I regularly drove past a derelict vehicle in the village where I live. This vehicle had no wheels, did not appear to have an engine or windows. To me, it was an eyesore. So I was surprised one day to drive past and see that the owner, with a can of spray paint, had placed a notice on the side of the car: "NOT FOR SALE." It turns out that what I saw as a derelict piece of scrap metal was the remains of a classic 1970s muscle car, and the owner did not want any more people knocking on his door asking to buy it. I had the same information as others who had driven by. But I interpreted that information differently from people who had knowledge of classic 1970s muscle cars. The car is no longer there. I assume that, eventually, some bold individual ignored the painted warning and offered the owner terms that made a transaction attractive. Differences in expectations across individuals interpreting essentially the same data manifest themselves in exchanges in securities. One person offers 100 shares in the X Corporation on the stock exchange. Another person offers to purchase those same shares. They have different expectations of the future prospects of the X Corporation, even though they see the same historical data. Without asymmetric information, there would be no market exchanges. So how can an essential requirement for market exchange be a category of market failure?

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unrecognized. This implies that the individual noticing the opportunity knows something that not only no one else knows, but that even the individual himself or herself has not notices previously.

I think that the answer to the question just posed is that economists are over-generalizing when they use the term asymmetric information. I think that what they really have in mind is fraud. Akerlof (1970) interpreted his own analysis as providing a framework to study the economic costs of dishonesty. Unfortunately, Akerlof rests his model on four assumptions which are antithetical to a praxeological market process approach and which close the door to the type of analysis which might shed light on the emergence and adaptation of social institutions to address problems of dishonesty. Akerlof assumes that

1. There are variations in quality for the category or goods or services under consideration
2. Buyers cannot assess the quality of individual units of the good or service in question, but that sellers are able to assess quality
3. All units of the good or service must sell for the same price
4. Any services that might arise as independent sources of quality evaluation are non-atomistic, meaning that they are prone to monopolization

He concludes that markets for goods or services under these conditions will be underdeveloped or even fail to emerge. It is difficult to quarrel with the internal logic of Akerlof's model. Under the hypothesized conditions with two homogeneous groups of individuals, it is difficult to see why exchange would take place. But the market process perspective challenges the reasonableness of the hypothesized conditions as a characterization of actual market exchange relationships. Akerlof treats his assumptions as axiomatic, in the sense that they are offered without empirical justification or argumentation. It is not difficult to accept that goods or services in a given category might vary in quality. The concept of a category of goods or services, however, is problematic. Are bicycles and motor-cycles in the same category? What about mountain bikes and road racing bikes? Is a child's bicycle at the local hardware store in the same category as the machine used by a competitive cyclist? Categories of goods or services inevitably involve arbitrary subjective criteria on the part of the person defining the category. Therefore variations in the attributes of goods or services in a category rest on those subjective criteria. And variations in quality represent subjective assessments of the variations in attributes. So the parent looking to purchase a first bicycle for a child might view that bicycle at the local hardware store as high quality and the competitive racing bicycle as low quality for the intended purpose of teaching a child to ride. Obviously, the competitive cyclist would have a different assessment of the quality of the attributes of the two bicycles.

But the second assumption, that buyers cannot discern differences in the quality of individual units offered for sale is more problematic from a market process perspective. First, it assumes that all buyers are identical. There can be no division of labour and no division of knowledge among buyers. Buyers cannot learn or discover ways of evaluating product quality. This is what Roderick Long (2006) explains is a precisive abstraction. It specifies a characteristic, in this case a characteristic of buyers, which is absent. Buyers cannot learn or discover. In Long's words (Long, 2006, p. 10) "Those who criticize neoclassical models for their lack of realism are not seeking a precisive abstraction that *more closely*[5] approximates reality; rather, they are seeking an abstraction that is not precisive at all." In contrast, Long (2006, p.

5 Italics in original

16) proposes non-precisive abstractions that apply "in the same way in every single instance to which they refer." Examples would include abstractions like individuals possess the capacity for entrepreneurial alertness or that every human action is an attempt to move from a less desired state to a more desired state. These abstractions are non-precisive in that they don't specify a characteristic that is absent. They don't require that all individuals possess the same degree of entrepreneurial alertness or that all actions are equally successful in realized the intended outcomes. These non-precisive abstractions are central to a market process, praxeological approach to problems of dishonesty.

Akerlof's third assumption, that all units of the good in question must sell at the same price, is another example of a precisive abstraction. Price variation across goods with different attributes cannot occur. The market process perspective asks "Why not?" Actual markets generate variation in prices for products with different attributes. While it may be the case that buyers know less about the attributes of some products than sellers, this does not prevent rivalrous sellers from marketing their wares by emphasizing differentiation in a competitive market process. And buyers can learn from both their own experiences and the experiences of others. Of course, a buyer can also be in a position to know more about the value of a particular item than the seller. Reality shows like The Antiques Roadshow and American Pickers illustrate these situations in prime time television.

Akerlof's fourth assumption is that any efforts on the part of sellers or third party certifiers to offer quality evaluation services are non-atomistic, meaning that these services are subject to monopolization. Later in his paper, Akerlof (1970, p. 499-500) acknowledges that sellers can offer warrantees, can build reputations for honest dealing, including brand names and franchising, and that professional licensing, educational credentials and certification can allay buyers concerns about poor quality products. He does not, however, in this discussion, indicate why these emergent institutions are inherently nonatomistic. And this list does not include the option of differentiated learning and discovery on the part of buyers. Akerlof's illustrative example to motivate his model is the market for used cars. Eric Bond's (1982) empirical study of the market for used pickup trucks in the United States reveals that buyers consider age, mileage and documentation of maintenance (in the form of vehicle service records) as practical means of assessing vehicle attributes. He also observes that buyers of used pickup trucks tend to do more of their own vehicle maintenance than do buyers of new pickup trucks, suggesting that there is a division of labour and knowledge at work. Independent mechanical assessments are also available on a local and competitive basis for potential buyers who may themselves rarely handle a wrench. So, in this assumption also, we see a precisive abstraction. Quality assessment services cannot be offered on a competitive basis. The market process perspective offers a non-precisive abstraction: that buyers may develop or seek out specialized knowledge in a rivalrous market process to obtain information to help them assess product attributes.

Asymmetric Information in the Austrian Economics Literature

The concept of asymmetric information has played a critical role in the Austrian neoclassical economics literature, although the implications of the concept in that literature pertain more to policy or non-market failure than has been the case in the contemporary Walrasian neoclassical literature. Three prominent topics in the Austrian economics literature, the theory of entrepreneurial alertness, the economic calculation debate and the Austrian theory of the business cycle all involve consideration of the effects of asymmetric information. More recently, Tom DiLorenzo's (2011) recent characterization of U.S. foreign policy can be added to this list.

The definition of entrepreneurial alertness is that one person notices an opportunity that has previously gone unnoticed, which results in a condition of asymmetric information. Only the person with the perception has that knowledge. The theory of entrepreneurial discovery offers important insights into the validation of that asymmetric knowledge. Not all entrepreneurial perceptions are valid. A person might perceive an opportunity where no actual opportunity exists. Acting on this entrepreneurial knowledge leads to entrepreneurial error.

The Austrian position in the economic calculation debate invokes a problem of asymmetric information faced by the central planner. The planner cannot acquire all of the required knowledge of the particular circumstances of time and place to perform economic calculation in the absence of market exchanges in factors of production. Without economic calculation, the planner's allocation of those factors to different employments is arbitrary.

Asymmetric information is at the core of Austrian Business Cycle Theory. Entrepreneurial error is a normal part of the market process. Entrepreneurial perceptions are not always correct and actions based on those perceptions can fail, as part of the competitive process of discovery described by Hayek (1978). Austrian Business Cycle Theory offers an explanation of what might elevate the rate of entrepreneurial error above its normal or background level. Rothbard (1983, p. 16) uses the term cluster of entrepreneurial errors to describe this situation. Mises (1998, pp. 535-583) attributes this elevated rate of entrepreneurial error to credit expansion. But this creates and apparent paradox. Why can't these perceptive entrepreneurs differentiate between price signals that convey information about underlying changes in supply and demand conditions and price signals that are distorted by credit expansion? The answer seems to be that those entrepreneurs face an asymmetric information problem. They can't see the actions of monetary authorities that lie behind the product and factor prices that they use for economic calculation. Professor DiLorenzo (2011) has recently identified an asymmetric information problem in U.S. fiscal and foreign policy. Rationally ignorant voters are not and cannot be well informed about the decisions and operations as an organization as complex at the Government of the United States. Decisions are often driven by insiders and interest groups with agendas that are not well understood by citizens. Deliberations are conducted in secret, based on considerations that are not transparent. According to DiLorenzo, imprudent fiscal policy at the state and national levels as well as foreign policy can go in directions not expected by voters. He makes specific mention of the decision on the part of the United States to invade Iraq in 2003, based on the claim that Saddam Hussein had weapons of mass destruction and intended to use them against the United States, a claim that was subsequently shown to be without foundation.

An Economic Research Program to Address the Effects of Dishonesty

If, when economists use the expression asymmetric information, they really mean problems arising from fraud and dishonesty, then a refocused research program would be more productive. Akerlof suggests, but then dismisses, what he calls counteracting institutions, including product warranties or guarantees, the emergence of brands, reputations and franchising and licensing and educational credentials as responses to the problems arising from variations in product quality. A more expansive list might include consideration of the ability of consumers to acquire, either for themselves or with the assistance of someone else, differentiated knowledge that would enable them to undertake the type of product quality assessment that Akerlof assumes is impossible for them to do. Other disciplines, such as generally accepted accounting practices and auditing principles and practices developed in accounting and types of safeguards that have emerged in contract law would also be profitable areas for economic inquiry in response to the problem of dishonest dealing. Informal networks, cooperatives, independent providers of product assessment services and product grading standards for food, set either by governments or by private firms in food manufacturing, distribution and retailing as part of their procurement systems would also be useful areas to study. The Walrasian neoclassical economics literature has generally not pursued the systematic study of these areas as part of its research program to understand and address the problems of fraud and dishonesty in market exchanges.

Israel Kirzner (1973, Chapter 6) identifies what he calls the fundamental flaw in welfare economics as an assumption that economists know things that they do not and cannot know. In particular, welfare economics in the Walrasian neoclassical tradition assumes that economists "*possess all the relevant information concerning the given system of preferences and the various means available*" (Kirzner, 1973, p. 213, italics in original). Acknowledging Hayek's (1945) contribution, professor Kirzner goes on to explain that the problem facing society is not one of allocating known scarce means among known ends, but rather a problem of mobilizing dispersed, partial and fragmented knowledge in a process of social coordination. Markets, from this perspective, are not mechanisms that use information to produce efficiency. They are necessary institutions for coordinating, validating and communicating information that is otherwise not observable. As Hayek (1945) explained, market prices do not perfectly embody all of the knowledge in a society, they are rather necessary means for indirectly accessing information that would otherwise be inaccessible. Kirzner's criticism continues to apply in the context of the contemporary welfare economics literature on asymmetric information. The implicit assumption that the economist knows the truth about products of various degrees of quality and can determine, objectively, the efficient level of production, is still maintained. A market process perspective, in contrast, rests on assumption that economists are not in a privileged position when it comes to knowledge of preferences, resources and opportunities.

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Human Action, the State Edition: Can Praxeology Ground Political Science?

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Nothing places the Austrian school of economics more diametrically at odds with the more orthodox streams in the discipline than its rejection of positivist-empiricism. Other economists might find the Austrian emphasis on entrepreneurship somewhat intriguing, its denial of the equilibrium norm in markets rather strange, and its theory of the business cycle totally misguided. But the idea that economic theories are not to be tested against the evidence, that such theories are only as valid as the internal logic that supports them – that is something which has been known to elicit censure. Thus, Mark Blaug (1992, 81) alludes to Ludwig von Mises, a leading light of the Austrian school, as the carrier of an "an anti-empirical undertone in the history of continental economics that is wholly alien to the spirit of science". Lately, this critique has even found its way outside the environs of academic economics, where epistemological debates about the subject are usually restricted, and into the precincts of business journalism. Search the recent archives of *Bloomberg View* and one will find Austrian economics described like this: "It's philosophy dressed up as economics; with the Austrians, there is never any risk that real-world events will interfere with your ideology" (Barro 2012).

This will not be the place for a full justification of Austrian economics against the charge that it is indifferent to evidence. Suffice to say that Ludwig von Mises steadfastly maintains that economic theories are meant to explain the realities we experience. As Mises (1963, 65) said: "the end of science is to know reality. It is not mental gymnastics or a logical pastime. Therefore praxeology restricts its inquiries to the study of acting under those conditions and presuppositions which are given in reality". Praxeology is the term that Mises uses to describe the application of the deductive method of logic to the comprehension of human affairs. Though Mises acknowledges that the conclusions of praxeology can never be refuted by empirical facts, he does insist that that they must apply to those facts. For Mises, a good theory is not so much one that has so far withstood testing against the evidence as it is one that accounts for all the relevant factors in the evidence.

Rather than erecting another philosophic defense of praxeology, I propose to lend further corroboration to that method by outlining how it might be successfully applied outside of economics. After all, the greater the range of human phenomena that praxeology can explain, the more powerful its claim to representing the methodological key to all the human sciences. That is a claim, it must be stressed, which Mises (1963, 39-40) makes: "There is no action in which the praxeological categories do not appear fully and perfectly". As not every human action comes within the boundaries of economics – he restricts that to the realm of interpersonal exchanges – it follows that economics is but a part of praxeology, "although hitherto the most developed part" (Mises 1963, 39-40). So what other region of human activity might serve as a promising field for praxeology? Politics immediately comes to mind as the next suitable candidate. Against the voluntary exchanges of the market, politics stands as the alternative mechanism to which people can appeal in order to allocate resources and manage social co-operation. Recently, the *Quarterly Journal of Austrian Economics* featured an attempt to give a praxeological overview of politics (Apăvăloaei 2015).

The possibility that praxeology can ground a science of politics cannot be discounted. Indeed, there is good reason to be confident of its one day being amply formulated. My aim here is much less ambitious. After briefly explaining what praxeology is and why it is worth our attention, I lay out here some of the building blocks necessary for a deductive exposition of politics.

Deduction from Action

Anyone seeking the way to knowledge about a subject really only has three options. The first is self-evidence. In this case, one knows X is Y simply upon being presented by X and Y. That the whole is greater than its parts is grasped by merely reflecting on the relationship between a whole and a part. One need not appeal to anything beyond the statement to grasp its truth. The second way to knowledge is by deduction. Here one knows X is Y by inferring it from initially established premises. For example, one can derive that the area of a triangle is equal to half its base multiplied by its height from initial axioms that define a triangle as an enclosed figure made up of three straight lines. The conclusion here is already contained in the initial premises. In thus extracting what the premises imply, deduction renders explicit what before was merely implicit. The third way to knowledge is induction. Here, one knows X is Y by experiencing previous instances in which X and Y occur together. Thus, a person knows that the sun is an object that sets in the West at the end of the day because they have repeatedly seen it go down in that direction just before the sky turns dark.

Unlike economics – which had a long tradition of employing deduction prior to World War II -- political scientists have largely relied upon inductive methods of one kind or another. Since the 1950's, this has taken the form of imitating the positivist-empiricism that has worked so well in the natural sciences. Political scientists formulate hypotheses, apply quantitative methods to data sets, and run controlled experiments. However, the more historical approach to induction that prevailed prior to the 1950's never entirely faded from political science. Using the historical approach, one searches for knowledge about a subject by pouring into all the pertinent thickets of the past and crafting a narrative describing the chief elements of the subject, while laying out various causes and effects. It is not unusual with this type of induction for insights and lessons to be drawn not just about what happened in the past, but also its implications for the present and future. Samuel Huntington's (1996) *The Clash of Civilizations* is an example of this genre, as is Francis Fukuyama's (2012) *The Origins of Political Order*.

Still, whether in this historical form, or in its more quantitative and experimental variant, induction runs into the problems to which Mises drew our attention. Contrary to the situation in nature, no constant relationships exist between events in the human universe. Suppose you have discovered that a 1% increase in the Fed funds rate has previously been followed by a decline in the S&P 500 index over the ensuing twelve months. That does not mean you now know that the former causes the latter. A 1% increase in the Fed funds rate tomorrow could just as well lead to a higher level in the S&P 500 over the next year -- as anyone can attest who is familiar with the perils of stock market forecasting based on historical patterns. Beyond this, induction's other major shortcoming involves the matter of causal density. By this is meant the fact that there is always a multitude of shifting factors operating from one situation to the next. Every time, for instance, that the Fed funds rate went up by 1%, there were many other events taking place before the S&P 500 subsequently rose. By mere dint of analysis, it would be exceedingly difficult to sort out which, among all the factors, is the cause of the effect. In the natural sciences, this difficulty is overcome through controlled experiments in which all other potential factors are held constant. But truly controlled experiments are very hard to come by, if not impossible, among human beings.

Without experience available as a lodestar, it would be tempting to conclude that the quest for knowledge about human affairs is nothing more than a snipe hunt. If we cannot learn anything solid about ourselves from what we sense and observe, what else is there to do but believe in nothing except what is comforting and convenient to get by in our surroundings? Mises showed a way out of this skeptical and relativist abyss by pointing us towards the possibilities of deductive analysis. The starting point here is something to which we have sure access: ourselves. Reflecting upon ourselves, what we cannot help notice is that we act – that is, we continually endeavor to bring about a better state of affairs than that in which we currently find ourselves. As such, we are beings that strive to achieve ends by selecting means that we figure will work best. None of this can be denied without self-contradiction. Any attempt to refute that one acts is itself an action. The axiom of human action thereby established, Mises went on to deduce the principles of economics, including the laws of supply, demand, and marginal utility.

Building Blocks

If we are to similarly deduce the principles of politics, the first task must consist in demarcating the boundaries of human action that contain the subject-matter. Economics, as has been pointed out, is confined to actions involving voluntary exchanges. Which sort of actions does politics encompass? Part of that domain must obviously consist of the government. Integrating this, however, into a praxeological framework raises an immediate problem. Government is an abstraction rather than a specific person, so it cannot properly be said to act. But if government does not have this capability, it cannot be comprehended within the human action axiom from which all praxeological analysis is supposed to proceed. To sidestep this dilemma, we have to avoid the reification of government so endemic to political thinking. We shall have to break that institution down into its individual components. Accordingly, government may be conceived as consisting of that select group of individuals holding the sole authority within a certain territory to exercise coercive means of action. This does not mean that politics can simply be reduced to what people in government do. For it is common to hear the activity of those outside of government described as political. Consider, for example, the case of a special interest group striving to block legislation or that of a businessperson running for office. Taking this broader context into consideration, politics can be defined as the sub-set of human action which has the individuals constituting government either as its subject or referent. Politics refers both to acts that individuals perform in their role as public officials in addition to acts performed by others pertaining to what those individuals do.

