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## SUBJECTIVE EXPECTATIONS AND THE PROCESS OF EQUILIBRATION: THE VIEWS OF LACHMANN AND MISES

G. P. MANISH

*ABSTRACT:* Ludwig Lachmann claimed that expectations are subjective, and argued that this phenomenon, coupled with the ceaseless change characterizing market data, greatly undermines the strength of any process of equilibration. This paper compares his views on this subject with those of Mises. It argues that Mises also viewed expectations to be subjective. But contrary to Lachmann, he did not conclude that this phenomenon undermines the process of equilibration. Thus, in Mises's view, a thoroughgoing subjectivism goes hand in hand with a belief in a dynamic market economy where there are strong forces at work ensuring that the decisions of entrepreneurs are coordinated with those of consumers.

*KEYWORDS:* subjectivism, expectations, equilibrium, coordination

*JEL CLASSIFICATION:* B20, B53, D50, D84

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## 1. INTRODUCTION

Extending the scope of subjectivism from the realm of wants to the realm of expectations was the overarching goal of Ludwig Lachmann's research agenda. In a dynamic world, Lachmann noted, the economic problem consists of not one but two distinct spheres of subjectivism: "the subjectivism of want and the subjectivism of interpretation" (Lachmann, 1943, p. 73). Recognition of the latter implies that the expectations held by market participants are subjective; for the prices of the future that enter the plans of individuals are based on a subjective interpretation of prior catalytic experience.<sup>1</sup>

The process of bringing expectations under the lens of subjectivism had, according to Lachmann, been a slow and difficult one. The subjectivist revolution of the late nineteenth century had been left incomplete (Lachmann, 1978b), with the early marginalists paying attention only to the first realm of subjectivism while ignoring the second. Moreover, this neglect of subjective expectations had continued as marginalist economics developed during the twentieth century.<sup>2</sup>

All the marginalist schools of thought stood guilty of this neglect. The followers of Walras, with their attention trained exclusively on analyzing a state of general equilibrium, had no room for a truly non-deterministic view of human choice and thus could not incorporate subjective expectations into their theoretical schema (Lachmann, 1943, 1966). Surprisingly, and despite their emphasis on analyzing all economic phenomena from a strictly subjectivist viewpoint, the Austrians had also "treated the subject rather gingerly" and had "failed to enlarge the basis of their approach" by doing so (Lachmann, 1976, p. 229).

Lachmann includes Mises amongst the Austrian economists who had failed to pay due attention to the subjective nature of expectations. Mises, according to him, "hardly ever mentions expectations, though entrepreneurs and speculators often turn

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<sup>1</sup> Lachmann's views on the nature of expectations can be found in Lachmann (1943; 1978a [1956], pp. 20–34; 1976; 1978c).

<sup>2</sup> Hence his lament that "as economic thought developed in this century, subjectivism, again and again, has been thwarted" (Lachmann, 1978c, p. 214).

up in his pages" (Lachmann, 1976, p. 229). Yet, contrary to Lachmann's assertion, a study of Mises's work reveals that he did have well-developed views on the nature of expectations. In fact, the two of them shared very similar views on the subject. For Mises, as for Lachmann, expectations were subjective due to the subjective nature of interpretation in a world of change.

Moreover, in sharp contrast to Lachmann, Mises was able to successfully establish a *modus vivendi* between the process of equilibration and the presence of subjective expectations in a dynamic market economy. His focus on the inherent subjectivism of expectations had led Lachmann to question the strength of the equilibrating forces in a dynamic market economy. Would the process of equilibration result in the emergence of a state of general equilibrium in a world with given resources, techniques and wants? The fact that two individuals with the same market experience could formulate plans with different estimations of future prices made him highly skeptical of this possibility. Mises, however, argued otherwise.

The fact that Lachmann and Mises shared similar views on the nature of expectations but drew very different implications from them regarding the strength of equilibrating forces has been largely neglected in the modern literature on the subject. Some scholars, while analyzing Lachmann's work on the nature of expectations and its implications for the process of equilibration, repeat his assertion that Mises gave short shrift to the subject.<sup>3</sup> Others, while acknowledging that Mises did have well-developed views on the subjective nature of expectations, claim that he failed to integrate these views into his discussion of price formation and the process

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<sup>3</sup> Thus, Lewis and Runde (2007) state: "Lachmann re-defines praxeology, which Mises understood to be the study of how people use means to achieve *given* ends, as the study of how people devise and act upon plans to use means to achieve (imagined) ends" (Lewis and Runde, 2007, p. 171; emphasis added), thereby implying that an analysis of expectations did not enter into Mises' theory of human action. Koppl (1998) is more emphatic on the subject: "Lachmann claims that 'Mises hardly ever mentions expectations.' And a look at the index of Mises' magnum opus, *Human Action*, shows no entry under 'expectations'. *Though Mises was a subjectivist, his system of thought does not permit the development of a subjectivist theory of expectations.*" (Koppl, 1998, p. 67; emphasis added).

of equilibration.<sup>4</sup> And scholars who analyze Mises's views on the implications of subjective expectations for such a process tend to underscore the differences between Lachmann and him on the subject while ignoring the manifold similarities, especially the emphasis that both place on the subjectivism of interpretation.<sup>5</sup>

Garrison (1986) is a contribution to the literature that constitutes an exception to this trend. It explicitly acknowledges the fact that both Lachmann and Mises viewed expectations as subjective and proceeds to compare their treatment on the implications of this for the process of equilibration in a market economy. Moreover, Garrison correctly notes that the key to the *modus vivendi* that Mises establishes between this process and subjective expectations lies in his theory of profit and loss and the process of entrepreneurial selection that this entails.

The article does not, however, provide a detailed analysis of the similarity of their views on the nature of expectations. Most importantly, it leaves out the emphasis that both place on the subjective interpretation of market experience in this context. It also does not address the fact that Mises's theory of equilibration explicitly acknowledges the problem posed by the path dependency effect, something that Garrison himself, in another paper, has singled out as the "*sine qua non* of Lachmann's market process" (Garrison, 1987, p. 86).

This paper aims to extend and develop Garrison's analysis to address the gaps in the modern literature on subjective expectations and its implications for the process of equilibration. It provides a

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<sup>4</sup> This argument is made, for example, by Butos (1997, pp. 81–84).

<sup>5</sup> See Rothbard (1995) and Salerno (1995). Salerno, for instance, argues that for Lachmann expectations are "autonomous" in the same sense as human preferences" and from this premise concludes that Lachmann's view of expectations ignores the fact that they are "derived from thymological and catallactic experience," thereby placing it at odds with Mises's analysis of the subject (Salerno, 1995, p. 219). This interpretation, however, ignores the emphasis that Lachmann himself placed on the subjectivism of interpretation of market experience while discussing the nature of expectations. Moreover, it also runs counter to the consensus in the modern literature on the subject as found in Lewin (1993), Koppl (1998), Aimar (1999), Foss and Garzarelli (2007), Lewis and Runde (2007) and Sauce (2014), all of whom argue that catallactic experience and subjective interpretation of the same play a vital role in Lachmann's theory of expectations.

detailed analysis of the similarity in the views of Lachmann and Mises on the subjective nature of expectations, emphasizing, in particular, the key role that the subjective interpretation of experience plays in this regard. It also discusses the differing implications that they drew from this identical starting point for the process of equilibration, focusing especially on how Mises's arguments on this subject explicitly acknowledge the problems posed by the path dependency effect.

The paper is structured as follows: section 2 analyzes Lachmann's views on the subjective nature of expectations, while section 3 discusses Mises's views on the subject. Section 4 discusses Lachmann's views on the process of equilibration, focusing, in particular, on the problems posed by the path dependent nature of the process in a dynamic world. Section 5 analyzes how Mises managed to integrate subjective expectations into his theory of the process of equilibration while acknowledging the path dependent nature of the process. Section 6 concludes the paper.

## **2. SUBJECTIVE EXPECTATIONS IN A DYNAMIC WORLD: THE VIEWS OF LACHMANN**

### **2.1 The Need for Interpretation**

Individual plans, according to Lachmann, are inherently future oriented, consisting of a set of actions that an individual seeks to undertake over a given period. Each plan can be said to embody both "the means at his [the individual's] disposal and the obstacles he is likely to encounter" (Lachmann, 1943, p. 68). In a market economy, characterized by inter-personal exchange, these obstacles consist of prices: rates at which the individual can transform the means at his (or her) disposal into the goods that he (or she) desires by entering various markets.

Since both the means as well as the obstacles lie in the near or distant future, expectations form an integral part of any plan. The individual planner, while formulating a plan, must first estimate the future means at his disposal as well as the prices that will prevail. It is based on these expectations that he embarks on a particular course of action.

The future, however, is inherently uncertain. And the chief cause of this uncertainty is the prospect of change. Both the means available in the future as well as the future prices that form the heart of any plan are subject to change; their values can be different from those that prevail today and those that prevailed in the recent past. Thus, individuals, while formulating their expectations, must find a way to cope with this uncertainty.