All this still leaves government as the central figure on the political scene. With the praxeological approach, the government must be treated as both the radiating and gravitational force to which one will chiefly posit causes and effects. Yet these will ultimately originate from those individuals that happen to make up the government. What the government does will depend on who is at the helm. It is their means-ends calculus that must be clarified. Now specifying the identity of the rulers could easily get us enmeshed in their psychological peculiarities. Such facts would not readily serve as premises from which to deduce universal conclusions about politics. At best, we would be able to say something along the lines that a government will be a tyrannical kleptocracy if the person who runs it is paranoid and greedy. Political science would then become a form of applied psychology. To minimize upon psychological contingencies, we can look to Aristotle's (1992, 1278b6-1279b10) famous typology of regimes and distinguish the identity of the rulers simply by their number. On this basis, the ancient Greek philosopher specified three kinds of regimes: rule by one, a few, and many. Aristotle then divided each of these possibilities into two different categories depending on whether the ruling element pursued the common good or their own interests. Hence, he referred to one person rule as either a monarchy or a tyranny. In order, however, to maintain the value-neutrality demanded by science, it will be best to simply go with Aristotle's initial three-fold classification. As such, rule by one person can be designated an autocracy, rule by a few an aristocracy, and rule by the many a democracy.

Interestingly enough, this approach dovetails with that taken in one of the few attempts thus far to systematically apply praxeology to politics. In his book, *Democracy: The God that Failed*, Herman von Hoppe (2001) founds his entire argument on a distinction he draws between alternative regimes based on control rights. In doing so, he defines a monarchy as a state which is privately owned, and hence ruled, by one person. Hoppe then defines a democracy as a state which is publicly held and consequently run by a temporary steward acting for the ultimate rulers, the many. Where Hoppe adds to Aristotle is the idea of a natural order, where no state exists to manage social co-operation. The notion of anarchy – to wit, nobody ruling -- would definitely be useful to retain in the praxeological toolkit. It would allow us to gauge which human ends politics uniquely fulfills. Not only that, thinking what life would be like without politics would help us understand to what extent politics is actually necessary.

From the regime postulated to be in place, one can then endeavor to deductively reason one's way to an array of propositions. Even without specifying any content to the ruler's ends, one can generate a number of important theses that can be employed to interpret the applicable political evidence. At the most elementary level, one can deduce that the government's policies will reflect the goals of one person in an autocracy, of a few people in an aristocracy, and of many persons in a democracy. Knowing what the prevailing regime is will signal us in the right as to whose interests and values are being advanced. Even if one assumes perfect altruism among the rulers, and only presupposes imperfect knowledge about how to meet other people's ends, one can draw a much less elementary conclusion: no regime can satisfy everyone's ends. All political modes of governance, in other words, necessarily involve the favoring of one part of the community over another. Politics is exploitation.

One way this must necessarily play out is in the struggle between tax consumers and tax payers. For as soon as government enters the world, the necessity arises of its operations having to be funded. Inasmuch as a government does not create wealth, it must obtain resources from individuals -- namely, taxpayers. This money does not disappear into thin air. It goes on to compensate those who provide the government with materials and services, as well as those who receive benefits from the government -- namely, tax consumers. Because the two sides are caught up in a zero sum game, the tax consumer versus taxpayer division will inevitably be a source of political discord. And for each of the political regimes, one can infer distinct outcomes of how the tax consumer versus tax payer conflict will evolve.

A further implication of such tensions is that there is no equilibrium that is ever reached in politics. No point exists at which all the players are satisfied with the existing balancing of interests. This balancing is always a tenuous balance. Deducible from this is the omnipresence of political entrepreneurship. Politics thus comes into view as an arena that must, as a matter of logical necessity, be filled with people driven by the sense of there currently being an unexploited opportunity to have the state provide a certain good. Were one to draw more extreme scenarios of disequilibrium, one might well be able to deduce that this entrepreneurship will express itself in the attempt to overthrow the present regime. At the very least, one can expect all political entrepreneurs to flourish among those lacking influence upon the ruling segment-- if not also just those more privileged who figure that their ends can be more effectively achieved through the state.

Conclusion

All these claims are just initial praxeological forays into political territory subject to much further consideration and elaboration. As one proceeds, the requirement will make itself felt to add auxiliary assumptions related to the psychological motives of political actors, the economic and sociological setting of government, not to mention the state of affairs in the world beyond the community's borders. Yet what must be underlined here at the start is the value of embarking from a conception of the regime. Praxeology needs human actors to analyze. In politics, those are to be located among the ultimate decision makers in government.

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Banks and Banking

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The treatment of money, and especially banking, should seem more than a little odd to the student of economics. An inordinate amount of attention is afforded to one good – money – while no other good is discussed in any more than a cursory way. All curricula include a class on "Money and Banking", making banking the only line of business to qualify for specific examination. No classes exist for, e.g., automobiles and car manufacturers, haircuts and barbers, or economic theory and economists. Although it is widely recognized that money is special, there is no explanation for why banks are given such seemingly undue attention.

Within the economics literature there is a good amount of healthy debate concerning what it is, exactly, that banks do. This literature, focused as it is on answering the broad question of "why banks?" should also strike the reader as quite strange given there is no such literature one "why barbers?" or "why economists?" Everyone seems to understand what every other business does with one exception: banks.

There are four general theories prevailing to explain why banks exist. James Tobin was the first to address the question, conjecturing that in an unregulated environment there is unlikely to be a clear distinction between banks and other portfolio managers (Tobin 1963). Thus if banks are special it is because of how they are regulated, and not due to the specific type of business they pursue. Fischer Black treats bank deposits as low-risk portfolio assets, making them not so dissimilar from other financial intermediaries with perhaps the distinction that banks offer deposits which become the standard against which the riskiness of all other portfolio assets is gauged (Black 1970). Perhaps banks are unique because they provide accounting services as wealth is exchanged from person to person, and also allow for an exchange between different forms of wealth (e.g., deposit to currency), as in Fama (1980). Fama (1980: 48) also offers that banks are special because they offer special services that pays its return in kind, as opposed to other financial intermediaries. Perhaps, finally, banks are *sui generis*. They are special for some various reasons that we cannot define exactly, but we know that attention must be given to these financial intermediaries that issue deposits and use the proceeds to purchase securities (as in Freixas and Rochet 1997).

All of these explanations beg the question in assuming what needs to be proven. Legal peculiarities cannot explain banks – instead a specific theory of banking would explain why this line of business is subject to different laws than others. Offering maturity and risk transformation services cannot explain why banks exist since this is a general line of business that many, if not all, financial intermediaries pursue. Fama (1980) offers what is perhaps the most defensible rationale for why banks are unique, but even here we find other financial intermediaries offering services in kind. Consider that an oil refiner selling oil forward, and the purchaser taking physical delivery. Has the refiner, or whoever intermediated the trade, not delivered a product in kind?

Perhaps a more productive starting point is to isolate the unique functional aspects of the business of banking. Instead of rushing in to answer the question of "why banks" we should start by determining what it is, exactly, that "banks do".

The literature has narrowed down banking functions to the following six areas.

1. Monitor and enforce contracts due to the economies of scale inherent in this role (Diamond 1984).

2. Similar to 1. above, banks act as third-party "screeners" to solve the problem of asymmetric information and adverse selection problems of depositors (Terlizese 1988).

3. Banks specialize in matching illiquid borrowers with liquid lenders or depositors 4. (Diamond and Dybvig 1983).

4. Banks combine liquidity with credit facilities (Fama 1985).

5. Banks supply information to the capital markets about the behavior of borrowers (Fama 1985).

6. Economies of scale motivate specialization in lending and saving services (Goodfriend 1991).

While useful as descriptors and potential explanations of the activities that banks typicaly specialize in, these common functions lack a theory for why it is that banks and not other financial intermediaries specialize in these services.

Since money is the root of all banking, any analysis of banking must be grounded in an understanding of what makes money special. In the common story of the emergence of money, high transaction costs from the double coincidence of wants problem motivate traders to exchange goods using an intermediary medium (Menger 1892). This intermediary good will be chosen initially because it is widely demanded for the utility it can bring to its owner. In other words, the good adopted initially will be chosen due to its use value. While this use value is the reason why the good is demanded initially, over time as acceptance of this intermediate good increases it will become less valuable for the utility it can provide the holder and in its place its value in exchange increases. This exchange value will come to take an increasing portion of the total value that the good has. The advent of paper money takes this process to its full conclusion as there is no longer any value in using the good directly, and all value comes in the ability to exchange it to another.[1]

The fact that paper money will have only exchange value is important as it means that we can treat money differently than other goods. All other goods have a value that derives from how well it is able to satisfy the needs of the individual. Since only the individual knows his needs, the value that the good gives to the demander must be subjective. Money differs since we know that the good serving as money will only be useful to exchange for other goods. As a result, the difficulties that the subjectivity of value bring when assessing other goods does not apply to money (Howden 2016).[2]

With other goods, discussion of substitutes must always be constrained to imperfect substitutes. This is a consequence of the subjectivity of use value. While an automobile, for example, may have a certain use value to the demander, all other goods can be substitutes for it *though only of varying degrees*. Thus a truck may serve as a good, though imperfect substitute for a car. And a motorcycle may be an even more imperfect substitute yet (though it is still a substitute).

Since money only has one objectively definable source of value – exchange – it is possible to discuss perfect substitutes for it. These are goods that serve the medium of exchange function as well as the actual money unit does.

If a perfect money substitute is possible it is imperative to define the attributes of money that must be perfectly met for a good to be included in this category. Here again we find that goods held only for exchange purposes have only two attributes determining whether they make a more or less suitable exchange good. In particular, the holder of such goods will be concerned with what value he can exchange the good into, and when. The value can be defined as either market determined as per supply-demand conditions, or par (i.e., fixed). The timing of when the

1 I refer here to money *qua* money, and ignore money demanded for numismatic purposes. In any case, numismatic demand is not a demand for money but rather a demand for other purposes, e.g., art (Howden 2015b: 17fn3; 2016: 5fn1).

2 Nor does it apply to other goods with only exchange value, such as financial assets (Howden 2016)

Availability		Value	
		Par	Market
	Present	Money	Equity
	Future	Bond	Future

good can be exchanged to access this value can either be in the present or after some period of waiting.

These two criteria for each of the exchange good's two essential attributes can be arranged to demonstrate that there are four pure types of exchange goods (Howden 2015a; 2015b). Note that these are all, like money, financial assets. Only financial assets can be classified as those being held to sell at a later date for either another financial asset or a good that brings utility to the holder.

Money is the unique financial asset whose value is available in the present (i.e., on demand) and at par value. Thus any good can be considered as a perfect money substitute provided that it shares these two attributes.

Banks are unique because they are the business that offers a perfect money substitute through deposit accounts. Indeed it is impossible to talk of banks without reference to money[3], a fact that now should make apparent the necessity to first define money before making reference to banks.

Bank liabilities can be composed of equity, debt and demand deposits. Banks are not unique at supplying equity, since any share company does this. Nor are banks unique because they offer loans since any company or person can sell or buy a bond. Banks are unique as they are the only company that supplies a perfect money substitute in the form of a demand deposit. Other services that a bank provides or goods that it offers are ancillary to this one factor that differentiates it from other companies – the ability to offer a perfect money substitute. Note also that while demand deposits are the most prevalent form of perfect money substitutes available today, they are by far the only ones.[4] Nor is it inconceivable that in the future other perfect money substitutes will arise that will also meet the requirements of being available on demand and at par value. However, what is certain is that any firm that offers perfect money substitutes can be considered as a bank, and can be given special treatment in economic analysis because of its ability to supply the only possible perfect substitute.

There are four distinct advantages to treating the existence of banks as being due to the fact that they are the only company that can supply a perfect substitute for a good, and the only good that this is possible for is money. First, since what matters is the perception and not the actual physical embodiment of money, we can see that some "perfect money substitutes" that are deficient in some way can be considered included in the money supply, and their issuer defined as a bank. An example of this is a fractional-reserve banking system that is able to place withdrawal limits on your account (thus compromising the "on demand" nature of your deposit) or can opt for a bail-in if for some reason it faces insolvency (as was the case recently in Cyprus). Provided that the depositor does not think either of the key attributes of money will be compromised by the bank, the deposit will be considered a perfect money substitute and its

3 Note that the corollary does not hold true: we can and often do discuss money without reference to banks.

4 In constructing various money supplies attention is given to different financial assets in their ability to serve as perfect money substitutes. See Rothbard (1963), Salerno (1987) and Howden (2012) for an overview of these assets

issuer as a bank.

Second, we can see that some financial intermediaries that issue financial assets that are considered commonly to be perfect money substitutes are not, in fact, banks. For example, money market mutual funds (MMMF) are included commonly in the money supply statistics since they are *de facto* redeemed on demand and at no less than their face value. However, given the two essential attributes of money are that it redeems at par value and on demand, we can exclude MMMFs from the money supply. This step also results in removing confusion as to who supplies money, as in the more common money measures (that include MMMFs) money and perfect money substitutes are issued by a variety of financial intermediaries which include banks as well as non-bank financial firms.

Third, we see that banks are not a creation of the legal system but rather that they exist for real economic reasons. Any discrepancy between the laws governing banks and those of other businesses comes after the creation of banks, not prior.

Finally, and perhaps most importantly, we see that the reason that banks take an inordinate importance in modern economic analysis is that they are able to offer a perfect money substitute that potentially does not share either (or both) of the key attributes. To the extent that the fractional-reserve demand deposit allows for the possibility that the bank will not be able to make good on its promise to redeem deposits on demand and at par value there is always the possibility that the depositor's perception that it can do so will be skewed. Added to this is the fact that banks can, under a fractional-reserve system, affect the money supply in ways that are inconsistent with the definition of what money is. In this way, we see that although defining banks is important due to the specific characteristics of money, it becomes especially important given the prevalence of fractional-reserve banking.

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End the Myth! On Value Investing's Incompatibility with Austrian Economics

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The failure of mainstream strategies in the recent financial crisis, allied with the success of value investors like Warren Buffett, has meant the value investing strategy has recently attracted an extraordinary volume of attention. Several Austrian economists have focused on value investing and unanimously adjudged it to be a useful strategy, and one that is aligned with Austrian economics. Unfortunately, the scope of previous research is limited to identifying the main common ground between value investing and Austrian economics, particularly the crucial distinction between value and price, whereas potential discrepancies have not yet been revealed. In order to investigate whether value investing is indeed friend or foe to Austrian economics, it is crucial to analyze how these discrepancies potentially affect the compatibility of the two concepts.

Value investing and how it is perceived in Austrian literature

The intellectual roots of the investment strategy termed value investing can be traced back to Benjamin Graham who is credited with being the "father" (Lowe 1996, 1; Montier 2010, 1; Athanassakos 2011, 96) and even the "high priest" (Buffett and Clark 1999, 27) of value investing, while his coauthored book "Security Analysis" (Graham and Dodd 2009) has been described as value investing's "bible" (Vick 1999, 1; Damodaran 2012, 5; Dreman 2012, 46).[1] In essence, value investing distinguishes an asset's intrinsic value from its market price and recommends investing in the asset as long as the intrinsic value exceeds the asset's price, accordingly if its price exceeds its value the asset would be considered an unwise investment (e.g., Hagstrom 1999; Vick 1999; Greenwald et al. 2001; Kwag and Lee 2006). The main idea is that intrinsic value and market price might differ but will coincide eventually.[2] Therefore, the concept of an intrinsic value is at the core of value investing. Originally, the intrinsic value was defined as the "value which is justified by the facts, *e.g.*, the assets, earnings, dividends, definite prospects, as distinct, let us say, from market quotations established by artificial manipulation or distorted by psychological excesses" (Graham and Dodd 2009, 64). While comparing an asset's intrinsic value to its market price, value investors demand a margin of safety—usually between 20 % and 50 % of the intrinsic value—to protect their financial engagement against unexpected (adverse) future developments (Greenwald et al. 2001; Graham 2003; Athanassakos 2011; Leber 2011; Damodaran 2012). Therefore, the comparison between an asset's intrinsic value and its market price (given a margin of safety) is key to the value investing concept.

To date, several Austrian economists have dealt with value investing. E.g., Taghizadegan, Stöferle, and Valek (2014, 225) concluded that "most widely, value investing's approach is in line with the Austrian approach"[3] and Leithner (2005, 3) agreed, stating that value investors and Austrian economists "hold compatible views about a range of fundamental economic and financial phenomena." Furthermore, Spitznagel (2013, 269) characterized Austrian investing "as value investing's intellectual forerunner" while Grimm (2012, 223) summarized that value investing—as "an important application of fundamental analysis"—typically receives a "favorable treatment" by Austrian authors. Moreover, the principles of value investing and Austrian economists' findings are combined and applied in practice, so for example, some investment companies—e.g., Polleit & Riechert Investment Management LLP (2015)—base their investment decisions on a combination of both value investing and Austrian economics. In addition, various institutions—like the Institute for Austrian Asset Management (2015)—conduct research on the interrelations between value investing and Austrian economics. Apparently, the Austrian community—represented by both academics and practitioners dealing with value investing—has unanimously concluded that value investing and Austrian economics are compatible.

However, this insight is solely based on the analysis of the existing common ground shared

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1 In fact, some authors portray value investing as more than just an investment strategy; e.g., Buffett and Clark (1999) titled their book "Buffettology", which implies a certain form of cult.

2 For the possibility of disparities between value and price as well as the "inherent tendency for these disparities to correct themselves" see Graham and Dodd (2009, 69 et seq.).

3 Unless otherwise noted, all translations are by the authors.

by value investing and Austrian economics. Previous research exclusively focuses on three main aspects, namely the distinction between value and price; the attitude to neoclassical finance theory; and the application of mathematical models. However, a diligent attempt to determine whether value investing is compatible with Austrian economics would have to look beyond previous research, which owing to its focusing exclusively on common ground seems neither sufficient nor meaningful.

Value investing from an Austrian perspective—friend or foe?

The distinction between value and price is undoubtedly the most crucial common ground between value investing and Austrian economics and, consequently, is highlighted in existing research (e.g., Leithner 2005; Taghizadegan, Stöferle, and Valek 2014). This differentiation is certainly indispensable, especially because—given a permanent value-price-congruence—market participants cannot increase their wealth by means of transactions and, therefore, each economic action is pointless (Hering 2000; Olbrich 2000; Olbrich and Rapp 2012; Hering 2014).[4] Furthermore, value investors necessarily have to distinguish between values and prices, since the concept of value investing would otherwise be superfluous (e.g., Schredelseker 2013).

In addition, both value investing and Austrian economics reject neoclassical finance theory, especially due to its assumptions and the implications flowing from them, such as those concerning the relation between value and price,[5] which run contrary to the principles of both value investing and Austrian economics. Given the highly restrictive and escapist assumptions (especially that there is a perfect, frictionless market environment) that underpin finance theory, value and price actually coincide by definition (Hering 2014; Olbrich, Quill, and Rapp 2015).[6] In contrast to neoclassical finance theory, both value investing and Austrian economics take a real world perspective rather than an entirely hypothetical one and, consequently, reject finance theory.

Finally, value investors and Austrian economists hold a compatible view on the application of complex mathematical models, which they both consider to be overemphasized. According to value investing literature, the investment calculus should be kept quite plain and be based on simplifying assumptions (e.g., steady future benefits).[7] Graham (1958, 20) stated that in "44 years of Wall Street experience and study I have never seen dependable calculations made about common-stock values, or related investment policies, that went beyond simple arithmetic or the most elementary algebra." This insight led Graham to conclude that when higher algebra is introduced "you could take it as a warning signal that the operator was trying to substitute theory for

4 Menger (2007) emphasizes that the desire to reach an improved economic position causes any transaction.

5 E.g., Buffett (1997) argues that to "invest successfully, you need not understand beta, efficient markets, modern portfolio theory, option pricing or emerging markets. You may, in fact, be better off knowing nothing of these." Similarly, Austrian economists "have frequently criticized neoclassical economics for the unrealistic character of its assumptions" (Long 2006, 3) and have analyzed existing differences between both schools of thought (e.g., Huerta de Soto 1998).

6 For a critical perspective on the restrictive and escapist assumptions of neoclassical finance theory see Hering (2000), Matschke and Brösel (2013), Hering (2014), Hering and Toll (2015), Olbrich, Quill, and Rapp (2015).

7 E.g., Leithner (2009, 9) points out that "followers of Graham ground their analysis in simple maths, clear logic and hard evidence" and that the "investor-businessman distrusts the advanced mathematics, statistical models and computations which underlie contemporary finance."

experience." Austrian economists also avoid the application of complex mathematical models, especially because while such models are adequate when dealing with equilibrium constellations, they cannot express the essence of real economic phenomena and entrepreneurial creativity (Huerta de Soto 1998). In consequence, both value investing and Austrian economics refute the application of complex mathematical models and its overemphasis in mainstream economics.

Prior research does illustrate an apparent compatibility between value investing and Austrian economics. However, that research has contented itself with examining the major common ground and has therefore misled Austrian economists over the extent of compatibility between value investing and Austrian economics. Clearly, focusing only on common ground while omitting existing discrepancies is not sufficient, and the scope of the analysis must be extended to the distinguishing features. In so doing, four problem areas appear. While the first identified difference is mainly semantic and could easily be harmonized, the other issues reveal value investing's irremediable incompatibility with Austrian economics. The four problem areas are:

1. Valuation versus appraisement
2. Irrationality versus rationality
3. Intrinsic value versus subjective value
4. Reliable past versus uncertain future

First, the terms "valuation" and "appraisement" are applied differently in value investing and Austrian economics.[8] To Austrian economists, valuation reflects a ranking of goods on an ordinal scale, while appraisement aims at anticipating future market prices and, therefore, needs to be conducted ahead of valuation (e.g., Herbener and Rapp 2016). Unlike Austrian economics, value investing does not differentiate between valuation and appraisement at all; indeed, some value investors, including Graham himself, use both terms synonymously. However, aiming to assess intrinsic value (by estimating future benefits) must be characterized as appraisement rather than valuation.

Second, according to value investing literature, value-price differences in particular can be traced back to market participants' irrational behavior (Hagstrom 1999; Vick, 1999). As an illustration, Graham (2003) created the allegorical figure of the manic depressive *Mr. Market*, whose investment decisions are solely based on his heavily swaying mood and are made independently of real (economic) changes. In contrast to that and according to Mises (1998, 18), "[h]uman action is necessarily always rational," consequently, from an Austrian perspective, *irrational behavior* is an oxymoron while *rational behavior* must be seen as a pleonasm. Hence, value investors blame irrational behavior for value-price differences whereas in Austrian economics, irrational behavior is impossible by definition. At first glance, this issue might seem to be a more or less conceptual difference; in fact, the diverse insights on (ir)rational behavior reveal entirely different mindsets concerning the market process, particularly the price formation aspect. According to value investing, intrinsic values and market prices should *theoretically* be coincident; the fact that they are not in *reality* is primarily explained by market participants' irrationality.

8 For the differentiation between valuation and appraisement see in detail Mises (1998). See further Smith (1971), and Olbrich, Quill, and Rapp (2015).

Therefore, value investing resembles neoclassical finance theory rather than Austrian economics in this respect, since neoclassical finance theory also works on the assumption that values equal prices (Brösel, Toll, and Zimmermann 2011; Kruschwitz and Löffler 2015). According to Austrian economics, values and prices necessarily have to be different, both in theory and practice. That Austrian view holds that market prices result from transactions between market participants who differ in their valuations and try to improve their level of wealth by means of transaction, that is, for the purchaser by paying less for, or for the seller by earning more for the good than it is worth to them. Consequently, the characterization of market participants as irrational is not only a semantical issue; it exposes the entirely different understanding of the market process held by value investors and Austrian economists.

Third, Austrian economics is based upon methodological individualism and subjectivism;[9] as Huerta de Soto (1998, 77) puts it, the "real human being of flesh and blood" is the starting point for Austrian thinking. Consequently, Austrian economists are well aware of the fact that eventually the preferences, ends, and means of real human beings determine their *subjective* valuations and corresponding actions. According to Austrian economics, each good will usually hold a different value to different individuals and—depending on the point in time—a different value to the very same individual. In contrast, even though value investors do reject neoclassical finance theory's view of a *permanent* value-price-conformity, they do not dismiss the concept of an objective value. The intrinsic value is by definition an objective value; it is inherent in the appraised asset, depersonalized, and therefore, entirely independent of any actual individual and his ends and means. Semantically, the term *intrinsic,* along with other terms used by value investors—like *fair*, *fundamental* or, in particular, *objective* value—indicate the rejection of subjectivism. Therefore, value investing and Austrian economics hold entirely incompatible views on the nature of value.

Lastly, a crucial difference exists between value investing and Austrian economics with regard to the significance of a future-orientation in decision-making. In value investing, the appraisal and, consequently, the investment decision is regularly based on past or (at best) present data to avoid the issue of dealing with uncertainty in a future-oriented process.[10] For example, value investor Montier (2009, 49) argues that "forecasting is a waste of time" and even a "task beyond Hercules himself" (Montier 2009, 55). Since value investors (commonly) focus on past or present data to bypass the issue of dealing with uncertainty, they misjudge the significance of future-orientation in any decision process. In contrast, Austrian economics stresses the significance of future-orientation in decision-making, despite the issue of uncertainty.[11] Indeed, Austrian economics—unlike value investing—does not surrender in the face of this issue but instead confronts it. For example, Taghizadegan, Stöferle, and Valek (2014) criticize the extrapolation of past performance as investors' number one mistake. Herbener (1992, 80) concludes that

9 Horwitz (1994, 17) states that subjectivity is "the fundamental tenet that distinguishes Austrians from neoclassicism." Similarly, Huerta de Soto (1998, 76 et seq.) lists subjectivism as one of various "essential differences between the Austrian and neoclassical schools."

10 Graham and Dodd (2009, 68 et seq.) characterize "the uncertainties of the future" as one of the main handicaps for security analysis.

11 In this respect, Mises (1998, 105 et seq.) highlights that "the future is hidden" and, therefore, every action is "a risky speculation."

uncertainty "calls forth the skill of entrepreneurship in each action a person takes." Obviously, Austrian economists acknowledge the importance of a future-orientation in decision-making, and accordingly confront the problem of uncertainty rather than trying to bypass it as the foundations of value investing do.

Conclusions

Recently, value investing has attracted a great deal of attention owing to the failure of classic models in the financial crisis and to value investors' successful investments, including from several Austrian economists, who have unanimously identified a compatibility between value investing and Austrian economics. Essentially, value investing focuses on the comparison of a good's intrinsic value and its market price and recommends investing in it as long as the asset's value exceeds its price (given a margin of safety). Admittedly, value investing and Austrian economics do share some basic insights, especially the crucial distinction between values and prices. However, value investing and Austrian economics are nevertheless entirely incompatible, particularly given that value investing's definition of value contradicts the Austrian value concept. Due to the incompatible characteristics of both concepts, the attributed compatibility must be characterized as a myth. To ensure the compatibility with Austrian economics, an appraisal concept necessarily has to take crucial Austrian features into account, especially the subjective nature of value, a future-oriented perspective, and an individual consideration of uncertainty. These requirements are *only* met by appraisals based upon investment theory.[12]

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12 For investment-theory based appraisals see especially Olbrich, Quill, and Rapp (2015), Rapp (2015), and Herbener and Rapp (2016).

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Prices or Markets? The Case of Prohibition

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In the spirit of this journal's mission, this article examines the differences between prices and markets. Price theory is an important tool of economic analysis, but it is hardly the entire toolbox. In a typical textbook example, the economist can declare *"ceteris paribus!"* and proceed with price theory analysis using supply and demand. Things are not as simple when the change contemplated is a fundamental alteration of the market.

The case of prohibition and legalization is such a case. Both policies have an impact on price, but shifting from one policy regime to another also has dramatic effects that cannot be simply rolled meaningfully into a price effect. Such policy shifts change just about everything in terms of what will be produced, who will produce it, who will it be produced for, etc. In other words, the market changes dramatically once prohibition is adopted, or when it is repealed.

The overreliance of mainstream economists on price theory has left a large gap in their understanding of markets and policy. This paper demonstrates this misunderstanding by examining the case of prohibition. In outlining some features of markets, it becomes clear why economists have floundered in their analysis. Understanding the role that markets plays shows that price is relatively unimportant and clarifies economic analysis when it comes to prohibition and legalization.

Economists and Prohibition

While economists have studied the policy of prohibition and the War on Drugs, it would be a mistake to believe they have provided a unified analysis or that they uniformly support ending the War on Drugs. Nowhere is this misidentification clearer than the following quote from Richard McKenzie and Gordon Tullock. They assert that economists have always opposed prohibition as if dictated by some standard economic model:

> If backers of (alcohol) prohibition had consulted economists, *we are sure* they would have been told that the law would be very difficult and expensive to enforce. With this advice they might have decided not to undertake the program (i.e. alcohol prohibition) of moral elevation. (McKenzie and Tullock 1989, 7)

It is true that American economists of the alcohol prohibition era were in substantial agreement regarding prohibition, but they were supporters of alcohol prohibition and many were enthusiastic backers of the policy. For example, Simon Patten was a founding member and President of the American Economic Association. He felt that alcohol prohibition was necessary for survival and an inevitable result of evolutionary competition. One of Patten's notable contemporaries, Simon Newcomb, thought alcohol prohibition was necessary because economists knew no other way to discourage consumption of preferred goods except positive restraint. Richard T. Ely, the founder of the American Economic Association, was also a prohibitionist who promoted the cause of "modified prohibition" with heavy taxation, regulation, licensing fees, and monopoly provision to restrict consumption and to make sinners pay for their sins.

Irving Fisher, one of the most important American economists of the period, was also a leading advocate for alcohol prohibition. He reported that he could find no economist to oppose alcohol prohibition on its economic merits (Fisher 1927, 5). Fisher wrote several books on the evils of alcohol and merits of prohibition.

In more recent times, Milton Friedman and Gary Becker have advocated the liberalization of drug laws and are in large part responsible for the notion that economists support drug legalization. Upon further examination, neither provides a wholehearted endorsement of drug legalization and there actual endorsements stem from the long-standing ideological bias of the Chicago school, which is characterized as weak libertarianism. In Friedman's case his call for drug legalization seems to stem from his personal experience during Alcohol Prohibition and his libertarian policy views (Thornton 2016). He was willing to concede or tolerate a host of government interventions in order to end the War on Drugs. In Becker's case, he provides a formal model which suggests that the War on Drugs be replaced with a heavy "sin" taxes and other interventions (Thornton 2006).

Friedman and Becker's prescriptions represent the profession as a whole. In a survey of the profession, a majority of economists (58%) supported some form of liberalization of illegal drugs. In contrast to public perceptions, only 16% of the surveyed economists supported the full legalization of drugs. While support for legalization and decriminalization is much higher for economists than for the overall population, the difference disappears when demographic variables are considered. It turns out that being an economist, per se, does not make one much more likely to support drug legalization (Thornton 1991b).

When we turn to economists who have taken a public stand against the War on Drugs we do find a justification for the public perception that economists support the legalization of drugs. A survey of public pronouncements (Thornton 2004) on illegal drug policy shows that the majority of economists do overwhelmingly support liberalization and legalization in the majority. However, the bulk of those who support of legalization come from the Austrian school. That would fit the ideological perception of the Austrian school, but I would argue that the methodological and theoretical differences play a very important role, as well.

Price Theory and Prohibition

Economists using simple supply and demand considerations show that prohibition raises price and reduces quantity. Most supporters of legalization argue the same thing, but they posit that the social costs of prohibition outweigh the benefits. Prohibitionists understand supply and demand too, but they argue the opposite, that the social benefits of prohibition are worth the social costs. They also recognize that the total cost of the War on Drugs is high, but they view the benefits as greater than these costs. They think the cost of drug use would increase and would not be compensated by the reduced government expenditures.

Analysis of prohibition or legalization that is based wholly or primarily on price analysis is bound to fail. The failure to consider the institutional framework of the market and black markets is at the heart of market analysis. The lack of this market analysis explains the persistence of prohibitionism and for the failure of full legalization to emerge as a "realistic" alternative policy. The result has been the overriding tendency for policy recommendations to be forms of modified prohibition, sin taxes, harm reduction, and decriminalization, rather than full legalization. The institutions of prohibited markets are radically different from legal markets. The features of newly legalized drugs markets will eventually approach those of other legalized markets in that they are self-regulating, socially optimal, and generate discoveries that are corrective.

Austrian Analysis of Prohibition

How does prohibition impact the market for a product? It changes everything, and price becomes relatively unimportant. With prohibition there is a black market, with legalization there is a free market. Every aspect production, distribution and consumption changes as you change from one policy/market to the other.

In a free market the number of firm that produce, distribute, and sell the product is determined by competition. In new or reopened markets there will usually be a large number of small scale firms in the beginning. With a large number of entrants i.e. "Mom and Pops," competition would result in winners taking market share from the losers. Winners would be distinguished from losers based on quality, cost, efficiency, and marketing considerations, and of course, price. The winners might develop large scale distributions systems based on "brick and mortar," retail chain distributors, like Wal-Mart, or ecommerce via Amazon, or some combination or the three.

In the longer run, real world competition tends to result in a relatively small number of large firms, such as Coke and Pepsi, which dominate the soft drink market. This is direct contrast to the mainstream approach of perfect competition where there are a large number of small firms. Large size is important to the analysis of prohibition vs. legalization because the larger the size and value of a firm, the more there is to lose.

In contrast, firms involved with the production, distribution and sale of illegal drugs tend to remain sub-optimally small and transitory. The exception to this rule is "organized crime" which uses bribery to provide a monopoly-like status for a large scale organization that is integrated between the point of production and the point of sale.

In competitive markets, higher quality products would tend to win out over lower quality products. Quality is based on delivering the optimal mix of product attributes on a consistent basis. Products should be consistent, reliable and stable. Of course quality is restrained by cost and price considerations. In contrast, drugs in illegal markets tend to be of low quality, have a suboptimal mix of attributes, and are inconsistent, unreliable, and unstable. For example, illegal marijuana does not come processed, rolled into cigarettes, and packaged, but instead in its raw form in a 5 cent plastic bag, the contents of which can vary markedly from purchase to purchase.

One example of this quality competition is that the potency of legal drugs tends to migrate towards consumers' tastes. Brands would emerge that would provide a product with a specified mix of product attributes, including a reliable level of potency. Over the counter drugs usually tell the consumer what the precise potency level is e.g. 200 milligram pills and often gives the consumer some notion of what that potency means e.g. "Regular Strength," "Extra Strength," or "Maximum Strength." Once a successful product has been developed the recipe and potency usually remains the same, with the exception of minor changes to the recipe and more efficient, more effective production techniques (Thornton 1998).

Drug potency in illegal markets is a major problem. Prohibition discourages the inclusion of non-prohibited product attributes, such as filters on cigarettes. It also creates incentives for extremely high but unreliable potency levels (Thornton 1991). For example, powder narcotics such as cocaine and heroin are usually extremely potent when they are produced and distributed. However, as it moves through the distribution system the products are "cut" in order to increase weight, volume, and revenues. The potency of illegal drugs such as cocaine and heroin are therefore unknown by the consumer. Furthermore, the materials used to "cut" the product can be anything from benign to highly dangerous. Sometimes drugs will be cut with highly potent legal or illegal drugs in order to cover up for the low potency of the product. They results is a major cause of drug overdoses. The heroin that killed actor Philip Seymour Hoffman was a prominent example of this phenomenon (Thornton 2014).

Another key area of difference is product information and advertising. Information about over-the-counter and prescription drugs tends to be excessive in its current form, probably due to regulation and product liability concerns. Legal drugs come in the standard two- package form where the outside package (box) provides a great deal of information about the product itself and serves as the container for the inside package (bottle) that contains the product along with further information about how to use the product, side effects, possible complications, and other warnings.

Product information and marketing in illegal drugs is practically nonexistent and limited to face-to-face verbal communications along the chain of distribution. There is little consumer protection regarding this limited information. Advertizing of almost any kind increases the risks being captured by law enforcement and successfully prosecuted.

One critical but often overlooked aspect of consumer protection is the role of "good will." Good will is critically important in markets for legal drugs. Good will is an accounting concept that is based on a company's "brands," its customers base, and its intellectual capital. In other words, good will is the dollar value accountants use when you take the market value of the company and subtract the value of its physical capital goods (with no debt); it's the intangible value of the firm that determine a company's profitability and worth. CEOs and Boards of Directors of publically traded companies try to maximize good will over time because it is a critical component of their company's stock price. Good will is a substantial component of the value of pharmaceutical drug companies, over-the-counter drug companies, alcoholic drink companies, cola companies, etc. Most importantly, entrepreneurs act to protect the company's good will because it can be quickly be adversely affected by negative events.