To form expectations of future prices the individual must first form some idea of how the potential market participants in the markets that he expects to have dealings in will act under various circumstances. He must, in other words, have some knowledge of the plans that these market participants will formulate when faced with different price vectors, for the future prices that he expects to prevail are implied in these plans.

To obtain this knowledge of the plans of others, the individual must rely on his own prior market experience. He must look at past prices and the plans that individuals formulated at these prices to form some idea of the plans that they will embark upon now and the exchanges that they will undertake at different prices over the relevant period in the future. It follows, therefore, that the prices of the past are related to those of the future. What, however, is the precise nature of this relationship?

According to Lachmann, it is only in a “quasi-stationary state” in which “changes are few and far between,” and where every change “has had its repercussions before the next change takes place” that “knowledge is guided by prices functioning as signposts to action” (Lachmann, 1978a [1956], p. 21). Indeed, in such a world, consumers can learn how to substitute one good for another and producers can learn which industries to enter and which ones to abandon by “observing price changes,” for “every significant change in needs or resources expresses itself in a price change, and every price change is a signal to consumers and producers to modify their conduct” (Lachmann, 1978a [1956], p. 21).

It follows that the relationship between the prices of the past and the expectations of future prices in such a scenario is mechanical and deterministic. Individuals, in the process of drawing up their expectations, can simply look at the prices of the past and the plans undertaken at these prices and can, on the basis of this, obtain



knowledge of how individuals will choose in the future. They can do so without having to analyze and interpret their market experience; without having to try and understand why individuals carried out the plans that they did in the past at the prevailing prices.

The quasi-stationary state, however, is an unrealistic construct. In the real world, Lachmann argues, "change does not follow such a convenient pattern" (Lachmann, 1978a [1956], p. 22). There are multiple changes that occur simultaneously or close together in time. Moreover, before the repercussions from any one change ripple through the economy, other changes occur and their repercussions are layered on top of the initial ones. In such a scenario, "knowledge derived from price messages becomes problematic," i.e., these messages require interpretation and analysis (Lachmann, 1978a [1956], p. 22). Indeed, in a world buffeted by continuous change, "prices are no longer in all circumstances a safe guide to action" and do not "tell the whole story." Although they do continue to "transmit information," this information is "incomplete" and thus "requires interpretation (the messages have to be decoded) in order to be transformed into knowledge [...]" (Lachmann, 1978a [1956], p. 22).

Indeed, in a dynamic world, individuals, while forming their expectations of the future, need to "analyze the situation" that they find themselves in (Lachmann, 1978a [1956], p. 23). It is impossible, in such a world, for individuals to form an idea of the plans that individuals will undertake in the future and the future prices that can be expected to prevail without understanding why they acted the way that they did in the past. The process of learning and the transformation of experience into knowledge that guides the formation of a new set of expectations and a new set of plans is one that is complex and hinges significantly on individuals interpreting their market experience. Thus, for Lachmann the interpretation of experience is the crucial link that connects the past, the present and the future in a dynamic world.

## 2.2 The Subjectivism of Interpretation and Expectations

Given that expectations, in a dynamic world, are the result of an individual's interpretation of market experience, they are not formed *in vacuo* but are shaped by the "experience of economic processes" (Lachmann, 1943, p. 12). Thus, they cannot be treated as data by the

economic theorist as tastes and the endowment of resources can. Instead, the theorist must develop a theory of expectations.

A theory of expectations, however, is faced with a seemingly insuperable difficulty that stems from the inherently subjective nature of all human choice. It is one of the fundamental implications of the subjective theory of choice that two individuals may react very differently to the same external situation. When faced with the same constellation of prices, individual A may choose to adopt one course of action whereas individual B may opt for a completely different course. But if the formation of expectations is shaped by an individual's interpretation of his past market experience, it follows that this subjectivism must stain expectations as well. For it implies that the same economic facts of the past, i.e., the same constellation of prices paid and quantities produced and sold, will be interpreted very differently by different individuals and will result in the formation of vastly different expectations regarding the course of future prices.<sup>6</sup> Indeed, if one were forced to define any given situation not in terms of objective economic facts but in subjective terms, one would be forced to conclude that "there will be as many 'business situations' as there are different interpretations of the same facts, and they will all exist alongside each other" (Lachmann, 1943, p. 13).

Thus, while it is clear that expectations are formed on the basis of an interpretation of the recent and more remote economic past, "the *modus operandi* of the response is not the same in all cases even of the same experience" (Lachmann, 1943, p. 14). Any experience, as it proceeds through the process of interpretation and the distillation of knowledge, has to "pass through a "filter" in the human mind, and the undefinable character of this process makes the outcome of it unpredictable" (Lachmann, 1943, p. 14). Indeed, the inherently subjective nature of this process is what makes expectations and knowledge subjective.<sup>7</sup>

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<sup>6</sup> Thus, "Two farmers confronted with the same observable event, a rise in apple prices, will take different views of the situation and react differently if one interprets it as a symptom of inflation and the other as indicating a shift in demand under the influence of vegetarianism" (Lachmann, 1943, p. 17).

<sup>7</sup> It is this subjectivism that, according to Lachmann, makes expectations indeterminate (Lachmann, 1943, p. 18). Thus, expectations, in other words, do not constitute a mere reaction to a set of conditions and are not determined by them.

### 3. MISES ON SUBJECTIVE EXPECTATIONS: UNCERTAINTY, THYMOLOGY AND APPRAISEMENT

All human action, according to Mises, necessarily takes place in time. Man, in acting, necessarily distinguishes between the present and the future; he strives now to substitute a future state of affairs that he considers more satisfactory for the less satisfactory one that he believes will emerge without his interference. Indeed, "it is acting that provides man with the notion of time and makes him aware of the flux of time; [...] Man becomes conscious of time when he plans to convert a less satisfactory state of affairs into a more satisfactory state" (Mises, 1998 [1949], p. 100).

The lapse of time inherent in all action brings with it the possibility of change. In the period of time that lies between the commencement of an act and its completion, the underlying conditions confronting the actor could change. Every actor, in deciding upon a course of action, must be cognizant of the conditions and their patterns of change during the present, i.e., the period of time that the act will take to complete. In the process, he must try and estimate as best as he can the conditions that will prevail in the future if he were to not act. Thus, in the conceptual world of Mises, as is the case for Lachmann, individuals formulate and embark on courses of action that involve considerations of time and distinguish between the present and the future in a changing world. This future orientation of action implies that expectations form a crucial component of every act; indeed, all action necessarily involves the formation of some expectations about relevant events in the future.

In a market economy with interpersonal exchange these expectations manifest themselves as appraisements of the relevant prices that might influence the outcome of a choice. Mises defines appraisement as "the anticipation of an expected fact," specifically of "what prices will be paid on the market for a particular commodity or what amount of money will be required for the purchase of a definite commodity" (Mises, 1998 [1949], p. 329). Given that in a world characterized by interpersonal exchange the outcome of an individual's decision is necessarily dependent on the valuations of others, Mises argues that "the valuations of a man buying and selling on the market must not disregard the structure of market prices; they depend upon appraisement" (Mises, 1998 [1949], p. 329).

It is important at this stage to take note of three characteristics regarding the nature and formation of expectations that are implied in Mises's work; views that are strikingly similar to those of Lachmann's. To begin with, all expectations, for Mises, are necessarily based on imperfect knowledge, for changing conditions bring with them the specter of uncertainty. Indeed, the conditions that are crucial and often impinge on the success of an act, such as "future needs and valuations, the reaction of men to changes in conditions, future scientific and technological knowledge, future ideologies and policies" always remain partially hidden to acting man and "can never be foretold with more than a greater or smaller degree of probability." Every action is thus oriented and "refers to an unknown future" and necessarily involves "risky speculation" (Mises, 1998 [1949], p. 106).

Second, experience forms the basis on which expectations of the future are formed. The constellation of prices and quantities produced and sold in the past aid the acting individual in his attempt to peer into the future to anticipate the prices that will prevail then. But, as for Lachmann, there is, for Mises, no simple and straightforward relationship that prevails between the prices of the past and those of the future. The prices of the past and the market experiences of individuals at these prices do not in and of themselves serve as a guide to future action. Indeed, the only knowledge that a past price conveys is that "one or several acts of interpersonal exchange were effected according to this ratio." It does not, however, "convey directly any knowledge about future prices." The prices of the past, therefore, are "merely starting points" in the attempt of an actor to "anticipate future prices" (Mises, 1998 [1949], p. 213).