An example of such an event was the Chicago Tylenol Murders. These 1982 murders were a series of poisoning deaths where victims had taken Tylenol branded acetaminophen capsules that had been laced with cyanide. Seven people were murdered by the tainted capsules. It was determined that the poisoning were not the fault of the Johnson & Johnson and the company issued a $100 million (31 million bottles) recall of Tylenol products and paid for an advertising campaign to discourage the use of its products. During the 7 business days surrounding the initial murders, the company's stock lost almost 18% of its value. In the aftermath of the murders, Johnson & Johnson developed a new tamper-resistant bottle and the new caplet pill which is very hard to tamper with compared to capsules. The company's Tylenol brand soon regained its market share and Johnson & Johnson's stock price returned to its previous level.

The lessons from this example include 1. The financial damage from such events makes entrepreneurs alert to such dangers, 2. Effective damage control serves the firm's self interest as well as those of their customers, and 3. Very often such negative events result in new innovations that are adopted across the entire market. In this case, companies that sold many types of pills and medication susceptible to tampering adopted tamper proof and tamper resistant packaging and pills.

In illegal drug markets, firms have few options for developing and maintaining good will. They have little to lose if they sell tainted products that harm their customers. One fictional example of good will in illegal drug markets is the super meth-making chemist Walter White on the hit show, *Breaking Bad*. His superior production abilities are intellectual capital that raised the value of any firm that acquired his services because every sale would take place at a higher price. Even here, the super profits his techniques provided were transitory. Legalizing drug markets would create profit opportunities for entrepreneurs who created good will and this good will provides an enormous incentive to protect consumers.

Conclusions

Everything changes with prohibition and legalization. Price becomes relatively unimportant. Prohibition results in black markets which create multiple hazards for consumers. Legalization results in free markets which solves these hazards and creates multiple forms of consumer protections. This is just one of the many layers of market regulation that legalized markets provide and that protect consumers that are not present in black markets.

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Phelps on Mass Flourishing

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In his recent book entitled *Mass Flourishing* Edmund Phelps attempts to account for the innovation and dynamism which he sees as having characterized the modern economy from the beginning of the 19th century until the latter part of the 20th. In describing an economy as modern, Phelps does not just have in mind the present day, or the period following some more recent event in history such as the French or American Revolution, but rather one marked by innovation and dynamism, such as the American economy for the past century or so. While the economy of Britain, and Germany somewhat belatedly, have also exhibited such modernity, many other countries, e.g., Japan or Spain, are only modern in the sense that they have managed to imitate more dynamic ones (Phelps 2013, 109-110).

Phelps defines dynamism as "the willingness and capacity to innovate" where an innovation is "a new method or new product that becomes a *new practice* somewhere in the world (Phelps 2013, 20)." It is the latter feature which distinguishes modern capitalism from the mercantile variants which preceded it; as he puts it: "Entrepreneurs soon put merchants in the shade [Phelps

2013, 26].” Not that Phelps was the first to celebrate the economic dynamism of the modern economies. Marx and Engels put it in even more vivid terms: “The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all the preceding generations together. Subjection of Nature’s forces to man, machinery, application of chemistry to industry and agriculture, steam-navigation, railways, electric telegraphs, clearing of whole continents for cultivation, canalisation of rivers, whole populations conjured out of the ground—what earlier century had even a presentiment that such productive forces slumbered in the lap of social labour (Marx & Engels 1848, 48)?”

Lest these words lead you to believe that you may have had the wrong idea about the *Manifesto* all along, let me reassure you that its authors had not come to praise capitalism, but to bury it. As Mises clearly reminds us in the Introduction to *Human Action*, one of the great problems of the age is that people have in fact subscribed to the Marxist myth that improvements in production had nothing at all to do with capitalism. Further, on this account, capitalism was only the smoke-screen, or in their parlance, the ideological superstructure, put up to conceal capitalist exploitation, and as such could be cast aside with no loss to the economy (Mises 1998, 9).

Phelps for his part has no doubt that the economies he classifies as modern, which have brought enormous material prosperity in their wake, are indeed “specimens of *modern* capitalism,” as opposed to the mercantile variety where those few people with access to capital might become successful merchants. Although Phelps shares Mises’s view that the connection between capitalism and a dynamic modern economy is no accident, it is left to a footnote to make that clear (Phelps 2013, 35).

To the extent that modern capitalists such as Henry Ford became very wealthy themselves, it was, as DiLorenzo writes, because they provided people the world over with products they wanted to buy (DiLorenzo 2004, 11-12). Indeed, Phelps contends that Henry Ford’s pursuit of the mass-produced car is “a paradigm case of innovation.” While this sounds like a straightforward enough claim, it is not entirely clear what constituted Ford’s eureka moment, which Phelps seems to think genuine innovations typically involve. Morris, for example, points to the inspiration Ford claimed to have got from the slaughterhouse “*dis*assembly line” for the sort of Model-T plant capable of producing enough cars to meet the expected demand (Morris 2012, 205). However, Phelps seems inclined to the view that Ford’s innovation was more a matter of ideology than engineering, namely “the egalitarian idea that everyone should have a car (Phelps 2013, 32-33).”

Of course somewhat similar sentiments had been expressed by Mises over 70 years ago: “The characteristic feature of modern capitalism is mass production of goods destined for consumption by the masses. The result is a tendency towards a continuous improvement in the average standard of living, a progressing enrichment of the many. Capitalism deproletarianizes the “common man” and elevates him to the rank of a “bourgeois” (Mises 1952, 1).

Not that this feature had escaped Marx and Engels either: "The bourgeoisie, by the rapid improvement of all instruments of production, by the immensely facilitated means of communication, draws all, even the most barbarian, nations into civilization. The cheap prices of its commodities are the heavy artillery with which it batters down all Chinese walls, with which it forces the barbarians' intensely obstinate hatred of foreigners to capitulate. It compels all nations, on pain of extinction, to adopt the bourgeois mode of production; it compels them to introduce what it calls civilisation into their midst, i.e., to become bourgeois themselves. In one word it creates a world after its own image (Marx and Engels 1848, 47)."

In fact Deirdre McCloskey has written that capitalism is pretty much synonymous with innovation, and of the two terms, she prefers the latter, as being a more satisfactory way of describing "what was born in Europe in early modern times, enriching the world in the nineteenth and twentieth centuries beyond all expectation" (McCloskey 2010, 76). Part of the reason that innovation was a better way of accounting for what Phelps calls "the modern economy" is that there is nothing terribly new in capitalism in the sense of a market economy, which had been around for a very long time. But as McCloskey again writes: "What was different after 1800, and with unstoppable force after 1900, was a novel and immense and sustained, almost lunatic, regime of innovation, finally breaking the Malthusian curse. As people enriched, they eventually started having fewer rather than more children, quite against Malthusian expectations—though even with large families, such as in bourgeois England, the enrichment would have taken place, so unprecedentedly powerful was it (McCloskey 2010, 19)."

Although, as David Gordon reminds us, Phelps's Austrian enthusiasms are under fairly tight control (Gordon 1999, 1), he does give favorable mention to the two most notable economists in that tradition, namely Hayek and Mises. In Hayek's case, for example, while Phelps acknowledges the significance of Hayek's knowledge economy which is dependent upon local and very specific knowledge on the part of market actors, Phelps argues that such a notion is of little use in explaining innovation, which on his view constitutes an imaginative leap beyond our current knowledge. However, I think it clear that Hayek was not just aware of the incremental nature of improvements but also of the uncertain and risky path leading to innovation. Indeed, as he writes:" All we can do is increase the chance that some special constellation of individual endowment and circumstance will result in the shaping of some new tool or the improvement of an old one, and to improve the prospect that such innovations will become rapidly known to those who can take advantage of them (Hayek 1960, 30)."

In Part 2 of *Mass Flourishing* Phelps turns his attention to those parts of the old world in particular which did not rush headlong into the modern economy in the way that America and Britain mostly did, but maintained a more traditional society, based on the sorts of views Mises believed to have been largely consigned to the dustbin of history by the classical economists, namely: "that it is unjust and unfair to outdo a competitor by producing better and cheaper goods; that it is iniquitous to deviate from the traditional methods of production; that machines are an evil because they bring about unemployment; that it is one of the tasks of civil government to prevent efficient businessmen from getting rich and to protect the less efficient against the competition of the more efficient; that to restrict the freedom of entrepreneurs by government compulsion or by coercion on the part of other social powers is an appropriate means to promote a nation's well-being (Mises 1998, 8-9)."

Those parts of Europe which were slower to adapt to the modern economy proved fertile grounds for views which arose in opposition to liberalism in its classical sense. Phelps discusses two such ideologies in the historical order in which they arose, namely socialism and corporatism. If he devotes less attention to socialism, it is, as he points out, largely due to the work of Mises and Hayek. Mises contended that in the absence of market prices a socialist state would be unable to cost, e.g. the construction of a project such as a railroad, and therefore had no way of deciding, what needed to be built if anything (Mises 1990, 28).

Mises goes on to make a related point that it will be hard to incentivize effort in a socialist economy, since as he puts it: "the exclusion of free initiative and individual responsibility, on which the successes of private enterprise depend, constitutes the most serious menace to socialist economic organization" (Mises 1990, 33). Phelps agrees that subsequent Soviet history with its low workforce morale and rampant alcoholism only served to underscore Mises's arguments, which Phelps further illustrates with an anecdote about the Soviet-era brick delivery driver who manages to lose as much of his load on the way as he eventually delivers. No wonder even a latter day socialist such as G.A. Cohen, who asks us to consider socialism as an extended camping trip, has trouble squaring this analogy with the actual history of the Soviet Union, or of "similarly ordered states" (Cohen 2009, 75-76). Thus, Phelps acknowledges that Mises was "the originator of the *property rights theory"* (Phelps 2013, 123), a point on which Mises himself was quite clear: "The program of liberalism, therefore, if condensed into a single word, would have to read: *property*, that is, private ownership of the means of production" (Mises 1985, 19).

Although Phelps feels that both Mises and Hayek might have sharpened their attack on socialism to make it clear that it would not only lack efficiency but also innovation, as we have shown, at least in Hayek's case, it was not for any lack of interest in innovation per se. In Mises's case, he saw that innovation was at the heart of capitalism from the very beginning, where the poor and humble set about bootstrapping their way out of desperation by small scale manufacturing: "This was an innovation. These innovators did not produce expensive goods suitable only for the upper classes; they produced cheaper products for everyone's needs, eventually leading to the mass production so typical of capitalist industry" (Mises 1979, 3). On the other hand, not only does Phelps admit that there was little prospect of convincing socialists in formerly Czarist Russia that dynamism could only be bought at the cost of a return to private property but also that, as he puts it: " Most economists, including many on the left, came to declare the Austrian team the winner of the debate. The Austrian school persuaded the economics profession that a socialist economy would cause a decisive deterioration of efficiency (Phelps 2013, 129).

Having dealt with one of the main alternatives to the modern capitalist economy in relatively short order, thanks no doubt to the aforementioned distinguished Austrians, Phelps now turns his attention to a more influential movement, corporatism, which has often styled itself as the 3rd way, neither capitalism nor socialism. He argues that what became known as corporatism differed from modernity by wishing to maintain the sort of traditional protectionism which Mises claimed had been swept away by the economists. In response to what the traditionalists saw as the somewhat disorderly market order, they offered *dirigisme*, synonymous no doubt for Mises with *etatisme.* The main purpose of corporatism, as Phelps sees it, was for the state to keep a lid on the private sector, stopping short of the socialists' abolition of private property and inequality (Phelps 2013, 141).

Italy under Mussolini gave a definite shape to corporatism, inspired no doubt by earlier Catholic versions of that doctrine, with different industries constituting a corporation with their respective employer's group and union. Germany had moved in a corporatist direction since Bismarck, and Hayek writing towards the end of World War II described the top-down structure of the German *Beamtenstaat*: "in which not only in the civil service proper but in almost all spheres of life income and status were assigned and guaranteed by some authority" (Hayek 1944, 131).

While versions of corporatism migrated to Vichy France and the Iberian Peninsula, Phelps observes that, although at least during the interwar years, England and the United States were not subject to the same levels of government intervention as in Europe, the New Deal marked a definite departure from 19th –century liberalism (Phelps 2013, 153), and indeed from that of Mises and Hayek which supposedly won the debate against socialism. Moreover, Mises saw little difference between socialism and Nazi corporatism: "In Hitler's Germany there was a system of socialism which differed from the Russian system only to the extent that the *terminology* and *labels* of the free economic system were still retained. There still existed "private enterprises" as they were called. But the owner was no longer an entrepreneur, the owner was called a 'shop manager' (*Betriebsfuehrer*)." As Mises goes on to point out, the whole country consisted of a hierarchy of fuehrers from Hitler down, with orders proceeding from the *Reichsfuehrerwirtschaftsministerium* under Goering to every enterprise, where all facets of production and wages were controlled by the state (Mises 1979, 47-48).

As for the post-war years, Phelps notes that Germany under Erhard moved away from corporatism and back in the direction of laissez-faire, as did various countries in Europe as they took steps towards economic union. However, if more recent interventionist trends are any indication, corporatism has not disappeared and indeed, in the case of France, for example, whose corporatism dates back to the *ancien regime,* Phelps contends that: "there was no country in Europe more hostile than France to "market society" and more alienated from business life" (Phelps 2013, 162-163).

Although Britain had been one of the countries where Phelps considered the modern economy to have taken hold, it was much slower than its former enemy Germany to pick up steam after the war, with one historian noting that in many ways the years immediately following the war were more difficult than the war years themselves" (Kynaston 2007, 633). Of course this would come as no surprise to Mises who argued that Atlee's postwar socialism was simply a continuation of Churchill's wartime socialism. This included the later nationalization of industries such as steel and the railways which were already under government control during the war.

Unlike Phelps, who refers to corporatism as "The Third Way", Mises did not think there was a third way between capitalism and socialism, but that repeated government intervention in the market would lead to socialism (Mises 1979, 48-52). Although the British Labour Party claimed to have espoused socialism, in Phelps's view the British economy was corporatist rather than socialist, on the grounds that state owned enterprises were only responsible for roughly 1% of economic output for much of the postwar period. If Britain is less corporatist than other G7 members, this is largely as a result of the reforms of succeeding Thatcher governments from 1979-1990 (Phelps 2013, 163- 164).

But in case we thought that corporatism was confined to Europe where it started and remained influential, Phelps goes on to claim that the leading light of the modern economy, the United States, has become increasingly corporatist since World War 2. Although the level of red tape, as one measure of corporatism, has tended to be less than Europe, other measures such as union power are comparable, as well as the huge increase in both regulation and litigation which has dampened initiative and innovation.

More recent developments in corporatism have added other features to its traditional *dirigisme* and love of social cohesion, such as codetermination (*Mitbestimmung der Arbeiter)* and stake-holderism, resulting in, if not very large government, then, as Phelps puts it, "unlimited government" (Phelps 2013, 167). Mises sees the belief in the omnipotent state as a hangover from past traditions about the divinely appointed monarch (Mises 1979, 52-53), having as its modern corollary: "The dogma that the State or the Government is the embodiment of all that is good and beneficial and that the individuals are wretched underlings, exclusively intent on inflicting harm upon one another and badly in need of a guardian…" (Mises 1947, 16).

One of Phelps's chief concerns is that the innovation and dynamism which accompanied the arrival of the modern economy now seem to have petered out, largely he thinks, because the avatars of capitalism have become every bit as corporatist as the older more traditional economies. As he writes: "The system is less blatant than Bismarck or Mussolini. But its political nature is similar: it draws no line between the state and the market, this it creates a parallel economy that competes with the market economy and is another source of risk, scaring off innovations. Corporatism's managerial state has assumed responsibility for looking after everything from the incomes of the middle class to the profitability of large corporations to industrial advances. Corporatists, like the communists before them, assumed that all their wishful goals were possible without cost." He further notes that it is typical of corporatists to lay the blame on corporations and banks instead of government (Phelps 2013, 265-267).

The indictment continues in the final chapter: "In the public sector, corporatism has spread from Europe to America and metastasized into clientelism, cronyism, and pandering—graft is the least of it. Corporatism has also brought an explosion of regulations, grants, loans, guarantees, taxes, deductions, carve-outs, and patent extensions intended mainly to serve vested interests, political clients, and cronies. The protection of vested interests chokes off the opportunity that outsiders with new ideas would have to break into the market. All this has further reduced the supply of innovation" (Phelps 2013, 314).

Further, given his view that the state does not have the expertise to improve on market allocations of investment, Phelps notes the sorry record of GSEs in one industry after another. Although he cites subsidies to various green industries as subject to similar unintended consequences, Phelps stops short of a fuller assessment of the economic threat posed by the environmental policies which underwrite such subsidies, of the sort provided, for example, by Salerno: "To the extent that such policies go beyond the protection of individual rights and property—and they are now far, far beyond this point—they become antisocial and destructive of capital and living standards. In fact, in many if not in most cases, it is the obliteration of economic productivity *per se* which is intended and which constitutes the in-kind welfare subsidy to the well-heeled and well-organized minority of upper-middle class environmentalists" (Salerno 1990, 70).

Again, although Phelps agrees that government home ownership policies had much to do with the 2008-2009 financial crisis (Phelps 2013, 236), and that the state should not be in the business of subsidizing entities like Fannie Mae and Freddie Mac (Phelps 2013, 320), Thomas Woods comes to the more radical conclusion that these entities should be put into receivership, and their assets privatized (Woods 2009, 148).

While Phelps claims that little help for the decline in innovation and productivity is to be expected from either "the standard theories" or politics, he hopes that education might be a way to get us back on track. For example, we might imitate one of France's *grandes ecoles*, such as Science Po, but in the next breath goes on to note the silliness of the French politician who claims: "they would create value from their ministries" (Phelps 2013, 320). Indeed, the way ministries create value was aptly illustrated in another brick story by Howard, where the OSHA cited a brick manufacturer for failing to provide a material safety sheet with each pallet of bricks. This was to cover instances where bricks might need to be cut, thus releasing small amounts of silica into the air. The brick companies objected not only to the increased paperwork but also that it constituted an invitation to lawsuits (Howard 1994, 37).

Even if there is some question as to how much help France's institutions might provide, Phelps appears to hold out some hope that our own secondary and tertiary education systems might help us find our way back from the traditional values which Mises thought were antithetical to capitalism and innovation (Phelps 2013, 324). Of course they might, but in their present corporatist/statist incarnation, their chances of improving on anything the French have to offer are slim indeed.