What the individual really needs to form expectations and plan future action in a world of change is knowledge of the underlying conditions and how they gave rise to these prices in the past. Acting man needs to peer underneath the layer of prices to form some opinion of why the market participants acted the way they did under the conditions that prevailed, for this is the raw material that he can utilize to appraise the valuations that will prevail in the future. And to do so he must draw on his store of "thymological experience," on what he knows about "human value judgments, the actions determined by them and the responses these actions

arouse in other people" in order to anticipate "other people's future attitudes and actions" (Mises, 2007 [1957], p. 312).<sup>8</sup>

How does a man acquire this thymological knowledge or insight? He does so by interpreting and analyzing his prior market experience and his wider social experience and the valuations of others and his own valuations that underlay this experience. In order to gain this knowledge he must strive to analyze the various factors that might have caused individuals (including himself) to act the way they did under various conditions and must try and form an opinion, in each case, of which of these factors are important and which can be neglected.<sup>9</sup> It is this vast store of commonsensical knowledge of how he and the other market participants will act under various conditions that he draws upon in formulating his anticipations of how people will act in the conditions that he believes will prevail in the future and in deciding his course of action.<sup>10</sup>

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<sup>8</sup> As Mises notes, "People as a rule call this insight into the minds of other men psychology" (Mises, 2007 [1957], p. 265). Indeed, the term psychology is colloquially used to signify the "cognition of human emotions, motivations, ideas, judgments of value and volitions, a faculty indispensable to everybody in the conduct of daily affairs [...]" (Mises, 2007 [1957], p. 264). Thus, it is often said that "a salesman ought to be a good psychologist" or that a "political leader should be an expert in mass psychology" (Mises, 2007 [1957], p. 265). Nevertheless, while the popular usage of the term psychology refers to such knowledge of the motivations guiding action, it is also used scientifically with reference to the "various schools of experimental psychology," the subject matter of which is completely unrelated to the "problems of the sciences of human action" (Mises, 2007 [1957], p. 264). As a result, Mises chooses to coin the term "thymology" to describe the "knowledge of human valuations and volitions," in order to "prevent mistakes resulting from the confusion of [...] two entirely different branches of knowledge" (Mises, 2007 [1957], p. 265).

<sup>9</sup> Thus, in the words of Mises,

Thymology is on the one hand an offshoot of introspection and on the other hand a precipitate of historical experience. It is what everybody learns from intercourse with his fellows. It is what a man knows about the way in which people value different conditions, about their wishes and desires and their plans to realize these wishes and desires. It is the knowledge of the social environment in which man lives and acts [...] (Mises, 2007 [1957], p. 266).

<sup>10</sup> As Mises notes,

For lack of any better tool, we must take recourse to thymology if we want to anticipate other people's future attitudes and actions. Out of our general

Third, and perhaps most importantly, the accumulation of this thymological knowledge, according to Mises, is bound to be subjective. This, in fact, follows for him, just as it did for Lachmann, from the inherently subjective nature of choice. The same external situation can give rise to vastly different courses of action on the part of different individuals. Given that these courses of action are based on thymological experience and what the actor predicts will occur in the future on the basis of such experience, it follows that this experience must therefore be subjective and must vary from person to person. Thus, for Mises as well, the ultimate valuations and actions in the marketplace, given that they incorporate the actor's interpretation of the past and his appraisal of the future, reflect two layers of subjectivism: the subjectivism of his wants and how he ranks them in order of relative importance and the subjectivism of his expectations and anticipations.

This inherent subjectivism in the ability to understand the underlying conditions of the past and the future and to analyze the actions that individuals are willing to undertake under these conditions manifests itself in a "datum that is a general characteristic of human nature" and is "present in all market transactions:" the fact that "various individuals do not react to a change in conditions with the same quickness and in the same way" (Mises, 1998 [1949], p. 256). Indeed, "the phenomenon of leadership is no less real on the market than in any other branch of human activities," and here too there are "pacemakers" who are quick to adjust their actions to the underlying conditions and have "more initiative, more venturesomeness, and a quicker eye than the crowd," and there are "others who only imitate the procedures of their more agile fellow citizens" (Mises, 1998 [1949], p. 255–256). This uneven distribution of the ability to accumulate thymological knowledge and appraise the future with its aid plays an important role in Mises's theory of equilibration.

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thymological experience, acquired either directly from observing our fellow men and transacting business with them or indirectly from reading and from hearsay, as well as out of our special experience acquired in previous contacts with the individuals or the groups concerned, we try to form an opinion of their future conduct (Mises, 2007 [1957], p. 313).

#### **4. SUBJECTIVE EXPECTATIONS AND EQUILIBRATION: LACHMANN ON THE PROBLEM OF PATH DEPENDENCY**

An economy in a state of disequilibrium is characterized by the presence of divergent expectations. Market participants formulate plans based on differing expectations of future prices. As a result, their plans are inconsistent with one another and they experience widespread plan failure and frustration.

The gradual approach of the economy from such a state of disequilibrium to one of equilibrium is characterized by a gradual convergence of expectations. Individuals initially formulate their plans based on differing estimates of what prices will be in the future. The resulting plan failures, however, force them to recalibrate their expectations and to formulate new plans. They do so based on expectations that lie closer to one another, thereby reducing the extent of plan failures. Multiple rounds of this process push the economy gradually to a state of general equilibrium, characterized by the market participants formulating their plans based on identical expectations.

According to Lachmann, there are two sets of forces that ensure the perpetual divergence of expectations and prevent the emergence of general equilibrium. The first of these consists of exogenous changes in the data that characterize the economy. These changes, that emerge outside of the process of exchange, consist of those in the wants of individuals, in the technical knowledge possessed by producers and in the endowments of the market participants that are independent of past transactions undertaken by them. In a world of uncertainty, the price changes that result from these exogenous changes are never predicted with complete accuracy, resulting in the continued divergence of expectations and plans.

Expectations, however, will also continue to diverge in a world without such exogenous changes in the data. It is vital to note that such a world, while it appears static and shorn of change from the point of view of the economist, is nevertheless dynamic from the point of view of the individual planner. For, while there are no changes in the data that emerge from outside the process of exchange, there are still changes in the data that are relevant to the plans of the individuals that are endogenous to it. These changes,



and the price changes that result from them, are thrown up by the process of exchange itself.

Most importantly, the exchanges that take place at disequilibrium prices result in changes in the distribution of resources amongst the market participants, thereby altering their endowments during subsequent exchange. In financial markets, for instance, the prices established from day to day “reflect nothing but the daily balance of expectations” of the bulls and the bears. In the process, “new capital gains and losses are made every day that change the distribution of resources” (Lachmann, 1976, pp. 231–232).

This constant change in the distribution of resources implies that, despite the absence of exogenous changes, the state of equilibrium towards which the economy tends is a moving target. Or, stated differently, the position of final or general equilibrium is path dependent. It depends, as Garrison notes, “upon the particular sequence in which the market eats away at disequilibrium” (Garrison, 1987, p. 86). The changing endowments that result from trades made at disequilibrium prices imply that “each step in the market process significantly changes the equilibrium toward which the process is supposedly tending” (Garrison, 1987, p. 86).

The path dependent nature of the equilibrium position, moreover, also implies that the set of future prices to which the expectations of the market participants must converge is a moving target. Exchanges made at disequilibrium prices not only redistribute resources and change the position of general equilibrium to which the economy is tending. But, given that a state of equilibrium only emerges if all market participants formulate their plans based on expectations that involve the equilibrium price vector itself, they also ensure that the set of expectations needed to bring about equilibrium does not remain unchanged through time.

The dynamic nature of a world free of exogenous change and the path dependent nature of the equilibrium position have important implications for the process of equilibration. To begin with, market participants will still need to interpret their market experience while formulating their plans. The relationship between past and future prices will not be mechanistic but will be complex, with the process of culling knowledge of the future from market experience being influenced by the subjective nature of interpretation. It



follows, therefore, that the expectations of the market participants will be subjective and non-deterministic in such a scenario as well.

Moreover, the path dependent nature of the equilibrium position implies that market participants will be utilizing the knowledge acquired from experience to form expectations regarding a price vector that is a moving target. This implies that they might be faced with the possible "obsolescence of the stock of knowledge" in their possession. Indeed, as Lachmann notes, "as time flows, so does information," increasing the stock of knowledge (Lachmann, 1986, p. 70). But the lapse of time and the change in conditions facing the individual planner also implies that "existing knowledge may also become out of date (Lachmann, 1986, p. 71)" This fact adds another layer of subjectivism to the interpretation of experience that lies at the heart of the knowledge accumulation process. For it means that individuals will not only have to interpret their experience and the information that this throws up, but also will have to make interpretative and necessarily subjective decisions about which components of the stock of knowledge in their possession is relevant and which of them are irrelevant.

For all these reasons one can conclude that, even in a world with no exogenous changes in the data, knowledge of the underlying conditions will not grow in a steady, uniform fashion. Indeed, all one can assert is that "changes in the constellation of knowledge are an inevitable concomitant of the passing of time, and changes in the constellation of expectations are bound to follow them" (Lachmann, 1975, p. 200). One cannot, however, claim that each step in this process will be one that ensures a greater convergence of expectations, thereby pushing the economy ever closer to a state of equilibrium. Hence, the need to be skeptical about the possibility of the "market process as at least potentially terminating in a state of long run equilibrium" (Lachmann, 1976, p. 232).

This conclusion regarding the weakness of the forces of equilibration in a world free of exogenous change has vital implications for the market process in the real world where such changes are frequent. The fact that there are major and significant forces scuttling the gradual convergence of expectations to the equilibrium price vector greatly undermines the extent to which production and consumption activities can be coordinated in the real world. Indeed, with these considerations in mind, a market

economy resembles, not “a clockwork” that swings back and forth around a fixed point of equilibrium (Lachmann, 1986, p. 157) but a kaleidoscope that throws up ever changing patterns of activity and resource allocation that may or may not coordinate the activities of entrepreneurs and consumers (Lachmann, 1976). In such a kaleidic world, when “one pattern of prices gives way to another,” there is no assurance that “a given pattern is any closer to a general equilibrium, or represents any higher degree of coordination, than the one that preceded it” (Garrison, 1987, p. 84).

## **5. MISES ON EXPECTATIONS, ENTREPRENEURIAL SELECTION AND EQUILIBRATION**

### **5.1 The Profit and Loss System and the Process of Entrepreneurial Selection**

The valuations of market participants, according to Mises, are tested every day in the process of exchange and price formation that takes place in the markets for various goods and services. Most crucially, the process of exchange serves as a daily referendum on the valuations of the entrepreneurs, who enter factor markets ready to bid certain amounts of money for the factors of production based on their subjective expectations. Given that the prices of all goods and services result from the interaction of the momentary valuations of the participating buyers and sellers, the realized prices that emerge on markets everyday exploit all potential gains from trade and exhaust all reverse valuations.<sup>11</sup> Thus, the factor prices that emerge everyday allocate the available stocks of these goods to their highest valued uses as encapsulated in the momentary bids of the various competing entrepreneurs. Similarly, the prices of consumer goods allocate these goods to their highest valued ends as represented by the prevailing valuations of the buyers.

These factor and consumer goods prices realized in the process of exchange give rise to profits and losses. And it is through earning these profits and losses that entrepreneurs test their valuations and their ability to successfully predict future conditions. Indeed, the

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<sup>11</sup> On realized prices establishing a plain state of rest, or a momentary state of equilibrium with error, see Salerno (1994) and Manish (2014).

very emergence of profits and losses implies that the subjective valuations of the entrepreneurs necessarily diverge.<sup>12</sup> Those entrepreneurs that were successful in their appraisal of the future valuations of their customers earn a profit while those that failed in this endeavor are penalized with losses. Thus, those entrepreneurs who are better able to accumulate accurate thymological knowledge and apply that knowledge successfully in determining what valuations their customers will have in the future accumulate resources while those that fail to do so successfully lose resources.

Every round of the exchange process, by generating multiple rounds of profits and losses, helps weed out poor entrepreneurs and reward the successful appraisers. In Mises's opinion, one of the key functions of the profit and loss system is to "shift the control of capital to those who know how to employ it in the best possible way for the satisfaction of the public." For, "the more profits a man earns, the greater his wealth consequently becomes, the more influential does he become in the conduct of business affairs" (Mises, 2008 [1951], p. 23). Thus, the profit and loss system essentially provides a mechanism for the selection of entrepreneurs: for the selection of who will be entrusted with making the all-important decisions of what, how, where and how much to produce. It is a part of the more widespread selective process that is generated by the process of exchange and the ensuing price structure whereby the market adjusts the "social apparatus of production to the changes in demand and supply" and assigns "definite tasks to the various individuals" (Mises, 1998 [1949], p. 308).

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<sup>12</sup> For as Mises notes, "If all entrepreneurs were to anticipate correctly the future state of the market, there would be neither profits nor losses. The prices of all the factors of production would already today be fully adjusted to tomorrow's prices of the products. In buying the factors of production the entrepreneur would have to expend (with due allowance for the difference between the prices of present goods and future goods) no less an amount than the buyers will pay him later for the product. An entrepreneur can make a profit only if he anticipates future conditions more correctly than other entrepreneurs. Then he buys the complementary factors of production at prices the sum of which is smaller than the price at which he sells the product" (Mises 1998 [1949]: 291).

## 5.2 Entrepreneurial Selection, Path Dependency and the Process of Equilibration

Now, for Mises, as for Lachmann, there are two forces of change in a dynamic world. First, exogenous changes in wants, technical knowledge and endowments that emerge from outside the process of exchange generate changes in the prices and quantities of the various goods bought and sold. And second, changes in economic phenomena also result from changes in the data that are endogenous to the process of exchange. Indeed, as Mises notes:

The absence of further changes in the data which is the condition required for the establishment of equilibrium refers only to such changes as could derange the adjustment of conditions to the operation of those elements which are already operating today. The system cannot attain the state of equilibrium if new elements, penetrating from without, divert it from those movements which tend toward the establishment of equilibrium. But as long as the equilibrium is not yet attained, the system is in a continuous movement which changes the data. The tendency toward the establishment of equilibrium, not interrupted by the emergence of any changes in the data coming from without, is in itself a succession of changes in the data" (Mises, 1998 [1949], p. 708).

Thus, for Mises as well, the process of equilibration is inherently dynamic. An economy that, in the eyes of the theorist is static and shorn of change, is nevertheless dynamic from the point of view of the individual actor. Moreover, the equilibration process is characterized by repeated changes in the underlying distribution of the available resources, which implies that the position of final equilibrium is path dependent. The available pool of capital, for instance, is being constantly redistributed as a result the emergence of profits and losses. Indeed, each round of exchange that results from the momentary valuations of the entrepreneurs involves a change in the underlying distribution of resources and consequently a change in the equilibrium price vector.

Nevertheless, despite this dynamism and path dependency, the process of entrepreneurial selection ensures a gradual movement in time towards a state of equilibrium. For, it is the activities of "enterprising men, the promoters and speculators, eager to profit from the discrepancies in the price structure," that tends towards "eradicating such discrepancies and thereby also blotting out the

sources of entrepreneurial profit and loss" (Mises, 1998 [1949], p. 353). Moreover, these activities of entrepreneurs, each guided by his subjective expectations, sets into motion the "process that would result in the establishment of the evenly rotating economy" (Mises, 1998 [1949], p. 353). The constant shifting of resources from the less successful to the more successful entrepreneurs ensures that the factors of production are gradually allocated to their highest valued purposes and that over a course of time the factor prices approach those that will prevail in a state of general equilibrium.

Thus, far from scuttling the process of equilibration, the inherent redistribution of resources entailed by the profit and loss system is vitally important for the movement of the economy towards a state of equilibrium in an economy free of exogenous change. Indeed, what for Lachmann constitutes the most important stumbling block for developing a theory of equilibration is for Mises the building block in doing so. For Lachmann, the constant changes in the endowments of the market participants and the resulting path dependency of equilibrium thwarts the process of equilibration in a world where expectations are subjective. For Mises, on the other hand, it is precisely these changes in the distribution of resources and the resulting alterations in the endowments of the entrepreneurs that ensures the emergence of equilibrium in an economy where each entrepreneur bids for factors based on his subjective expectations.

In the real world, however, given the constant exogenous changes in the data, there would be no movement in time towards equilibrium.<sup>13</sup> Nevertheless, the system of profit and loss and the

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<sup>13</sup> In a dynamic world, in the apt words of Lionel Robbins, "through history, the given data change, and though *at every moment* there are tendencies towards an equilibrium, yet *from moment to moment* it is not the *same* equilibrium towards which there is movement" (Robbins, 1932, p. 62). Or as Mises noted, the

final state of rest (a state of general equilibrium) is an imaginary construction, not a description of reality. For the final state of rest will never be attained. New disturbing factors will emerge before it is realized. What makes it necessary to take recourse to this imaginary construction is the fact that the market at every instant is moving toward a final state of rest. Every later new instant can create new facts altering this final state of rest. But the market is always disquieted by a striving after a definite final state of rest (Mises, 1998 [1949], p. 246).

associated entrepreneurial selection process ensures there are forces promoting the coordination of production and consumption activities in a dynamic market economy. For, given that this process rewards those who are better able to interpret and analyze the actions of their fellow men and are able to thus better appraise what market phenomena will emerge in the future, it ensures that at each stage of the market process the best equipped appraisers are on hand to make fresh decisions of how to allocate resources. At any given moment in time, those entrepreneurs who have accumulated the most accurate thymological knowledge and who have utilized this to make the most accurate appraisements of future prices are the ones who control the process of resource allocation. And while their speculations are always subject to error, it is via ensuring that the quality of appraisal is the best possible that the market economy ensures that resources are allocated broadly in line with consumer preferences.<sup>14</sup>

## 6. CONCLUSION

This paper set out to compare the views of Lachmann and Mises on the process of equilibration in a world with subjective expectations. For Lachmann there is no simple connection between the prices of successive planning periods in a dynamic world. Past prices and the frustrations suffered at these prices do not in and of themselves provide any knowledge of the underlying conditions and thus do not provide the basis for plan revision. Instead, market participants, in learning from the past, need to analyze and interpret this experience. The inherent subjectivity of this endeavor, however, undermines the very existence of any process pushing the market towards equilibrium.