Finally, although he lists Rawls as one of the giants who inspired and influenced him (Phelps 2013, 351) it seems to me that the attention he gives to Rawls's views is out of all proportion to any assistance the latter's philosophy could be expected to provide in helping him revive the modern economy. Phelps thinks that Rawls can show us how to make an economy not only modern but also just. In order to qualify as just you may recall Rawls's two principles of justice: "First: each person is to have an equal right to the most extensive basic liberty compatible with a similar liberty for others."

If Rawls had stopped there, libertarians/Austrians might have thought that this was a move in the right direction. But then there is the second principle which is supposedly compatible with the first: "Second: social and economic inequalities are to be arranged so that they are both (a) reasonably expected to be to everyone's advantage, and (b) attached to positions and offices open to all" (Rawls 1971, 60).

Here you might wonder who is to do the arranging of the inequalities and seeing to it that all have a crack at the pork barrel. Well it seems that under Rawls it would be business as usual in the corporate state. Apparently all Rawls had in mind with liberty was civil liberties (Rawls 1971, 243), such as freedom of speech and religion, while economic liberty, the foundation of the modern economy, doesn't get a look-in.

Of course we should also point out that this is not the justice Mises had in mind when he said that people should be required to "respect the lives, health, personal freedom, or private property of others" (1985, 37). Rather of course, Rawls is talking about "social justice", and this, as has been bellowed ad nauseam from the ramparts, is synonymous with equality. Thus Anthony de Jasay has recently remarked: "Egalitarian thought, however, is triumphant as it tacitly identifies equality with social justice. As justice is superior to injustice, so social justice must be superior to social injustice. In this suggestion, there is a telling parallel with the famous Indian rope trick: the magician throws a rope up in the air; the rope stays upright and bears the weight of the person climbing up on it. Like the consumers of egalitarian theory, the spectators are convinced" (de Jasay 2015, 3).

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Austerity in Europe: 2007-2014

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Austerity is perhaps the most prolific and controversial policy to come out of the recent crisis for two reasons. On one hand, it is difficult to define exactly what it means for an economy to be austere. On the other hand, once this definition is established, the complexities of financial issues – owing to the fact that funding constraints exist in the present given future obligations – imply that a meaningful measure of austerity is difficult to pin down.

An austere individual is someone who lives within his budget: in sum, someone who spends less than his income. Thus whether a government has or has not been austere can be measured by the change in its proclivity to spend. In table 1 below, we rank a set of 24 European countries (plus the United States) according to the change in the government's share of nominal GDP over the period of 2007 – 2014. By this definition of austerity, only Lithuania has decreased the size of its government's expenditures (and even then, just barely). Finland ranks as the least austere country under this measure, with an increase of nearly 12% in size of its government relative to GDP.

	Country	Change in Government Spending
1	Lithuania	-0.3
2	United States	1.1
3	Germany	1.3
4	United Kingdom	1.5
5	Greece	2.4
6	Malta	2.7
7	Latvia	3
8	Ireland	3.1
9	Austria	3.2
10	European Union	3.2
11	Sweden	3.3
12	Euro area	3.8
13	Netherlands	4
14	Norway	4.2
15	Italy	4.3
16	Estonia	4.5
17	Portugal	4.5
18	Spain	4.7
19	France	5
20	Slovakia	5.7
21	Luxembourg	5.9
22	Belgium	6.7
23	Slovenia	7.6
24	Cyprus	11
25	Finland	11.9

Table 1[1]: "Austerity" as Change in Government Spending (2007 – 2014)
Source: Eurostat (2015)

Of course, if one takes "austere" to mean living within ones means, spending is only half the equation, the other half being income. Under this definition, growth in total tax revenue represents an austere government, as the increase in taxes equates to an increase in one form of government revenue (the other two forms being seigniorage and deficit spending). An austere country would be one that has decreased its total tax revenue, as was the case with Cyprus over the period. (Note that this measure of austerity is passive in the sense that changes in tax revenue could be in the form of alterations to tax policy or, as was the case more often during this period, the result of falling income level in the private sector.) The least austere country under this methodology would be Greece, since that country's tax revenue increased by nearly 4% between 2007 and 2014.

Of course, both of these measures of austerity can be summarized neatly by just focusing on the annual public deficit. In figure 3 below, we can see the average deficit each country incurred over the period of examination.

1 I have shaded green those countries following austere policies under the relevant metric in tables 1 through 4, and red for those un-austere, or profligate, countries.

	Country	Change in Tax Revenue
1	Cyprus	-5.2
2	Spain	-3.8
3	Lithuania	-2.8
4	Ireland	-1.8
5	Norway	-1.7
6	Sweden	-1.1
7	United Kingdom	-0.9
8	United States	-0.4
9	Latvia	-0.2
10	Malta	-0.1
11	Slovenia	0.1
12	Euro area	0.7
13	Germany	0.7
14	Netherlands	0.8
15	Estonia	0.9
16	Slovakia	1.2
17	Euro area	1.3
18	Italy	1.8
19	Austria	1.9
20	Luxembourg	2.2
21	Finland	2.4
22	Portugal	2.5
23	Belgium	2.8
24	France	3
25	Greece	3.7

Table 2: "Austerity" as the Change in Tax Revenue (2007 – 2014)
Source: Eurostat

This measure has the appeal that it captures not just high revenue or low expenditures as a source of austerity, but the combination of the two. Therefore one can make the claim that Norway has been the most austere country over this period. The fact that the country's public expenditures

	Country	Average Deficit
1	Norway	13.5
2	Luxembourg	1.1
3	Sweden	0.0
4	Estonia	-0.1
5	Finland	-0.6
6	Germany	-0.9
7	Austria	-2.6
8	Netherlands	-2.9
9	Malta	-3.0
10	Belgium	-3.1
11	Euro area	-3.3
12	Italy	-3.3
13	Latvia	-3.5
14	European Union	-3.7
15	Cyprus	-3.9
16	Slovakia	-4.2
17	Lithuania	-4.4
18	France	-4.7
19	Slovenia	-5.4
20	Portugal	-6.3
21	Spain	-6.9
22	United States	-7.0
23	United Kingdom	-7.0
24	Greece	-9.5
25	Ireland	-10.5

Table 3: Average Public Deficit (2007 – 2014)

Source: Eurostat (2015)

are quite high relative to others' is offset by the fact that its tax collection (and revenues from State-owned enterprises) are also high. To the extent that Ireland increased public expenditures at a time when its tax revenues were falling, its government ranks as the least austere according to the measure.

One deficiency of focusing exclusively on the deficit is that the one cannot easily see the magnitude of the deficit on the country's public finances. Such a magnitude can be more easily captured with reference to the change in the total stock of public debt outstanding. Problems still persist with this method. While Malta may have been the most austere government over this period, the island's government still managed to increase its public indebtedness by almost 6%. And while attention to Norway's surpluses may give one the impression that its government debt has not been increasing, focusing on the total debt level reveals that it has pursued less austere policies than meet the eye.

	Country	Change in Government Debt
1	Malta	5.6
2	Sweden	5.7
3	Estonia	6.9
4	Germany	11.0
5	Norway	14.3
6	Luxembourg	16.4
7	Belgium	19.7
8	Austria	19.7
9	Slovakia	23.8
10	Lithuania	25.0
11	Finland	25.3
12	Netherlands	26.1
13	France	30.6
14	Latvia	31.6
15	Italy	32.4
16	United States	37.9
17	United Kingdom	45.8
18	Greece	47.4
19	Cyprus	53.4
20	Slovenia	58.2
21	Portugal	61.8
22	Spain	62.2
23	Ireland	85.7

Table 4: Change in Total Public Debt (2007 – 2014)
Source: Eurostat (2015)

The goal of these four tables has been only to impress on the reader the simple fact that measuring austerity is difficult. This outcome can be intuited by following the robust debate that surrounded the topic since the advent of the crisis in late 2007. One recourse to the thorny question could come from somehow aggregating these individual measures of austerity into some appropriately weighted "austerity index".

In table 5 I have ranked the countries according to their average rank in each of the four previously mentioned ways to define austerity. The resultant value of the "austerity index" represents this average. For example, Sweden ranked 11th in government spending, 6th in government spending, 3rd in the deficit and 2nd in its total public debt giving it an austerity index measure of 5.25 (the average of 11, 6, 3, and 2). Thus a lower austerity index value means that the country has been more austere. Though one could quibble about the appropriate weights or austerity components to include (e.g., perhaps the primary surplus should be used instead of the deficit, maybe the total interest payments should be included as well, etc.) the index has the appeal that it quickly ranks a country relative to others according to its austerity performance. It also accords with intuition. The usual suspects for the least austere countries appear near the end of the list (i.e., Spain, Portugal, Ireland, Greece, etc.) while those countries that seemingly enacted (whether by choice, necessity, or preference) the most austere policies are near the top of the list (e.g., Sweden, Norway, Germany, etc.).

	Country	Austerity Index		Country	Austerity Index
1	Sweden	5.25	13	Cyprus	13.75
2	Norway	5.75	14	Italy	13.75
3	Germany	6.25	15	Slovakia	14.00
4	Malta	6.50	16	Belgium	14.50
5	Lithuania	7.25	17	Finland	14.50
6	Estonia	8.75	18	Ireland	14.50
7	Austria	10.25	19	Spain	14.75
8	Latvia	10.50	20	France	17.00
9	Netherlands	11.00	21	Greece	17.00
10	Luxembourg	11.25	22	Slovenia	17.25
11	United States	11.50	23	Portugal	18.50
12	United Kingdom	12.25			

Table 5: Austerity Index

Such a ranking has two significant drawbacks. First, since the ranking is relative to other countries, the fact that Portugal comes in last and Sweden first only implies that the Portuguese government pursued less austere policies than did Sweden's. This drawback becomes apparent once one questions whether the Swedish government has, in fact, been austere. (Attention to table 4 may cause one to rethink their answer to this question.) The prettiest girl of an ugly group is still ugly. Second, since the values of the austerity index are ordinal there is no way to discern the magnitude of difference between, e.g., Ireland's more austere policies vis-à-vis Spain's less austere policies. This index allows us to make qualitative comparisons between members of the group, but tells little with respect to how austere a country has or has not been.

To rectify these problems, I have devised an alternative method to measure the degree of austerity of a country's government. A better measure of austerity would account for a reduction in government spending, both in the present and future. Such a figure would remove the possibility that a country could give the appearance of being austere by lowering taxes but not reducing expenditure and running a deficit (e.g., Spain). Alternatively, a country could look profligate by increasing expenditures in the present, but by reducing the future debt burden by running cash surpluses it would actually be austere (e.g., Norway).

The proposed austerity value takes the sum of the current tax charge T and the expected future portion of income P_0 necessary to pay down the existing debt D_0 and expected deficits d. Given that a government is an ongoing entity, the portion of a country's income necessary to pay off the existing debt and expected annual deficit can be solved as net present value problem. Some appropriate fixed annual income payment, P_0, will set the net present value of its debt and expected deficits equal to zero if

$$P_0 = D_0 \frac{i - g}{1 + g} + d$$

where i is the average interest rate on debt outstanding, and g is the nominal growth rate of the economy. Thus P_0 is the perpetual payment necessary to set the present value of the repayment of debt D_0 growing as per the yearly deficit d equal to zero. (All figures are expressed as a percentage of nominal GDP.)

Combining this payment with the current level of tax revenue (also expressed as a percentage of nominal GDP) will result in an austerity value, as per table 6.

	Country	T	P0	Austerity Value
0	Denmark	48.6	2.6	51.2
1	France	47.2	2.1	49.3
2	Belgium	47.2	-0.6	46.6
3	Sweden	44.6	0.7	45.3
4	Finland	43.9	0.7	44.6
5	Austria	43.3	0.1	43.4
6	Slovenia	37.2	5.7	42.9
7	Euro area	41.1	-0.4	40.7
8	European Union	39.9	0.5	40.4
9	Luxembourg	40.4	-1.1	39.3
10	United Kingdom	35.2	3.9	39.1
11	Netherlands	37.3	0.9	38.2
12	Germany	39.4	-1.4	38.0

	Country	T	P0	Austerity Value
13	Italy	43.3	-5.7	37.6
14	Spain	33.1	2.5	35.6
15	Malta	33.8	1.4	35.2
16	Portugal	37.4	-3.1	34.3
17	Slovakia	30.2	2.6	32.8
18	Greece	37.0	-4.5	32.5
19	Estonia	31.9	0.1	32.0
20	Ireland	30.2	1.8	32.0
21	Cyprus	31.6	-0.6	31.0
22	Latvia	28.0	2.4	30.4
23	Lithuania	27.0	3.1	30.1
24	Norway	40.5	-11.4	29.1

Table 6:[2] Austerity Value, 2013 (Source: Eurostat (2015) and author's calculations)

2 Countries in green are those whose P_0 value is negative, implying that the public sector will cost less in the future than it does now (given a constant level of expenditures). This strange event comes about by either the country running a public surplus (as with Norway) or where the rate of economic growth g is greater than the interest charge i on its outstanding debt (as is the case with Belgium, Greece and Portugal, and indeed, the average of the

Interpreting the austerity value is straightforward. The number represents the percentage of income necessary to maintain the current level of taxation *and* pay down the existing debt and expected deficits. This latter condition is necessary since if investors did not think that the government would ever repay its debt they would not fund it. (In this way the value of P_0 given by the equation above is the minimum condition to ensure that investors lend money to the government, or in other words, that the existing debt and expected deficits are sustainable.)

Thus, while Norwegians paid 40.5% of their income to the government in 2013 ($T = 40.5$), given the combination of low interest rates on Norwegian sovereign bonds (i), strong economic growth (g) and a public surplus ($d > 0$), they can expect to devote only 29.1% of their future income to maintain this level of public expenditure. Demark represents the other extreme. Given that it currently costs Danes 48.6% of their income to fund the government through taxes, *and* that they will need to devote 2.6% of their future income to paying down the public debt and deficit, they will need to spend 51.2% of their future income to maintain the government at its current size.

In contrast to the Austerity Index represented in table 5, the austerity values of table 6 have the advantage that they are cardinal. As a result we can compare the future cost of public finances easily. For example, Austria and Italy share not just a border but also the cost of their current public sectors at 43.3% of GDP. However, given differences in each country's existing debt level, expected deficits, interest expenses and economic growth rates we can expect that it will cost Italian citizens nearly 6% less of their income in the future to maintain their government at that size. One can just as easily reverse the statement and look at its corollary. For the same expense going forward (approximately 39% of GDP) the United Kingdom will only be able to sustain a

	Country	Change in Austerity Measure
1	Ireland	-15.3
2	Lithuania	-7.2
3	Portugal	-7.1
4	Cyprus	-7.0
5	United Kingdom	-5.8
6	Spain	-5.0
7	Latvia	-4.9
8	Slovakia	-2.9
9	Germany	-2.6
10	Italy	-2.4
11	Netherlands	-1.8
12	Austria	-1.6
13	Malta	-0.9
14	Estonia	-0.9
15	Norway	0.2
16	Belgium	0.8
17	France	1.0
18	Sweden	1.4
19	Slovenia	1.6
20	Luxembourg	1.9
21	Finland	3.0
22	Greece	7.9
23	Denmark	8.7

Table 7: Change in Austerity, 2007-2013

Euro area.)

government 5 percentage points smaller than Luxemburg's.

The Austerity Value that I define herein allows one to estimate the true cost of a country's public sector, not just in the present in the form of taxes but in a future that necessarily must include debt repayments.

I will conclude by shedding light on which countries were the most austere over the period of 2007 to 2014. In table 7 I summarize the changes to the Austerity Value in each country over the period. An increase denotes the additional income (as a percentage of GDP) that will be necessary to support that country's public sector moving forward. A decrease implies that the country has decreased its cost of government, and thus has pursued what could be called an austere economic policy.

To the extent that the Irish government can be estimated to cost 15.3% less as of 2013 than it did in 2007, I conclude that it has followed the most austere economic policies over the period 2007 – 2013. On the other hand, Denmark has been the most profligate country under examination and can be reasonable expected to require nearly 9% more income in the future to sustain its government at its current size.

Hayek's 'Denationalization of Money' – a Praxeological Reassessment

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> "Facts per se can neither prove nor refute anything. Everything is decided by the interpretation and explanation of the facts, by ideas and the theories."
>
> —Ludwig von Mises (1981) p. 459.

> "Much of contemporary politics is based on the assumption that government has the power to create and make people accept any amount of additional money it wishes."
>
> —Friedrich August von Hayek (1978), p. 32.

> "[I]f fiat money could not continue indefinitely, I would not have to come here to plead for its abolition."
>
> —Murray N. Rothbard (2005), p. 149.

In 1976, Friedrich August von Hayek (1899 – 1992) published *Choice in Currency. A Way to Stop Inflation*, followed in 1978 by a revised and enlarged version titled *Denationalisation of Money: The Argument Refined. An Analysis of the Theory and Practice of Concurrent*

Currencies. Therein, Hayek calls for replacing the state's money production monopoly with a free market in money. Hayek argues that money is a good (a commodity) like any other, and that private issuers would provide better money than a state money production monopolist. His proposal has received wide attention even in mainstream economics – but has been rejected as 'impractical' or 'politically undesirable'.[1] Among economists of the Austrian School of Economics, the reception of Hayek's proposal has been ranging from outright rejection to contingent support.[2] The purpose of this article is to reassess Hayek's competitive currencies proposal on the basis of the *scientific method of economics* put forward by Ludwig von Mises (1881 – 1973).

To Mises, economics is an *a priori* science, and he uses the term *praxeology* (the *logic of human action*) for the branch of knowledge represented by economics.[3] Praxeology takes its starting point from the irrefutably true proposition that 'humans act'. The latter is an *a priori*: Its undeniable truth value, or justification, is independent of experience.[4] On praxeology Mises notes (Mises 1998, p. 32): "Its statements and propositions are not derived from experience. They are, like those of logic and mathematics, a priori. They are not subject to verification and falsification on the ground of experience and facts. They are both logically and temporally antecedent to any comprehension of historical facts." Mises's scientific method of economics, built on praxeology, provides a rigorous logical justification, making it possible to distinguish between *correct* and *false economic theories* without having to engage in any empirical testing.[5]

While Hayek makes a valid point – namely that economically and ethically acceptable (or: *sound*) money can only be provided by the free market –, he does not build *Denationalisation of Money* on praxeological but on a form of 'ultra-subjectivist' thinking. This, in turn, causes problems. First, Hayek does not succeed in coming up with a consistent elaboration of how a free market in money would work. Second, he fails to make a logically rigorous, principled case for a free market in money (and thus a principled case against money monopolized by the state), thereby inviting undue criticism of his proposal.[6] Perhaps most important, Hayek holds an illusionary view about the *true nature of the state* when it comes to monetary affairs: Praxeological thinking reveals that the state – *the territorial monopolist of coercion and ultimate*

1 On this topic see, for instance, Issing (1999), Vaubel (1986), Cagan (1986), and Greenfield and Yeager (1983).

2 For instance, Rothbard (1992) rejects Hayek's denationalization proposal outright, while Murphy (2005) takes a more constructive view, emphasizing the benefits of Hayek's plan.