Given the weakness of the forces of equilibration, for Lachmann the process of exchange in the real world is inherently open ended and kaleidic. Changing patterns of data and the subjectivism of interpretation and the subsequent divergent expectations ensure that multiple rounds of exchange activity do not proceed in

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<sup>14</sup> For a more detailed discussion of how the process of entrepreneurial selection facilitates coordination between production and consumption activities see Manish (2014) and Bylund and Manish (2015).

historical time towards any end state. In a dynamic world, the forces of disequilibrium trump those enhancing coordination.

For Mises, as for Lachmann, there is no straightforward relationship between the prices of the past and those of the present and future. Individuals, in other words, cannot learn about what to do now based simply on their knowledge of the prices of the past. They must, instead, analyze their market experience based on their thymological knowledge and use the results of this analysis to decide on a course of action for the future. Moreover, Mises also agrees with Lachmann on the inherent subjectivity of this process. However, the presence of a process of equilibration is ensured by the presence of the profit and loss system that acts as a mechanism for entrepreneurial selection.

In an economy with given wants, techniques and resources this process of selection would lead the economy to a point of equilibrium over a period of time. However, the process of exchange is inherently open ended in the real world of continuous exogenous changes in the data. There is no movement in historical time towards any end state of inter-temporal equilibrium. Nevertheless, the market economy is not kaleidic. Instead, it has a process of equilibration, but one that proceeds not in historical but in logical time. The appraisements of the entrepreneurs and the ensuing process of entrepreneurial selection ensures that, at every moment in time, those individuals who are best equipped to draw on their thymological experience and speculate about future conditions are at the helm, taking decisions about the allocation of the available resources.

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## LABOR MARKET EFFECTS IN THE AUSTRIAN BUSINESS CYCLE THEORY

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**ABSTRACT:** An open question in the Austrian business cycle theory is how labor markets across the structure of production react to broader changes in the economy. Particularly, how do labor market conditions in industries at different stages of production respond to changes in monetary policy? This paper investigates the issue by analyzing the response of employment and earnings to monetary policy shocks for ten different sectors of the economy. The results show that labor markets for each sector respond to monetary policy primarily through changes in employment rather than changes in earnings, and that there are distinct differences in the magnitude and timing of employment responses across sectors. Furthermore, these differences in sector-specific responses can be grouped according to the general stage of production that a sector is associated with.

**KEYWORDS:** Austrian school, business cycle, monetary policy, employment, compensation

**JEL CLASSIFICATION:** B53, E32, E52, J2, J3

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## INTRODUCTION

Economists considering the Austrian business cycle theory (ABCT) tend to emphasize malinvested capital across the structure of production in the aftermath of an unanticipated monetary shock. Indeed, Garrison (2001) refers to his graphical approach to ABCT as *capital*-based macroeconomics. The treatment of labor markets in ABCT is usually quite general. Some have called attention to labor specificity and the potential for malinvestments in labor markets (e.g., Bellante, 1983; Bellante, 1994; Boettke and Luther, 2012; Horwitz, 2010). But, typically, distortions in the labor market go overlooked.

Within the ABCT framework a decline in the interest rate caused by expansionary monetary policy initiates an unsustainable boom followed by a period of liquidation and bust. The behavior of labor markets through this process is an important yet neglected area of inquiry. The baseline model, as depicted in Garrison (2001), suggests that relatively early and late stages of production should be impacted most favorably by the boom phase and most severely by the bust phase, but many questions of interest cannot be determined theoretically. For example, are some stages of production impacted through changes in employment or changes in earnings? Does the impact on early and late stages occur contemporaneously, or does the timing of the impact vary across industries? In the boom phase, do labor market conditions in the early and late stages improve at the expense of the intermediate stages? These are important questions which must be determined empirically.

There is a sizable empirical literature on ABCT. Using U.S. data from 1950–1991, Keeler (2001) finds evidence that business cycles are instigated by monetary policy and propagated by relative price changes. Mulligan (2002) finds evidence of resources shifting from early to late stages of production when interest rates rise for U.S. data from 1959–2000. Using a similar data set, Mulligan (2006) finds that lowering interest rates below market levels raises consumption and investment in the short run but decreases both over the long run. More recently, Bismans and Mougeot (2009) analyze data from the U.S., England, France, and Germany from 1980–2006 and find evidence that monetary policy shocks explain cyclical behavior in a manner consistent with ABCT. Lester and

Wolff (2013) find mixed evidence for the distinguishing features of ABCT. Their analysis of U.S. data from 1972–2011 is consistent with ABCT's predictions concerning resource utilization, but they fail to find evidence of relative price and quantity effects. Luther and Cohen (2014) argue in response that Lester and Wolff's use of the federal funds rate as a monetary policy instrument leads to inappropriate conclusions.

The work most closely associated with this one is Young (2005) which analyzes the effect of monetary policy on job reallocation in the manufacturing sector. Young reports that monetary policy has a statistically significant but relatively small impact on reallocation, suggesting that ABCT is operative but lacking in economic significance. Murphy, Barnett II, and Block (2010) contest Young's results on econometric and conceptual grounds and report contradictory results which support the significance of ABCT. This paper expands on the previous literature by investigating the response of both employment and earnings to monetary policy for all private industry sectors in the U.S. economy.

## THE MODEL

ABCT was formulated by Ludwig von Mises (Mises, 1912, 1949) and F.A. Hayek (Hayek, 1935, 1941) among others in the first half of the twentieth century. The key aspect of the ABCT is its emphasis on time. The explicit acknowledgement that production processes take time brings into focus the economy's capital structure—"if labor and natural resources can be thought of as original means of production and consumer goods as the ultimate end toward which production is directed, then capital occupies a position that is both logically and temporally intermediate between original means and ultimate ends (Garrison, 2001, p. 8)." Since it is in the time between the beginning of a production process and the final consumption of a good that macroeconomic disturbances arise, the analysis of capital and its role in macroeconomic coordination is of critical importance.

Garrison's (2001) capital-based macroeconomic model, a graphical representation of ABCT and Austrian capital theory, analyzes how economic activity is coordinated, or potentially dis-coordinated, through changes in an economy's capital structure. Specifically, it models the economy as an interlocking grid of

four distinct graphical models: the loanable funds market, a production possibilities frontier representing the tradeoff between consumption and investment, a Hayekian triangle representing the economy's capital structure, and labor markets for each stage of production within the capital structure. Figure 1 (from Garrison, 2001, p. 65)) shows how each of the four parts of the model reacts to a shift in individuals' preferences for current consumption relative to future consumption.

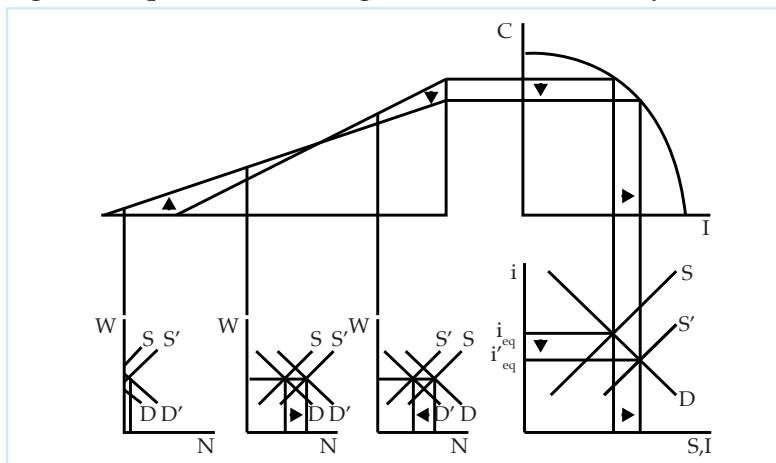
Initially, as individuals prefer greater future consumption to current consumption the supply of loanable funds will increase, leading to a lower interest rate in the bottom right panel. There is a corresponding shift towards more investment and less consumption on the production possibilities frontier in the top right panel. Due to lower interest rate and greater investment, the Hayekian triangle in the top left panel becomes longer and flatter, representing the fact that resources are bid away from sectors nearer to consumption towards sectors further from final consumption.

The bottom left panel shows how labor markets across the structure of production react to this shift in intertemporal preferences. First, there is a new labor market associated with the newly created early stage of production: employment and wages increase to positive levels here. For a previously existing industry in the early stages, demand for labor will initially rise due to the greater demand for investment: this leads to an increase in wages and employment. On the other hand, wages and employment initially fall in the late stages of production due to lower demand for consumption goods. Eventually some workers in the later stages will be attracted to the earlier stages due to higher prevailing wage rates. As workers leave the later stages for the earlier stages the supply curves at each stage will shift so that the wage rate across all industries equalize. At the final stage, employment has decreased in the later stages and increased in the earlier stages, with no long-term change in wage rates (except for the newly created stages).

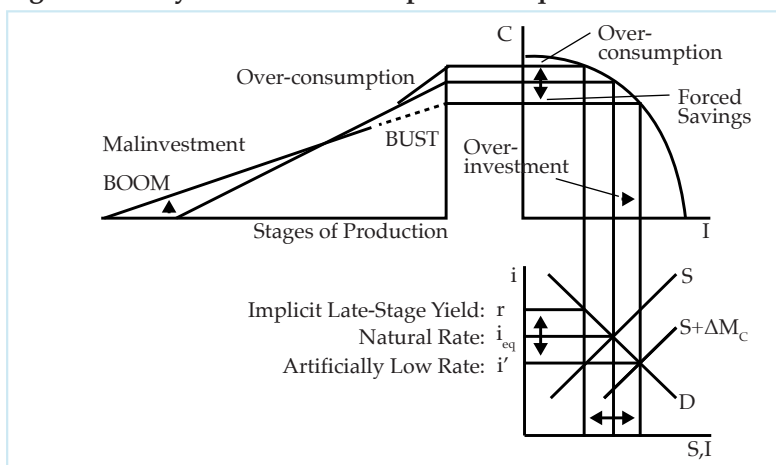
As diagrammed in Figure 1, labor is treated as a nonspecific factor of production that is employed in all stages of production. In the baseline model labor "is neither so predominantly concentrated in the early stages of production that the wage rate rises when the interest rate falls nor so predominantly concentrated in

the late stages that the wage rate falls with a falling interest rate (Garrison, 2001, pp. 66–67).” These assumptions, of course, may have to be modified for particular applications.

**Figure 1: Capital Restructuring (Plus Labor Market Adjustments)**



**Figure 2: Policy-Induced Intertemporal Disequilibrium**



The reaction of labor markets across the structure of production will be different when an increase in the supply of loanable

funds is driven by monetary expansion rather than by a change in intertemporal preferences. If the interest rate in the loanable funds market decreases due to central bank intervention (with intertemporal preferences unchanged) we would instead expect an increase in employment in both the early and late stages of production, assuming relatively nonspecific labor. If labor is specific, we would instead expect an increase in wages in both the early and late stages.

The reasoning behind this is partly shown in Figure 2 (from Garrison, 2001, p. 69): the increase in the supply of loanable funds by the central bank decreases the interest rate, yet individuals' preferences for current versus future consumption remains unchanged. The resulting decrease in the interest rate drives a wedge between saving and investment as the lower interest rate discourages saving and encourages investment. Lower saving implies relatively greater consumption, while investment increases simultaneously. These contradictory forces push the PPF temporarily beyond its frontier. The tug-of-war between consumption and investment continues in the Hayekian triangle as the new investment directs resources into the early stages of production at the same time that the additional consumption directs resources into the late stages. The resulting expansions in the early and late stages represent the unsustainable malinvestment and over-consumption of the boom-bust cycle.

What Figure 2 fails to show is the accompanying movements in the labor market at various stages of production. As resources are reallocated to the early and late stages from the intermediate stages (or from unemployed resources) employment and/or wages will increase in the early and late stages. If the economy is at full employment, there will be a corresponding decline in employment and/or wages in the intermediate stages of production.

There are many complications in applying this theory to the real world. Most obviously, the specificity of labor is a continuum with some labor being very specific, some being somewhat specific, some being totally nonspecific, etc. Therefore it is not clear whether we should expect quantity or price changes in response to a monetary expansion. Additionally, institutional barriers may exist which promote wage rigidity. Therefore, even if labor is relatively specific, we may see little change along the price dimension.

Another complication is that monetary policy typically has real effects with a lag. This raises the possibility that different stages of production not only are impacted in different ways by monetary expansion but also at different times. Finally it is not clear whether a decrease in employment or wages in the intermediate stages of production will be observed; this largely depends on the state of unemployment at a given time, and the suitability of the unemployed for work in the expanding industries.

We are interested in empirically estimating the response of employment and earnings in different sectors of the economy to an expansionary monetary policy shock, to essentially fill in the bottom left panel of Figure 2 for the US economy in recent decades. Due to the complications mentioned above, it is unclear what such a diagram may look like. For example, in which sectors are changes in employment observed? In which sectors are changes in wages observed? How long after a monetary expansion does it take for such changes to appear? What do these results imply about the specificity of labor in various industries? What do these results imply about the prevalence of wage stickiness? These questions are what the empirical results below attempt to address.

The empirical results are concerned with the impact of an expansionary monetary policy shock, but it is worth completing the story of the model here by mentioning how the bust comes about. "Entrepreneurs encounter resource scarcities that are more constraining than was implied by the pattern of wages, prices, and interest rates that characterized the early phase of the boom (Garrison, 2001, p. 72)." As the central bank increases interest rates, tighter credit conditions along with these higher factor prices reveal some projects to be unprofitable and unsustainable. As these projects are abandoned, the PPF moves back within its frontier. It moves within the frontier, rather than back onto it, because productive resources which had previously been available have been wasted on the abandoned projects. This movement within the PPF frontier is accompanied by the Hayekian triangle shrinking at every stage, and particularly at the early and late stages. Labor markets in the early and late stages therefore experience especially severe reductions in employment and/or wages (note that the inverse of the impulse responses presented below represent the response of employment and earnings to a contractionary monetary policy shock).



## DATA AND ESTIMATION

The econometric model used is a 13 variable monthly vector autoregression. The variables include the federal funds rate, log of the consumer price index, log of industrial production, and the monthly percentage change in employment or earnings for ten NAICS industry sectors. The purpose of the VAR is to estimate the response of employment or earnings in each sector to a shock to the federal funds rate. An external instrument will be used to identify monetary policy shocks.

The external instrument is the surprise change in federal funds futures contracts measured in a narrow window around Federal Open Market Committee policy announcements. Federal funds futures contracts price in all anticipated changes to monetary policy leading up to a policy announcement. The change in the contract price immediately following an announcement therefore represents the change in policy that is unexpected by market participants (see Kuttner, 2001 for details). Hence, the change in the current month fed funds futures contract from 10 minutes before to 20 minutes after a FOMC announcement is used to capture an unanticipated, exogenous change in monetary policy (see Gürkaynak, Sack, and Swanson, 2005). This exogenous change is then used to identify a shock to the federal funds rate in the VAR.

The external instruments approach was developed by Stock and Watson (2012) and Mertens and Ravn (2013) and recently applied in a monetary policy context by Gertler and Karadi (2015) (see any of these three papers for details on the method). The benefit of the approach is that it sidesteps the need to make one of the traditional identification assumptions required for structural VARs, such as ordering or sign restrictions. The traditional assumptions are often somewhat arbitrary. For example, if ordering restrictions are used, then changing the order of variables in the VAR will often lead to different results. Or if sign restrictions are used, the restrictions sometimes contradict reduced-form results. In the external instruments framework ordering becomes unimportant and the signs of the VAR coefficients remain unrestricted.

The data sample is from January 1990 to June 2012. The sample stops in 2012 due to restrictions on futures market data availability. The ten industry sectors included are mining and logging,

construction, manufacturing, trade transportation and utilities, information, financial activities, professional and business services, education and health services, leisure and hospitality, and other services. Combined, they make up all of the private sectors in the US economy. The stage of production that each sector occupies is not set in stone, and will in fact be different for individual firms within a single industry. Even in the simple case of a small firm that only produces one good, as long as that good is not a final consumption good it is quite likely that it will be used in multiple other production processes and that it will occupy different stages in each process. It must be admitted therefore that no designation of an absolute, fixed stage of production can be applied to any of these industries.

That said, it does seem reasonable to make some generalizations about how near or far the activities taking place within these sectors are likely to be from final consumption, relative to one another. For example, it is likely that the bulk of activities taking place in mining and logging occur at a relatively earlier stage in any given production process than the activities taking place in leisure and hospitality. We will therefore group three of the sectors—mining and logging, construction, and manufacturing—as representing relatively early stages of production and three other sectors—education and health, leisure and hospitality, and other services—as representing relatively late stages. The relative stages of the other four industries—trade transportation and utilities, finance, information, and professional and business services—will be left ambiguous, though it may be fair to think of them as generally intermediate stages.

This is clearly an arbitrary and imperfect way of relating sectors with stages of production. Luther and Cohen (2016) include an instructive discussion on the difficulties of matching industry-level data to the conceptual structure of production. Ideally, we would have data which reliably measures output at a given distance from final consumption. In the absence of such data researchers must turn to industry-level data which only loosely corresponds to stages in the structure of production. It is important to keep this in mind when interpreting results in empirical studies such as this. It is encouraging, however, that the results below are consistent with our above industry groupings.

Two separate VARs will be estimated in the following sections: the first will include employment for each of the 10 industries

and the second will include hourly earnings of production and nonsupervisory employees. The variables included in the VAR will be in terms of monthly percentage change.

Table 1 shows summary statistics for the monthly percentage change in employment for each industry. Employment in manufacturing has been decreasing on average from 1990–2012, while employment in the 9 other industries has increased. The most volatile industry in terms of employment is mining and logging, with a standard deviation of 0.69 percent. The largest decrease in employment for any industry in a given month is –2.8 percent in mining and logging, while the largest increase in employment for any industry in a given month is 2.03 percent, also in mining and logging. Education and health, other services, and financial activities are the least volatile industries, all with standard deviations at or below 0.2 percent.