3 See Mises (1998, pp. 11 – 142), Hoppe (2007), Rothbard (2009, pp. 1 – 77), and Rothbard (2011, pp. 29 – 80). Note in this context that (Cohen and Nagel 2002, p. iv) "logic is the autonomous science of the objective though formal conditions of valid inference."

4 See, for instance, Höffe (2007), Immanuel Kant, pp. 60 – 74; Tetens (2006), Kants "Kritik der reinen Vernunft".

5 For further explanations see Hoppe (2006b, pp. ix –xxiv, esp. pp. xvi – xix).

6 Someone critical of Hayek's point of departure – namely that experience has shown that the state misuses his money production monopoly – may simply argue: Well, let us just get better people to decide on monetary policy, or impose proper rules on these decision makers, and you will see how great and satisfactorily a state's money production monopoly will work! To get better money, there is no need for switching to a free market in money! This line of argumentation is expressive of (Hoppe 2006, p. 362) "the mentality of social relativism" and follows directly from the *positivist doctrine*: It doesn't allow formulating and defending a *principled case* either for or against something.

decision-making – and a free market in money are incompatible.

The rest of the article has been structured as follows. The scientific method Hayek applies to economics will be briefly outlined (II.). What follows is an overview of the development of Hayek's views on monetary affairs, in which Hayek's 'denationalizing money' proposal will be outlined (III.). Then, Hayek's proposal will be subjected to praxeological critique, which yields the following conclusions (IV.): (i) The idea that Hayek's 'paper tickets' could become money will be rejected; (ii) free banking means competition in *money substitutes*, not in money proper, as Hayek suggests; (iii) Hayek's idea that money issuers should be allowed to create their currencies via credit will be rejected on economic and ethical grounds; (iv) Hayek's notion that there is something like 'stable money' will be dismissed; and (v) it will be outlined that Hayek holds an illusionary view about the state's willingness to give up its money production monopoly. As a digression, the emergence of bitcoin as a new 'money candidate' will be briefly addressed (V.). The article ends with some lessons to learn (VI.).

Hayek's scientific method of economics

Hayek rejects Mises's idea that the proper scientific method of economics is praxeology. In a letter to T. W. Hutchison (1912 – 2007) Hayek writes (Hayek 1981): "The main intention of my 1936 lecture was to explain gently to Mises why I could not accept his a priorism. Curiously enough, Mises, who did not readily accept criticism from his juniors, accepted my argument but insisted that it was not incompatible with his view which, by implication, he restricted to what I called the Logic of Choice or the Economic Calculus. I left it at that, but I did want to say that I was never a priorist, though I would still insist that part of the essential knowledge of the economist or the social theorist general is derived from his given familiarity with the processes of human thinking."[7]

Further, in an interview Hayek notes: "I became one of the early readers [of Karl R. Popper's *Logik der Forschung* (1934)]. … And to me it was so satisfactory because it confirmed this certain view I had already formed due to an experience very similar to Karl Popper's. Karl Popper is four or five years my junior; so we did not belong to the same academic generation. But our environment in which we formed our ideas was very much the same. It was very largely dominated by discussion, on the one hand, with Marxists and, on the other hand, with Freudians. Both these groups had one very irritating attribute: they insisted that their theories were, in principle, irrefutable. Their system was so built up that there was no possibility – I remember particularly one occasion when I suddenly began to see how ridiculous it all was when I was arguing with Freudians, and they explained, "Oh, well, this is due to the death instinct." And I said, "But this can't be due to the death instinct." "Oh, then this is due to the life instinct." … Well, if you have these two alternatives, of course there's no way of checking whether the theory is true or not. And that led me, already, to the understanding of what became Popper's main systematic point: that the test of empirical science was that it could be refuted, and that any system which claimed that it was irrefutable was by definition not scientific. I was not a trained philosopher; I didn't elaborate this. It was sufficient for me to have recognized this, but

7 Quoted from Caldwell (2004, pp. 420 – 421).

when I found this thing explicitly argued and justified in Popper, I just accepted the Popperian philosophy for spelling out what I had always felt. Ever since, I have been moving with Popper."[8]

As far as his scientific method is concerned, Hayek qualifies as an 'anti-rationalist' and 'ultra-subjectivist', according to Hans-Hermann Hoppe (Hoppe 2006, pp. 260 – 261): "Hayek's categories and theories refer to purely subjective phenomena and are invariably elusive or even illusory. He is not concerned about acting with things but about knowledge and ignorance, the division, dispersion, and diffusion of knowledge, alertness, discovery, learning, and the coordination and divergence of plans and expectations. The external (physical) world and real (material) events have almost completely disappeared from his view. Hayek's categories refer to *mental* states of affairs and relationships, completely detached from and compatible with *any* real physical state of affairs and events. … Even if Hayek's science of knowledge is possible, it appears at best irrelevant because it is praxeologically meaningless. At worst it is intellectually pernicious in promoting relativism."[9] It is fair to say that Hayek, by following a version of Popper's *critical rationalism*, seems to be flirting with the tradition of positivism-empiricism-falsificationism, which, however, is an inconsistent, a self-contradictory doctrine, being incompatible with the logic of human action.[10]

Hayek on monetary affairs

Hayek, in the course of his long and prolific academic carrier, changed his views on monetary issues quite dramatically. His book *Monetary Nationalism and International Stability* (1937) is motivated by the problems that came with the breakdown of the international (pseudo-) gold standard, the emergence of 'monetary nationalism'[11] and the accompanying international monetary and economic instability. Hayek proposes an anti-free market solution, speaking out in favor of a de facto single state-sponsored world central bank (Hayek 1937, p. 94): "[A] really rational monetary policy could be carried out only by an international monetary authority, or at any rate by the closest cooperation of the national authorities and with the common aim of making the circulation of each country behave as nearly as possible as if it were part of an intelligently regulated international system."

As a 'second best' solution, Hayek favors a *rule-based* monetary policy, thereby aligning a national monetary policy's discretion with the monetary policies of other countries (Hayek 1937, pp. 93 – 94): "[S]o long as an effective international monetary authority remains an Utopian dream, any mechanical principle (such as the gold standard) which at least secures some conformity of monetary changes in the national area to what would happen under a truly international monetary system is far preferable to numerous independent and independently regulated national currencies. If it does not provide a really rational regulation of the quantity

8 Hayek on Hayek (1994, pp. 42 – 43). See in this context also Hayek (1980).

9 See also Hoppe (2012).

10 For an extensive and thorough rejection of positivism-empiricism-falsificationism see Hoppe (2006a); for a brief summary see Polleit (2013).

11 "By Monetary Nationalism I mean the doctrine that a country's share in the world's supply of money should not be left to be determined by the same principles and the same mechanism as those which determine the relative amounts of money in its different regions or localities." Hayek (1937), Monetary Nationalism, p. 4.

of money, it at any rate tends to make it behave on roughly foreseeable lines, which is of the greatest importance." That said, Hayek is not only in full support of the state monopolizing money, he also considers competition between the various nationalized monies as being undesirable.

In *The Constitution of Liberty* Hayek remains in full support of the idea that the state should be in control of monetary affairs (Hayek 1960, p. 324): "Why, it is sometimes asked, should we not rely on the spontaneous forces of the market to supply whatever is needed for a satisfactory medium of exchange as we do in most other respects?" Hayek's answer is that such an option would no longer be open to us (Hayek 1960, p. 324): "Perhaps, if government had never interfered, a kind of monetary arrangement might have evolved which would not have required deliberate control: in particular, if men had not come extensively to use credit instruments as money or close substitutes for money, we might have been able to rely on some self-regulating mechanism. This choice, however, is now closed to us." Hayek even explicitly writes that a free market in money (Hayek 1960, p. 324) "is not only politically impracticable today but would probably be undesirable if it were possible."

In *Denationalization of Money* (1978), Hayek performs a U-turn: He recommends ending the state's money production monopoly, replacing it with a free competition of currencies. His argument is that the state invariably misuses its money production monopoly (Hayek 1978, p. 34): "I do not think that it is an exaggeration to say that history is largely a history of inflation, and usually of inflations engineered by governments and for the gain of governments."[12] To Hayek, inflation is a cause of economic and political disruptions, rather than a cure to recessions and depressions (Hayek 1978, p. 102): "*The past instability of the market economy is the consequence of the exclusion of the most important regulator of the market mechanism, money, from itself being regulated by the market process*." It is against this backdrop that Hayek calls for ending the state's monopoly of money (Hayek 1978, p. 130): "The abolition of the government monopoly of money was conceived to prevent the bouts of acute inflation and deflation … . It proves on examination to be also the much needed cure for a more deep-seated disease: the recurrent waves of depression and unemployment that have been represented as an inherent and deadly defect of capitalism."

The starting point of Hayek's competitive currencies proposal is the idea that money is no different from any other good (with money being the most marketable good), and that better, or *sound*, money can be supplied only by free competition between private issuers, but not by a state money production monopolist – as experience has made all too clear, according to Hayek. The constitutive elements of Hayek's competitive currencies concept are: (i) everyone would be free to offer media competing for money status; (ii) Everyone would be free to demand the kind of money that serves his purposes best (with no legal tender laws in place); and (iii) there is "free

12 Hayek is, of course, fully aware of the dangers for individual freedom and liberty that come with the state interfering with monetary affairs – see, for instance, Chapters 'IV The persistent abuse of the government prerogative' and 'XXIII Protection against the State' in his *Denationalization of Money*. On Hayek's view about the dangers that come with the state – which is the characteristic feature of socialism – see his famous *The Road to Serfdom*, published in 1944.

banking", meaning a free market in banking services (as far as the deposit and credit business are concerned). In a truly free market in money, Hayek holds, *sound money* would emerge – as no one would demand bad money.

Hayek sees the danger that the state might interfere and make impossible a free market in money once it has taken off (Hayek 1978, pp. 124). For instance, the state may within its own borders try to replace competitive currencies with its own money. Or, if the competition of currencies is an international business, the state may disrupt the free flow of monies across borders. Hayek seems to think that a free market in money could be upheld, however, if money issuing institutions would be located in small wealthy states, as the latter would have little interest in intervening (Hayek 1978, pp. 124 – 125): "[I]t would clearly be important that banks with headquarters in different countries should compete with one another. The greatest confidence, at least so long as peace was regarded as assured, would probably be placed in institutions established in small wealthy countries for which international business was an important source of income and that would therefore be expected to be particularly careful of their reputation for financial soundness."

***Praxeological* criticisms**

In what follows, five critiques will be levelled against Hayek's competitive currencies proposal, based on praxeological considerations. The first critique ("*Ignoring the regression theorem"*) rejects Hayek's idea that 'paper tickets' could become money. The second critique (*"Free banking means competition in money substitutes"*) shows that in free banking there is competition in *money substitutes* rather than (as Hayek suggests) in *money proper*. The third critique ("*Failing to factor in the economics and ethics of money production*) refutes Hayek's idea that money issuers should be allowed to create their currencies via credit on economic and ethical grounds. The fourth critique ("*Falling victim to Fata Morgana of stable money*") rejects Hayek's notion that there is something like 'stable money'. Finally, the fifth critique (*"Misjudging the benevolence of the state"*) reveals that Hayek holds an overly optimistic, actually unjustified, view about the state's willingness to give up its money monopoly.

Critique 1: Ignoring the regression theorem

In Hayek's competitive currencies proposal, everyone would be allowed to offer any kind of goods in the hope that they will become money, the universally accepted means of exchange. Wouldn't that lead to chaos, as many monies would enter the market? The answer is: no. The *demand for money* decides what kind will become money. People will demand only those goods as money which, from their individual viewpoint, fulfill the money functions best. What is more, people will decide for a single commodity, for the commodity that is most widely used in exchange: "[T]here would be an inevitable tendency for the less marketable of the series of goods used for media of exchange to be one by one rejected until at last only a single commodity remained, which universally employed as a medium of exchange; in a word, money."[13] Hayek's idea that 'paper tickets' with new names and marks on them (say, '100 Hayek's', or a '500 Smiths') could become money is misguided. First and foremost, it is incompatible with

13 Mises (1953, pp. 32-33); see also in this context Hoppe (2006c, pp. 176 – 177).

the *regression theorem* as outlined by Mises in his *The Theory of Money and Credit* (1912). According to the regression theorem, money must emerge from a commodity, an entity that was valued for its non-monetary service before it was chosen as a means of exchange (Mises 1998, pp. 402 – 404).[14] The regression theorem tells us that 'new money candidates' in the form of printed paper tickets could not become money. No one would accept '100 Hayeks' or '100 Smiths' as money, as no one would know their exchange value. Even the removal of legal tender laws wouldn't do the trick. Rothbard therefore concludes (Rothbard 1992, p. 4): "Hayek's plan for the denationalization of money is Utopian in the worst sense: not because it is radical, but because it would not and could not work."

Is it possible that Hayek's proposal opens up, in principle, a promising development: namely that commodity money emerges spontaneously from voluntary action in the free market? Rothbard rejects such possibility. The reason is that people have become used to the *names* of the official currencies (such as, for instance, 'dollar', 'euro' etc.). This, in turn, makes it difficult for any *money candidate* with a *new name* to become money. Existing fiat currencies would retain a competitive advantage. In contrast to Hayek (who allows the state to stay in the money business), Rothbard therefore argues for a *full-scale* privatization of money to provide a *level playing field* for making a free market in money possible (Rothbard 1992, p. 5): "There is only one way: to link the dollar once again to a useful market commodity. Only by changing the definition of the dollar from fiat paper tickets issued by the government to a unit of weight of some market commodity, can the function of issuing money be permanently and totally shifted from government to private hands."

Critique 2: Confusing money proper with money substitutes

Hayek thinks that in a free market there would be competition between private money issuers, each issuing its own currency.[15] In this context, however, it is important to distinguish between *money proper* and *money substitutes*. In a free market in money, people with free choice would decide what good(s) will become *money proper* (such as, for instance, gold or silver). Then, under free banking, *money warehouses* would spring up, offering services in terms of storage, settlement and safeguarding money proper. If, for instance, Mr. Smith decides to deposit 10 gold ounces with a money warehouse, he will receive in return a *money warehouse receipt* (a *money substitute*). That said, money warehouses will compete in terms of *money substitutes*

14 No one would accept any entity as money unless it has purchasing power. The purchasing power of money, in turn, is determined by the supply of and the demand for money. But how can there be a demand for money (which assumes that a money has purchasing power already), if the purchasing power of money is determined by the supply of and demand for money? Mises provides the solution to this circulation problem. He rightly points out that money's purchasing power has a time dimension: The demand for money in, say, t can be explained by the fact that money was demanded in $t – 1$. If one logically goes back in time (regress), one arrives at the first day when a commodity became used as money. This commodity could only become money because it had been valued as a non-monetary commodity before. That said, money cannot be created "out of thin air" in the first place. It cannot be established by government decree or a 'social contract'. Money must emerge out of a commodity that had a market price (exchange value) prior to its monetary use - the regression theorem is of praxeological nature, it is *a priori*.

15 See Hayek (1978, chap. IX, pp. 51 ff).

Example

Assets	Mr. Smith	Liabilities
Gold oz	10	
	-10	
Money warehouse receipt	*+10*	

Money warehouse		
Outstanding money warehouse receipt	*+10*	

rather than in terms of *money proper*, as Hayek suggests.[16]

Assume Mr. Smith holds 10 gold ounces. He decides to deposit the 10 gold ounces with a money warehouse. In Mr Smith's balance sheet, the gold stock declines, while his stock of money warehouse receipts increases. The money warehouse, in turn, acts a custodian. It would *not* record the gold on its balance sheet (but in its ledger).[17]

Critique 3: Failing to factor in the economics and ethics of money production

Hayek would allow competitive currencies to be *loaned into existence* or *printed up* (Hayek 1978, p. 52): "[A] number of competing issuers of different currencies would have to compete in the quality of the currencies they offered for loan or sale." There are two major problems with Hayek's credit-based currencies, though. First, the regression theorem tells us that unbacked (paper) money cannot emerge voluntarily and spontaneously. Only *money substitutes* can be brought into circulation through credit expansion, with issuers of such money substitutes operating on fractional reserves. This, however, would be to considered *illegal* (for property right reasons).[18]

Second, if loaned into existence, Hayek's competing currencies would basically amount to monies created 'out of thin 'air'. They would suffer from the same economic and ethical deficiencies as state controlled fiat monies (Hülsmann 2008). These monies would, for instance, be inflationary and set into motion a boom-bust-cycle. Admittedly, however, money produced through credit expansion under free market conditions might be less harmful compared to state monopolized fiat money: People would have a choice in terms of money, and in a free market for money the incentive for money issuers engaging in fractional banking would be greatly diminished as there would be no central bank acting a 'lender of last resort'.

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16 Of course, one may think of a provider of money proper (say, a gold mine), which also runs a money warehouse. In this case, however, both businesses would represent separate businesses, economically speaking. It should be noted that money warehouses won't pay any interest on customers' deposits (as is typically the case in today's fiat money regime) but will charge customers for services provided: Customers pay a fee for, say, storage, safekeeping and settlement services offered by money warehouses.

17 This insightful illustration of can found in Rothbard (1983, 88-89).

18 It should be noted that some economists think that fractional reserve banking is legitimate like, for instance, Selgin and White (1996), while others consider it as fraudulent such as, for instance, Hoppe, Hülsmann, Block (1998); also Rothbard (1983, pp. 94-110). I personally side with the argument put forward by Huerta de Soto (2006, pp. 4 – 6).

Would it be possible to print up new unbacked paper tickets (called, say, "Hayeks") and sell them against goods and services? The regression theorem would say: *no*. The reason is that no one would know what the exchange value of these pieces of paper would be, so that no one would accept them. In addition, one has to take into account that the issuer of unbacked, intrinsically valueless paper tickets could amass a fortune, simply by exchanging his paper tickets against valuables. He would enjoy a 'get-rich-quick scheme'. Provided people are not out of their mind, the idea that unbacked paper tickets *could become money by selling them into circulation* is a praxeological impossibility.