To assess the economic significance of these variables it is of interest to also consider their levels, which are shown in Table 2. There are vast differences in the size of the industries. On average, trade, transportation, and utilities had the highest employment level over this time period at almost 25 million employees. On the other end, mining and logging had the lowest average employment level at 669,067. To give an idea of the magnitude of monthly employment changes, the average change in mining and logging is 0.05 percent, so on average the mining and logging industry gained about 335 jobs a month from 1990–2012. For trade, transportation, and utilities the average change in employment is 0.05 percent, so on average the industry gained 12,400 jobs a month.

**Table 1: Summary Statistics of the Monthly Percentage Change in Employment for 10 Industries from January 1990 to June 2012 (270 Observations)**

	Mining/ Logging	Construction	Manufacturing	Trade, Transport, Utilities	Information
Mean	0.05	0.02	-0.15	0.05	0.00
Median	0.00	0.15	-0.08	0.08	0.01
St. Dev.	0.69	0.67	0.36	0.22	0.45
Min	-2.80	-2.40	-2.25	-0.78	-2.05
Max	2.03	2.13	0.81	0.86	2.54

	Finance	Pro Services	Education/ Health	Leisure/ Hospitality	Other Services
Mean	0.06	0.19	0.24	0.15	0.10
Median	0.07	0.26	0.25	0.19	0.10
St. Dev.	0.20	0.35	0.13	0.25	0.19
Min	-0.72	-1.11	-0.33	-0.57	-0.73
Max	0.51	1.04	0.63	1.14	0.72

**Table 2: Summary Statistics of Monthly Average Employment for 10 Industries from January 1990 to June 2012 (270 Observations)**

	Mining/ Logging	Construction	Manufacturing	Trade, Transport, Utilities	Information
Mean	669,067	6,114,496	15,400,000	24,800,000	3,000,496
Median	657,000	6,003,500	16,700,000	25,200,000	3,011,000
St. Dev.	68,400	939,798	2,083,796	1,395,795	304,728
Min	566,000	4,570,000	11,500,000	22,100,000	2,633,000
Max	855,000	7,726,000	17,900,000	26,700,000	3,717,000

	Finance	Pro Services	Education/ Health	Leisure/ Hospitality	Other Services
Mean	7,550,674	15,100,000	15,800,000	11,700,000	5,017,489
Median	7,733,500	16,000,000	15,700,000	11,900,000	5,211,500
St. Dev.	599,434	2,420,769	2,901,322	1,419,262	454,983
Min	6,520,000	10,700,000	10,800,000	9,218,000	4,207,000
Max	8,394,000	18,100,000	20,700,000	13,700,000	5,540,000

Table 3 shows summary statistics for the monthly percentage change in average hourly earnings of production and nonsupervisory employees for each industry (data on average hourly earnings for all workers is not available before 2006). Hourly earnings in all industries have been rising on average since 1990, with the largest average increase coming in financial activities at 0.32 percent per month and the smallest average increase coming in three different industries at 0.22 percent. The most volatile industry for earnings is once again mining and logging with a standard deviation of 0.62 percent. The least volatile industry is education and health with a standard deviation of 0.18 percent.

Table 4 shows the level of hourly earnings for each industry. The highest paid industry is information at \$19.73 an hour, followed by construction at \$17.93, and mining and logging at \$17.80. The lowest paid industry by far is leisure and hospitality at \$8.55 per hour, with other services being the next lowest at \$13.01. For the information sector, hourly earnings increased on average by 0.27 percent a month since 1990, which works out to be about \$0.05 a month. For leisure and hospitality, hourly earnings increased on average by 0.25 percent a month, which works out to be about \$0.02 a month.

**Table 3: Summary Statistics of the Monthly Percentage Change in Average Hourly Earnings for 10 Industries from January 1990 to June 2012 (270 Observations)**

	Mining/ Logging	Construction	Manufacturing	Trade, Transport, Utilities	Information
Mean	0.25	0.22	0.22	0.22	0.27
Median	0.21	0.29	0.22	0.20	0.26
St. Dev.	0.62	0.52	0.24	0.19	0.41
Min	-2.31	-1.17	-0.60	-0.29	-0.93
Max	2.69	1.45	1.44	0.79	2.17
	Finance	Pro Services	Education/ Health	Leisure/ Hospitality	Other Services
Mean	0.32	0.28	0.29	0.25	0.26
Median	0.33	0.27	0.29	0.23	0.27
St. Dev.	0.28	0.29	0.18	0.28	0.21
Min	-0.74	-0.59	-0.65	-0.89	-1.28
Max	1.28	1.33	0.97	1.36	1.15

**Table 4: Summary Statistics of Monthly Average Hourly Earnings for 10 Industries from January 1990 to June 2012 (270 Observations)**

	Mining/ Logging	Construction	Manufacturing	Trade, Transport, Utilities	Information
Mean	17.80	17.93	14.78	13.45	19.73
Median	16.84	7.83	14.61	13.63	19.73
St. Dev.	3.55	3.32	2.60	2.38	4.22
Min	3.04	13.29	10.52	9.68	13.15
Max	26.07	23.91	19.09	17.46	26.93

	Finance	Pro Services	Education/ Health	Leisure/ Hospitality	Other Services
Mean	15.80	16.38	14.80	8.55	13.01
Median	15.50	16.20	14.43	8.53	13.11
St. Dev.	3.84	3.94	3.31	1.79	2.62
Min	9.79	10.93	9.78	5.89	8.90
Max	22.71	23.24	20.91	11.64	17.57

## RESULTS: EMPLOYMENT

The first specification investigates the extent to which an expansionary monetary policy shock impacts sector-specific labor markets along the quantity dimension, i.e. employment. First, the reduced-form VAR is estimated to obtain coefficients and residuals. Identification of the structural monetary policy shock is then achieved through a two stage regression of the reduced-form residuals from the non-federal funds rate equations on the residuals from the federal funds rate equation, using the surprise change in federal funds future contracts as an instrument. We then can estimate the impulse response functions of monthly employment change in each sector to a one percentage point expansionary monetary policy shock.

Impulse response functions are presented in Figures 3, 4, and 5. Figure 3 plots the response of all 10 sectors to emphasize the different patterns across industries. Figure 4 shows each sector's response individually and Figure 5 shows each response bracketed

by 90 percent confidence bands. Per Stock, Wright, and Yogo (2002), the minimum F-statistic required to avoid a weak instrument problem in identifying our structural monetary policy shock is 10. The F-statistic and robust F-statistic on the first stage regression of the federal funds rate residual on the federal funds futures surprise are both large at 26.6 and 22.6 respectively. Thus, we can be assured that our instrument is valid.

First, consider Figure 3. The figure plots the response of employment growth in all 10 sectors for the 40 months following an expansionary monetary policy shock. It is difficult to follow each line precisely, but two aspects immediately jump out. First, the magnitudes of change differ quite a bit among sectors. Mining and logging stands out as having the largest reaction throughout the 40 months. Industries such as education and health on the other hand have a relatively small reaction which remains close to zero throughout the period. Second, while there is some co-movement, there are also obvious differences in the pattern of responses (the responses are positively correlated in general). For example, the response of leisure and hospitality is initially large and positive before quickly declining whereas the response of information is initially large and negative prior to quickly increasing.

Figure 3 suggests that there may indeed be meaningful differential employment responses to expansionary monetary policy across sectors. To investigate in greater detail, consider the individual impulse responses presented in Figure 4. Sectors are grouped into three categories in Figure 4. The impulse responses in red represent the industries which occupy relatively early stages of a production process, the responses in green represent the industries which occupy relatively late stages, and the responses in blue represent the industries whose relative stage of production have been left ambiguous. First, consider the early stages. Employment growth in mining and logging initially increases following the expansionary shock for 5 months before declining into negative territory until about the 20th month. After 20 months employment begins rising sharply, so that employment growth is 0.5 percent higher at the end of 40 months. In construction, employment growth increases by 0.5 percent 6 months after the shock before declining until month 18. After the 18th month, post-shock employment growth resumes its climb, ending up 0.3 percent higher in the 40th month.