Critique 4: Falling victim to the Fata Morgana of 'stable money'

Hayek assumes that money would be in continuous demand as long as people expect its purchasing power to be *constant*, and he holds that money issuers should keep the purchasing power of their monies stable by regulating the quantity of their issues (Hayek 1978, p. 52). However, in the realm of human action is no such thing as money with a 'stable' purchasing power (Mises 1998, p. 219): "There is no fixed point in this ceaseless fluctuation other than the eternal aprioristic categories of action. It is vain to … argue as if there were in the universe eternal values independent of human value judgements and suitable to serve as a yardstick for the appraisal of real action."

The idea of a stable purchasing power of money is, praxeologically speaking, impossible, and the same holds true for the idea of stabilizing the purchasing power of money.

Hayek suggests that issuers of competing currencies may engage in buying and selling their currencies to keep the purchasing power of their monies stable (vis-à-vis a predetermined set of vendible items). For instance, a currency issuer would increase (reduce) his quantity of money if the (arbitrarily chosen) price index falls (rise). If this would the case, Hayek's competing currencies would become a source of economic trouble (Rothbard 2009, pp. 847 – 851). For changes in the quantity of money affect prices of different goods at different times and to different degrees. They necessarily distort relative prices and thus the economy's production and employment structure. In trying to keep the purchasing power stable, Hayek's competing currency issuers would trigger the same economic problems as those caused by central banks' monetary policies.

It should be noted here that there is no need for money to have stable purchasing power, as changes in money's purchasing power per se do not make monetary calculation impossible (Mises 1998, p. 225.): "For the sake of economic calculation all that is needed is to avoid great and abrupt fluctuations in the supply of money. Gold and, up to the middle of the nineteenth century, silver served very well all the purposes of economic calculation. Changes in the relation between the supply of and the demand for the precious metals and the resulting alterations in purchasing power went on so slowly that the entrepreneur's economic calculation could disregard them without going too far afield." Mises points out the fact that the supply of money affects its demand: The smaller the changes in the supply of money are, the smaller are the changes in the demand for money. For this reason alone, people can be expected to prefer, say, gold (whose quantity cannot be changed arbitrarily) as money over Hayek's competing paper tickets (whose quantity can be changed arbitrarily).

Critique 5: Misjudging the benevolence of the state

When it comes to Hayek's views about the state, some general remarks seem to be in order. Hayek is aware of the danger the state represents to individual freedom and prosperity. He does not argue for abolishing the state, though, but recommends (institutionalized) measures for reducing the damage caused by state action. To this end, Hayek's favors an *exit option* (Hayek 1978, p. 125): "The ultimate protection against the tyranny of government is that at least a large number of able people can emigrate when they can no longer stand it." That said, Hayek seems to hold the idea that *competition among nation states* would effectively prevent any nation state from becoming a tyranny. Upon closer inspection, however, this idea doesn't hold water. This becomes obvious by reviewing Rothbard's 'new' theory of the state, rooted in praxeological thinking.

According to Rothbard (1982, p. 171), the state is "that organization which possesses either or both (in actual fact, almost always both) of the following characteristics: (a) it acquires its revenue by physical coercion (taxation); and (b) it achieves a compulsory monopoly of force and of ultimate decision-making power over a given territorial area." The praxeological perspective brings to the surface that the true nature of the state is about *expropriation*. However, as no expropriation can increase social utility, *welfare economics* must call for its abolition of the state – rather than just trying to restrain its *bad actions*. Once the state is *mistakenly* accepted as being a just institution, however, it will be impossible to limit its expansion (Hoppe 2006, p. 229): "[E] very minimal government has the inherent tendency to become a maximal government." This begs the question: *Would the state take kindly to a system of competitive currencies?*

The money monopoly is perhaps the most important pillars on which modern day's state power rests. As the monopolist of money produced "out of thin air", the state (Rothbard 2005, p. 64) "can then appropriate resources slyly and almost unnoticed, without rousing the hostility touched off by taxation. In fact, counterfeiting can create in its very victims the blissful illusion of unparalleled property." In fact, the money monopoly is the primary tool of unprecedented state aggrandizement, as (Rothbard 2005, p. 95) "money is the lifeblood of the economy; it is the medium for all transactions. If government dictates over money, it has already captured a vital command post for control over the economy, and has secured a stepping-stone for full socialism."

Rothbard, by applying the *progression theorem*[19], explains why and how the state acquires the money monopoly. In a nutshell, it all starts with the state monopolizing the mint. Then the state provides banks with the (legal) privilege of operating on fractional reserves. In times of crisis, the state allows banks to suspend *temporarily* the redeemability of bank money into <u>money proper (</u>gold). In a final blow, the state makes the public to hand over their gold in

19 The term progression theorem has been coined by Joseph T. Salerno (Salerno 2010, p. 49).

exchange of government issued banknotes and ends the redeemability of outstanding bank money into money proper. It was admittedly a rather lengthy process, but eventually the states basically all over the world have succeeded in replacing free market commodity money with their own fiat monies. This begs the following question: Would a state voluntarily give up its money production monopoly?

A praxeological analysis reveals that *currency competition is simply not in the state's interest*. For a free market in money would not only limit the state's power to use fiat money for tax and redistributive purposes. It would in particular run counter to the state's effort of securing support from the majority of the people via pursuing a policy of *divide et impera*.[20] What is more, a free market in money would also carry the risk that the state's fiat money might be driven out of the market altogether by better monies. In view of the *true nature of the state*, therefore, one cannot logically deduce that the state would allow for something like competitive currencies, a truly free market in money. In fact, nothing short of abolishing the state would be required for making possible a free market in money.

To his credit, Hayek points out that a fundamental change in the prevailing thinking about monetary affairs is needed for making currency competition possible (Hayek 1978, pp. 133 – 134): "[I]t will need deeper insight into the superficially invisible effects of inflation to produce the result required to achieve the abolition of the harmful powers of government on the control of money. There is thus an immense educational task ahead before we can hope to free ourselves from the gravest threat to social peace and continued prosperity inherent in existing monetary institutions." However, the really important task would be to educate people about the *praxeological* impossibility and unacceptability of the state, as this would open up the possibility for a truly free market in money to emerge.

***Digression*: Bitcoin**

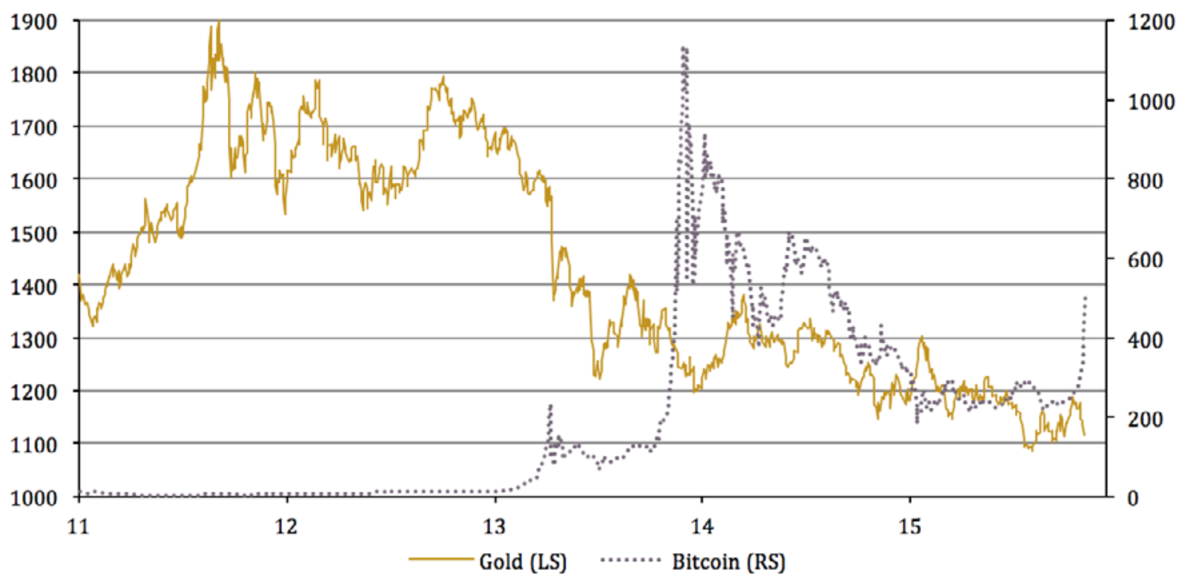
The cyber unit bitcoin is perhaps the most prominent example of the free market having come up with a 'new candidate' that aspires to become money. While bitcoin has not yet become money (the universally accepted means of exchange), some people expect that it might succeed in doing so at some stage. In what follows, bitcoin will be briefly reviewed against some praxeological considerations as far as currency competition is concerned.

The regression theorem. – To become money (at some point), bitcoin has comply with the regression theorem. This means that bitcoin must have been valued for its non-monetary purposes *before* it was used as money (Mises 1998, pp. 402 – 404). Such a case can actually be (re-)constructed quite easily.[21] However, the ultimate proof cannot be provided by experience.

20 See in this context Hoppe (2010, esp. pp. 173-96).

21 All it needs to meet the requirements of the regression theorem is that bitcoin was, before it was valued for its monetary services, traded just for the sake of its non-monetary services. For instance, assume that in the first transaction ever, the buyer bought bitcoin simply out of curiosity, just to see how it might work technically. The first bitcoin price (in, say, US-dollar) was thus established, opening up the possibility of bitcoin becoming valued for its monetary utility.

The price of Gold (US-dollar per ounce) and Bitcoin (per US-Dollar)



Source: Bloomberg. Period: January 2011 to 4 November 2015.

For the regression theorem is an *a priori*: It follows from the axiom of human action. All that can be said is that *if* bitcoin has assumed money status at some point, it can only have done so by having been valued *before* solely for its non-monetary purposes.

Fractional reserve banking. – The decentralized bitcoin transaction ledger does not permit an artificial increase (or: the counterfeiting) of bitcoins. In a bitcoin regime fractional reserve banking would only be possible if bitcoin banks (acting as bitcoin warehouses) extend loans denominated in bitcoins, thereby issuing *bitcoin substitutes*. The latter would represent a claim on bitcoin proper. It is questionable, however, whether bitcoin substitutes would attract any demand. What is more, there would be no central bank which could bail out fraudulent bitcoin issuers. This, in turn, should keep bitcoin banks from operating on fractional reserves. That said, fractional reserve banking can be expected to be a very minor issue in a bitcoin money regime.

'The repression issue'. – Paradoxically, one of bitcoin's greatest sponsors is the state: The attractiveness of bitcoin can be explained in great part by the fact that it is beyond the state's reach. Bitcoin's exchange value cannot be manipulated by the state, and bitcoin transactions cannot be traced, taxed and sanctioned by the state. As things currently stand, people can exchange their fiat money freely against bitcoin and vice versa at bitcoin market places. This allows a competition between fiat monies and bitcoin. What, however, if the state prohibits banks from transferring customers' fiat money to bitcoin market places? People could circumvent such a repression by exchanging their fiat money into banknotes and exchanging the latter against bitcoin. What, however, if the state bans cash? People could still opt for exchanging their bank fiat money against, say, gold and silver and exchange the latter against bitcoin. That said, if bitcoin becomes the preferred means of exchange, state repression can do only so much to stem the tide.

"Colored bitcoins". – The "blockchain" technology provides a truly revolutionary means of transferring assets among people: the "colored bitcoin" (Polleit 2016). A colored bitcoin, in contrast to an ordinary bitcoin, represents a certain asset such as, for instance, physical gold. The latter can thus be made available for day-to-day transactions – for purchases and sales in supermarkets and on the internet – simply by transferring a gold-backed bitcoin from the bitcoin wallet of the buyer to the bitcoin wallet of the seller. The colored bitcoin would actually serve as a *money substitute*. In fact, it could be the blockchain as such that might become a disrupter of the state's money monopoly – in the sense of a Hayekian competition of currencies system.

Lessons to learn

Hayek's call for a free market in money deserves support, as there are no economically and ethically convincing arguments for the state holding the coercive monopoly of money production. Unfortunately, however, Hayek builds his case on an improper scientific method of economics. This leaves his competitive currencies proposal not only vulnerable to critique, it also prevents Hayek from coming up with a logically consistent elaboration of how (well) a free market in money would work. It is therefore not too far-fetched to assume that Hayek's proposal might have actually *backfired*, having done more harm than good to popularize the idea of replacing the state's coercive money monopoly by a free market in money.

Following a scientific method of 'radical subjectivism', Hayek fails to see the *true nature of the state* (as we know it today): namely that *the state is the territorial monopolist of coercion and ultimate decision-making*. As such, the state wouldn't take kindly to a free market in money. This is because a competitive currencies regime would challenge, in fact threaten, the survival of the state's fiat money – with fiat money being one of the state's most important power tools. A praxeological reassessment of Hayek's competitive currencies proposal reveals that a *free market in money would in fact require nothing less than abolishing the state* (as we know it today).

Reassessing Hayek's proposal for competitive currencies brings to the surface how important the *proper scientific method* is in the field economics. Ludwig von Mises has shown that economics can only be understood unambiguously as an *a priori science*, which takes its starting point from the irrefutably true proposition that humans act (that is the *axiom of human action*). His scientific method of economics, derived from praxeology, reveals that *economically and ethically acceptable money* can only be provided through the free market. The conclusion is: *Without understanding economics as a priori theory, there is no intellectually rock-solid case to be made for a free market in money.*

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Gibson's Paradox

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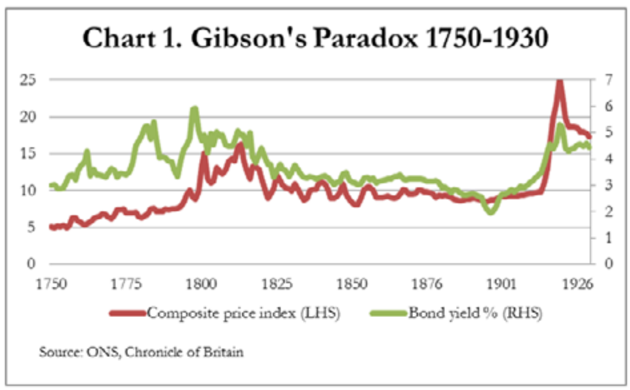
Thomas Tooke in 1844 is generally thought to be the first to observe that the price level and nominal interest rates were positively correlated (Blaug 1997). It was Keynes who christened it Gibson's paradox after Alfred Gibson, a British economist who wrote about the correlation in 1923 in an article for Banker's Magazine. Keynes called it a paradox in 1930, because there was no satisfactory explanation for it. He wrote that "the price level and the nominal interest rate were positively correlated over long periods of economic history" (Keynes 1930). Irving Fisher similarly had difficulties with it: "no problem in economics has been more hotly debated," (Fisher 1930) and even Milton Friedman was defeated: "The Gibson paradox remains an empirical phenomenon without a theoretical explanation"(Friedman and Schwartz 1976). Others also attempted to resolve it, ranging from Knut Wicksel (Wicksel 1936) to Barsky and Summers (Barsky and Summers 1958).

Monetary theory would suggest the correlation should have been between changes in the level of price inflation and interest rates. This is the basis upon which central banks determine monetary policy, and now that the gold standard no longer exists, it is probably assumed by those that have looked at the paradox that it is no longer relevant. This appears to be a reasonable explanation for today's lack of interest in the subject, with many professional economists even unaware of it.

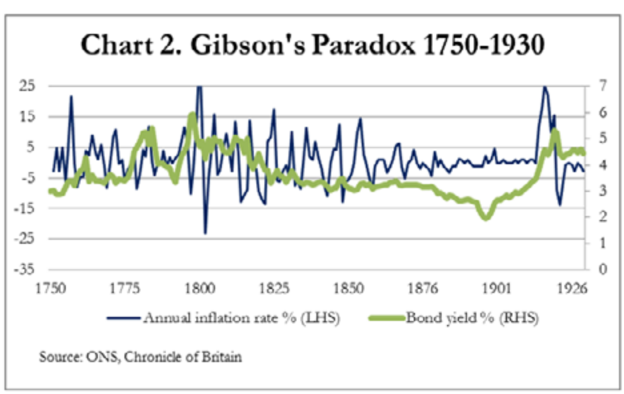
Those economists who have examined the paradox generally agree that it existed. The Author shows that the theoretical reasoning of the Austrian School leads to a satisfactory resolution of the paradox without having recourse to questionable statistical or mathematical methods.

The paradox

Gibson's paradox is based on the long-run empirical evidence between 1730 and 1930, a period of unprecedented change, when it was observed by Arthur Gibson that changes in the level of the yield on British Government Consols 2½% Stock positively correlated with the wholesale price level. No satisfactory theoretical explanation for this correlation has yet been published. It is shown in Chart 1 (Note: annual price data estimates from the Office for National Statistics are only available from 1750).



The quantity theory of money suggests that instead there should be a strong correlation between changes in interest rates and the rate of price inflation. However, there is no discernible correlation between the two. Contrast Chart 2 below with Chart 1



If Gibson's paradox is still relevant it presents a potential challenge to monetary policy. The question arises as to whether it is solely an empirical phenomenon of metallic, or sound money, or whether its validity persists to this day. If the paradox is solely a consequence of metallic, or sound money, it might pose no threat to the modern currency system; otherwise it may have profound implications if it is a general condition of free markets.

We can easily dismiss the suggestion that Gibson's paradox is a feature of the gold standard, or of metallic money. Over the period being considered, silver was in general circulation, though gold became increasingly important. Furthermore, the gold standard was only introduced after the Napoleonic Wars, and it never fully replaced the issue of unbacked banknotes. Under the Bank Charter Act of 1844, this question was polarised, because the Bank of England gained the monopoly of issuing new gold-backed banknotes in England and Wales, and banks were permitted to issue unbacked credit. Scottish banks continue to issue bank notes to this day, backed by instant-access reserves at the Bank of England. Therefore, there were from time to time large amounts of unbacked fiat notes in circulation before the 1844 Act, particularly during the Napoleonic Wars, and following the Act, substantial amounts of additional fiat credit were in circulation.

Furthermore, the late nineteenth century witnessed a rapid expansion in the quantity of above-ground gold, the result of discoveries in California, Australasia, South and West Africa. From 1730 to 1930, the period of observation, it is estimated that above-ground stocks increased from 2,400 tonnes to 33,000 tonnes. The British population increased at roughly half the pace of accumulated gold stocks. Therefore, it can be asserted that there was a degree of monetary inflation underlying the expansion of bank credit, and money supply was not as constant as the term metallic backing implies.

The errors in the quantity theory of money

At the outset of this paper it was stated that conventional monetary theory would suggest the correlation should have been between changes in the level of price inflation and interest rates.

The quantity theory as it is generally understood today dates back to David Ricardo, who ignored the transient effects of changes in the quantity of money on prices in favour of a long-run equilibrium outcome. In 1809 Ricardo took the position that the reason for the increase in prices at that time was due to the Bank of England's over-issue of notes. His interest in this respect glossed over the short-run distortions identified by Cantillon and Hume. In the Ricardian version an increase in the quantity of money would simply result in a corresponding rise in prices.

While this relationship is intuitive, it makes the mistake of dividing money from commodities and putting it into a wholly separate category. An alternative view, consistent with the theories of the Austrian School, is to regard money as a commodity whose special purpose is to act as a fungible medium of exchange, retaining value between exchanges. This being the case, it must be questioned whether or not it is right to put money on one side of an equation and the price level on the other.

This is not to deny that a change in the quantity of money for a given quantity of goods affects prices. That it is likely to do so is consistent with the relationship between the relative quantities of all exchangeable commodities. Furthermore, there is the issue of preferences changing between the relative ownership of one commodity compared with another; in this case between an indexed basket of goods and money. Changes in the general level of cash liquidity can have a disproportionate effect on prices, irrespective of changes in the quantity of money in issue at the time.

By ignoring these considerations, it is possible to conclude that changes in the quantity of money in circulation are sufficient to control the price level. It is this assumption that Gibson's paradox challenges. To modern macroeconomists the price of money is its rate of interest, though to followers of the Austrian school, this is a gross error. To them, the price of money is not the rate of interest, but the reciprocal of the price of a good bought or sold with it. This is consistent with their contention that money is merely another commodity, albeit with a special function. Furthermore, under this logic money has several prices for each good or service, which will differ between different buyers and sellers depending on all the circumstances specific to a transaction. This is also consistent with the Austrian school's observation that prices are entirely subjective and they cannot be determined by formula.

Neo-classical macroeconomics today does not recognise this approach, and averages prices to arrive at an indexed price level. In contrast, Austrian school economists argue that mathematical methods are wholly inappropriate applied to the real world. Apples cannot be averaged with gin, nor can gin be averaged even with another brand of gin. Averaging the money-values of different products cannot escape this reality.

The rate of interest on money is an expression of its time-preference; and again, depending on what the money is intended to be exchanged for, its time-preference must match inversely that of the individual good. In other words, by deferring the delivery of a good and paying for it up-front it should be possible to acquire it at a discount. There is the possession of the money foregone, the uncertainty of the contract being fulfilled and the scarcity of the good, which all combine into a time-preference for a particular deferred transaction. The quantity theory of money ignores this temporal element in the exchange of money for goods, and erroneously concludes instead that the interest rate is the cost of borrowing or lending money.

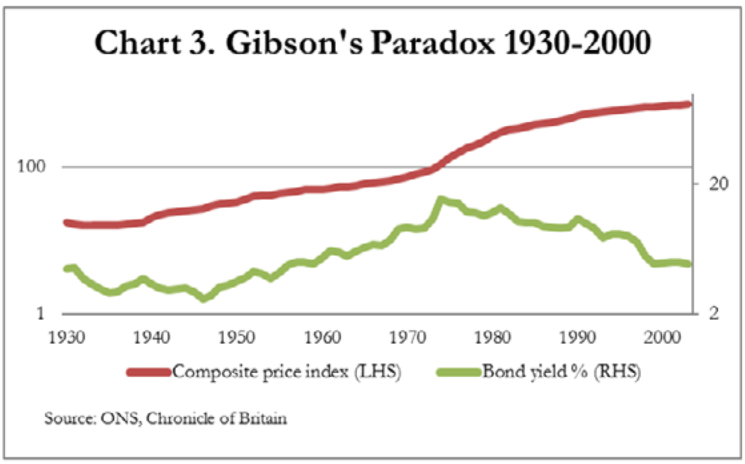
This gives us an insight into why the quantity theory of money is flawed, and when we explore the Gibsonian relationship between interest rates and the price level it will become obvious why interest rates do not correlate with the rate of price inflation.

The resolution

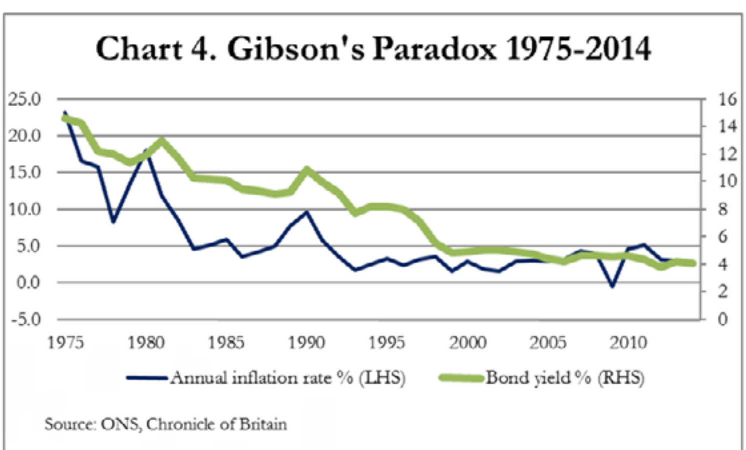
In essence, we are discussing the flows between savers and investors, or put another way, deferred consumption and the acquisition of productive assets. The value to a businessman of a productive asset is the net present value of its total output. So he must allow for today's prices, his expectation of future prices, the interest cost and his anticipated profit. His starting point is always current prices for his goods. While his estimate of future prices is a subjective judgement, current prices are not. Therefore, the interest he is prepared to pay for investing in his business must be firmly based on the existing price level, hence the Gibsonian correlation.

If we look at it from an Austrian business-cycle theory perspective, we can obtain further confirmation that our conclusion is correct. We are concerned with the relationship between savers and the deployment of their savings into productive investment. The quantity of savings available is a consequence of the relative preference between goods and money. If this preference swings towards money, savings increase and the price level falls. Assuming the businessman wishes to continue to progress his business when prices fall, he will invest savings at an interest rate not set by the glut of savings, but by the price level of the products he will manufacture as a result of the new investment.

Thus, in a free market, the level of interest rates is set not by the savers, but by competing entrepreneurs and businessmen with reference to the prices expected to be obtained. Those who throughout history have accused capitalists of usury, and one should include those with an antipathy towards them, such as Keynes, have it the wrong way round. It is the use to which savings are put that drives interest rates, not the *rentiers'* greed.



Therefore, free market relationships, as defined by Say's law, are the underlying condition for Gibson's paradox, which persisted until the 1970s, as shown in Chart 3.



The use of logarithmic scales in Chart 3 has been introduced to emphasise that Gibson's paradox, the correlation between term interest rates and the price level, held until 1975. Term rates peaked during a general economic crisis in the UK, five years before the US Federal Reserve Board raised short-term dollar rates to record highs in 1980/81. Subsequently, Gibson's paradox has not held, moving towards a correlation between term bond yields and the annualised inflation rate, as shown in Chart 4.

From 1975, the UK government through the Bank of England sought to reduce price inflation without creating unemployment. The widespread liquidation of malinvestments, which was previously a feature of every credit cycle, has been successfully prevented by monetary policy ever since. Instead, outstanding debt has accumulated in government and non-financial private sector accounts, so the interest rate relationship today is governed by the cost of refinancing the growing mountain of debt. When the Bank of England raises interest rates it does so either to respond to price inflation, or in anticipation of the effect of monetary inflation on prices. Consequently, the rise in interest rates is limited by the inevitable crisis that develops from the increased cost burden it imposes on accumulated debt. In every succeeding credit cycle the proportion of debt that supports unliquidated malinvestments grows, lowering the level at which cyclical liquidation is triggered. Every time the liquidation of malinvestments threatens, it has been prevented by the Bank of England rapidly reversing monetary policy by cutting interest rates aggressively and embarking on monetary expansion designed to offset any contraction of bank credit.

The end of the correlation between the price level and wholesale borrowing costs for the last thirty-five years has profound implications, the full examination of which is a subject for further study. However, for the purpose of this article, it is sufficient to note that state-sponsored monetary and economic policies, in the UK at least, have obtained the upper hand over free markets since the mid-1970s, evidenced by the breakdown in the correlation between the general price level and wholesale borrowing costs.

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Keynes v. Hayek, Again

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Followers of Austrian business cycle theory (ABCT) often attribute the fact that John Maynard Keynes seemingly bettered Friedrich Hayek in their debates in the 1930s to a combination of two factors. On the one hand, Keynes was able to give policy recommendations to policy-makers at a time when they were anxious to "do something", i.e., the midst of the Great Depression. Hayek's recommendation that the market would be the source of recovery was a difficult pill to swallow by contrast. On the other hand, Hayek's great lament was that he did not provide a timely response to the publication of Keynes' *General Theory* (Hayek 1983: 251), as he had with his previous work *A Treatise on Money*. This prolonged silence from Hayek could have signaled to the economics profession that Hayek did not object strongly to *The GeneralTheory*.[1] For their part, followers of Keynes believe that Keynes "won" because he was

1 Perhaps adding to these difficulties was Sraffa's claim that Hayek's *Prices and Production* had "landed

correct.[2]

In this paper we outline a heretofore unaddressed reason behind Hayek's inability to sway the economics profession. Specifically we focus on his inability to express the binding resource constraint at the core of his business cycle theory. In this article we will review Hayek's shifting views on the resource constraint limiting production, and the difficulties he had in defining it in a non-ambiguous way.

British classical economists of the 19th century put forward a theory of the business cycle that used the economy's ability to produce goods as the measure against which to sustain itself in the future. Mostly applied to agrarian economies, Jevons' "sun-spot" theory of the business cycle was the culmination of such thinking. Here the ebbs and flows of agricultural output determined how much produce would be available to sustain workers through to the next harvest (Jevons 1884: 221). Thus the ability for an economy to expand in the future was limited by the ability of the harvests in the present to provide for them. Classical economists referred to the "wages fund" as that stock of consumer goods saved up to sustain the workers during any long-dated production process.

Böhm-Bawerk's great contribution was in addressing two shortcomings of the doctrine of the wages fund: 1) that the wages fund was needed to sustain the production process for a period of fixed duration (e.g., one year), and 2) the disregard adherents of the wages fund had for the fact that the produce of one period is not exclusively consumable output, but also input for additional production processes (Böhm-Bawerk 1889). With these criticisms in mind, Böhm-Bawerk renamed the "wages fund" as the "subsistence fund" and defined is so as to include not only the sum of goods necessary to sustain workers during the production process (as the term "wages" suggests) but also those goods necessary to sustain capitalists and landowners (Böhm-Bawerk 1889: 70).

While updating the concept of the resource constraint on production to include all the goods necessary to sustain a production process was a step in the right direction, it too was faced with difficulties. The grain of truth that was evident in the wages fund – that something must be pre-saved before a production process began so that workers could devote their production towards something other than making immediately consumable output – was more-or-less transferred easily to industrial societies. With the increasingly financial economy of the 20th century, however, it was difficult to see this connection. After all, if a firm needed more funds to sustain

[itself] right in the middle of Mr Keynes' theory" (Sraffa 1932: 53). In an unprecedented move, in a footnote to Hayek's response to Sraffa, Keynes'confirmed that Sraffa was correct in this assessment (Hayek 1932: 249fn2). Hayek did not address Keynes' *General Theory* until his 1941 work *The Pure Theory of Capital*, and even then he only addressed Keynes' shortcomings unsystematically, isolating his criticisms to three areas: 1) Keynes' treatment of the interest rate as a monetary phenomenon (p. 37, 356, 364, and esp. 369-94), 2)Keynes' emphasis on gross as opposed to net saving (p. 336fn2), and 3) Keynes' emphasis of the role of changes in the money supply to the general price level with disregard to relative price shifts (p. 376-77). In some of his other works between 1936 and 1941 Hayek notes that his work is an alternative to Keynes, though he does not give an explicit or prolonged response to Keynes (see Sanz Bas 2011).

2 There exists a third group who believes that Hayek's best ideas were integrated into the New Classical School's business cycle theory (Braun and Howden forthcoming). There are serious doubts, however, as to how well modern business cycle theorists understand ABCT (see Salerno 2012).

its workers during a production process it could just borrow on the capital markets to make up for any shortfall.

When Mises formulated the core of the Austrian business cycle in 1912, he did so by using a similar foundation to Böhm-Bawerk. In his theory, however, for production to be sustainable the process "must be of such a length that exactly the whole available subsistence fund is necessary on the one hand and sufficient on the other for paying the wages of the laborers throughout the duration of the productive process" (Mises 1912: 360). Aware of the difficulties that this definition had as access to financial markets became more prevalent, Mises' final forays into business cycle theory shifted the reason why a production process could be unsustainable. Instead of failing because of a lack of pre-saved resources, production plans would become unsustainable as expectations became unhinged from realities and price inflation made economic calculation increasing difficult (or, eventually, impossible) (Mises 1949).

Hayek realized this omission in Mises' business cycle theory. He notes that Mises (1912) contains hardly any more than one sentence on the price mechanism and the business cycle (Hayek 1935: 253fn54). In Hayek's eyes there was only a poorly explained linkage between interest rates (which Mises used to proxy the size of the subsistence fund) and expectations.

Instead of relying on the subsistence fund, Hayek (1935) offers an alternative turning point for the business cycle. The length of the production process will depend on the relative expenditures between capital and consumer goods (Hayek 1935: 237). Increased expenditures on capital goods will come at the expense of consumer goods. If one were to shift expenditures higher in the structure of production by increasing expenditures on capital goods, the average length of the roundabout processes of production and, therefore, […] also the number of successive stages of production, is increased in the same proportion as the demand for intermediate [i.e., producer] goods has increased relatively to the demand for consumers' goods" (Hayek 1935: 238).

This shift to define the resource constraint on investment projects as a result of the ratio between two nominal expenditures dropped the "real" part of the constraint that the subsistence fund provided. Hayek elaborates two reasons why this nominal constraint will become binding.

In the first Hayek deals with a lengthening of the structure of production not accompanied by a reduction in consumption expenditures. As the supply of consumer goods must fall due to this shift in production even though demand for consumer goods remains constant, the price of consumer goods must rise. As a result, for some period "society as a whole will have to put up with an involuntary reduction of consumption" (Hayek 1935: 268). This argument, however, cannot explain why a general economic contraction should occur. At best, specific consumption plans will be disrupted (Braun and Howden forthcoming).

The second reason for the unsustainability of the structure of production comes from the fact that the new expenditure ratio cannot continue. For the owners of the factors of production, there can be little doubt that "in the face of rising prices of consumers' goods these increases [in income] will be spent on such goods" (Hayek [1935] 2008: 268). As relatively more income is spent on consumer goods, the proportion of expenditures between consumer and capital goods must shift in favor of the former. The result is a return to less roundabout methods of production, with the onset of a recession as this adjustment takes place.

This argument too has its deficiencies. Hayek does not argue why the owners of the original factors of production should see their income rise in an unsustainable way when the increased expenditures on capital goods is not funded by a decline in consumption versus when a drop in consumption allows for these increased expenditures. "After all, in *both* cases the entrepreneurs have more money available for investment, and therefore, if one follows Hayek's argument, in both cases the income of the factor owners should rise" (Braun and Howden forthcoming).

Hayek's attention to nominal variables instead of real magnitudes, such as the subsistence fund, prevented him from providing a convincing argument for what limits the boom.

Realizing this ambiguity as to what real variable was at the core of the boom's turn to bust, Hayek (1936) revisited the subsistence fund. Here he defined it as a stock of capital goods, but doubted the relevance to the problem at hand. "This simplified picture of the existing stock of capital, representing a 'subsistence fund' of determined magnitude which would provide a support for a definite period and therefore enable us to undertake production processes of a corresponding average length, is undoubtedly highly artificial and of little use for the analysis of more complicated processes" (Hayek 1936: 511).

In his last full-length foray into the capital debates, Hayek (1941: *esp. chap*. 7) tried to revisit the concept though with only mixed results (Braun and Howden forthcoming). Here he reformulates the subsistence fund into a stock of goods that can be turned into capital, i.e., circulating capital. Ultimately, however, he doubted the relevance of this new formulation. On the one hand, as the goods laying claim to consumer goods is constantly shifting, as a resource constraint it was difficult to see how it could become binding. On the other hand, the amount of consumer goods at any one person's disposal depends on the choices of others. Thus the more any one individual exercises his control over consumer goods (to loosen his own resource constraint) the more binding all other individuals' resource constraint will become. After a brief discussion of how the actual subsistence fund "cannot be identified in any definite and unambiguous way" (1941: 190), Hayek scuttled the concept from his own elaboration of the business cycle.

Hayek's jettisoning of the concept of the subsistence fund as the real resource constraint had long-lasting effects on subsequent variants of Austrian business cycle theory. Modern renditions of the Austrian business cycle (Garrison 2001; Huerta de Soto 2012) do not substantiate further the claim that there is a subsistence fund at the heart of resource constraint on production processes. Even Sechrest (2006), who views the subsistence fund as essential to the core Austrian business cycle theory, does not provide a suitable link between the fund and any change that would make it become binding. He (2006: 32) defines the subsistence fund in terms of money and thus skips the main point of the subsistence fund metaphor in a manner similar to Hayek´s ([1935] 2008) focus on nominal expenditures. Modern Austrian economists, following Hayek, are at a loss to answer the question of "what is it, in real terms, that limits the amount of investment?"

The difficulties that the early Austrian formulations of the subsistence fund had, and which Hayek was not able to suitably update to the financial economy, came in two forms. Faber (1979) felt that the subsistence fund could only be defined with any degree of fixity in a static way, and this contributed to the impasse in the 1940s as economic theory moved towards more dynamic models complete with expectations. On the other hand, in his review of the business cycle controversies of the 1930s, Bernhard (1943) lamented that the "scarcity of capital" shifted from indicating a real resource constraint at some times to a volume of money at others. This tension is especially apparent in Hayek's writings on the business cycle as he shifts between real constraints (such as his reformulations of the subsistence fund) and nominal constraints (such as his emphasis on relative nominal expenditures).

Ultimately, neither of Hayek's solutions was entirely convincing to the economics profession at large. While Keynes' reliance on "animal spirits" and deficient aggregate demand may have also have been deficient in describing the core of why boom turns to bust, they at least did seem to describe the descriptive attributes of the recession at the time.

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