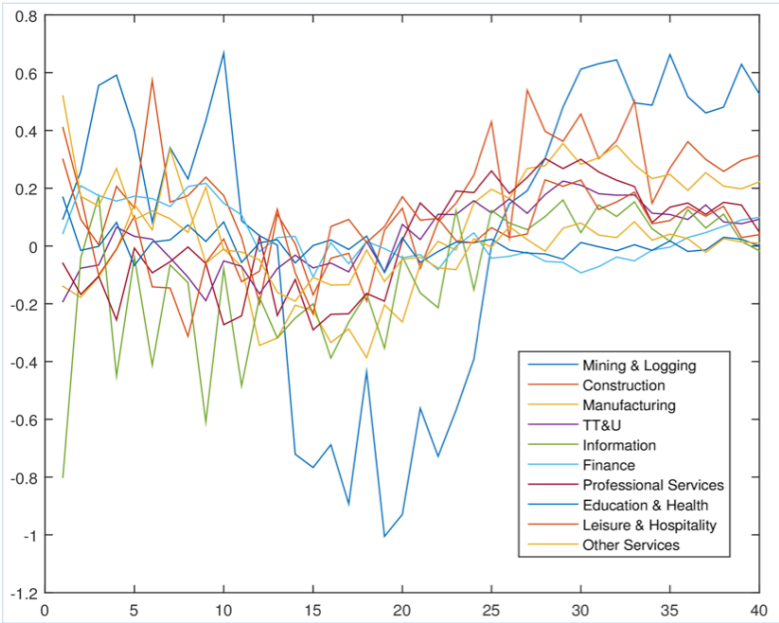
Employment growth in manufacturing initially declines by 0.2 percent before increasing through the 7th month after the shock. It then declines and stays in negative territory up till month 20 before increasing and finishing 0.2 percent higher in month 40.

A similar, U-shaped pattern emerges for all three sectors. There is an initial increase in employment growth 5 to 10 months after the expansionary policy shock which then declines into negative territory until about month 20, at which point it begins increasing again. Between month 25 and 30 employment growth re-hits its earlier peak and ends up positive after 40 months. Manufacturing is unique in that employment growth initially declines in the months immediately following the shock, but it quickly turns positive by month 5.

Next, consider the relatively late stages represented by the green responses. In education and health services employment growth shows a large initial increase of 0.15 percent. This quickly declines and bounces around zero over the next 40 months before ending with essentially no change. Employment growth in leisure and hospitality shows a similar trend, as there is a large increase of 0.4 percent immediately following the shock which quickly declines and ends up only 0.04 percent higher in the 40th month. The response of employment growth in other services matches this pattern as well, with employment growth increasing by 0.5 percent in the first month post-shock before declining and ending up unchanged 40 months later.

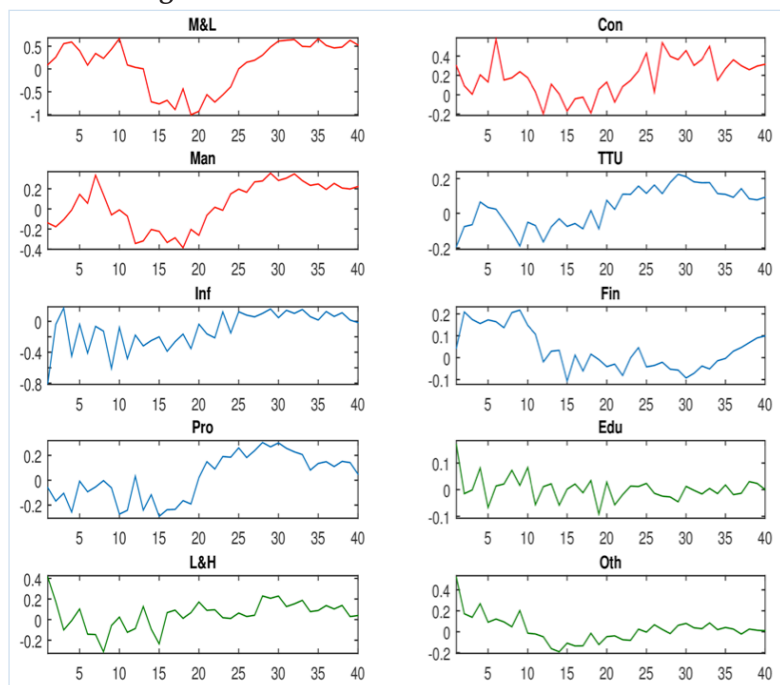


**Figure 3: Response of Employment Growth in 10 Industry Sectors to Expansionary Monetary Policy Shock**



Vertical axis: expansionary monetary policy shock in percentage points. Horizontal axis: months after the shock.

**Figure 4: Response of Employment Growth in 10 Industry Sectors to Expansionary Monetary Policy Shock, with Stages Indicated**



Vertical axis: expansionary monetary policy shock in percentage points. Horizontal axis: months after the shock. Red responses represent industries that occupy relatively early stages in a production process, blue responses represent industries that occupy ambiguous stages, and green responses represent industries that occupy relatively late stages.

The pattern that emerges here is of a large initial increase in employment growth which quickly declines after the first month or two post-shock. All three industry responses hit their peak in the first month after the expansionary policy shock and are essentially unchanged by the 40th month. This is quite different from the pattern seen in the early stage industry responses, where the response of employment fluctuates meaningfully over the entire 40 months, and hits or at least matches its peak around month 30.

Finally, consider the four stages which have been left ambiguous whose responses are graphed in blue. Employment growth in trade, transportation, and utilities faces an initial decline in the first 20 months after the expansionary shock before rising to a 0.2 percent increase after 30 months and ending up 0.1 percent higher after 40 months. The response in professional and business services shows a similar pattern with an initial decline turning positive around month 20, hitting a peak of 0.3 percent in month 30, and ending up slightly higher at 0.04 percent in month 40. The initial declines in employment following the monetary policy shock are inconsistent with the initial increases seen in the early stage industries, but it is interesting that the increases from month 20 to month 40 are very similar to those seen in the early stages. This is perhaps an indication—which does not seem totally unreasonable—that trade, transportation, and utilities and professional and business services may occupy relatively early-intermediate stages of most production processes.

On the other hand, the response of financial activities shows a somewhat similar employment response to the late stage industries. There is an initial increase in employment growth of about 0.2 percent which, unlike the early stage industries, persists for the first 10 months after the shock. From there employment growth declines and bounces around zero before ending up 0.1 percent higher after 40 months. From these results, one might speculate that finance occupies a relatively late-intermediate stage of many production processes. Finally, the response of employment growth in information services stands out as a clear outlier. Employment in information falls drastically in the first month following the monetary policy shock with a  $-0.8$  percent decline. This rebounds towards zero over the next two months, remains negative until month 20, and ends up essentially unchanged after 40 months.

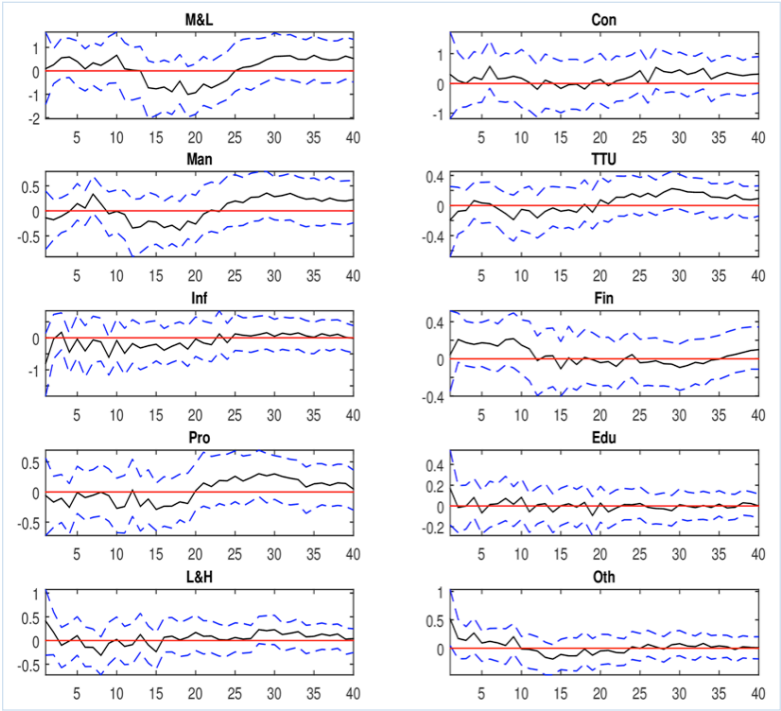
These results suggest that there may be important changes in the quantity dimension of labor markets across the structure of production in response to expansionary monetary policy. To assess the statistical significance of the results, Figure 5 plots the same 10 industry impulse responses bracketed by 90 percent confidence bands, computed using bootstrapping methods. As can be seen, none of the industry employment responses are significant at the 90 percent level. In fact, regions of the responses do not become

significant until the confidence level is dropped to 70 percent. This is concerning, as it indicates that the divergent patterns observed in the responses may not be statistically meaningful.

To investigate further, the three industries grouped as occupying relatively early stages of production are aggregated together, as are the three industries grouped as occupying relatively late stages. Instead of including employment growth in mining and logging, construction, and manufacturing separately we now have one measure of employment growth for all of the relatively early stages, and likewise for the relatively late stages. Estimating the VAR with these aggregate stages produces the impulse responses shown in Figure 6. The top panel in Figure 6 shows that employment growth in the early stages becomes significantly positive from 25 to 35 months after the expansionary shock, at a magnitude of roughly 0.25 percent – 0.35 percent. The bottom panel shows that employment growth in the late stages is initially positive and significant in the first month after the shock, at a magnitude of 0.35 percent, but not significant for any period after.

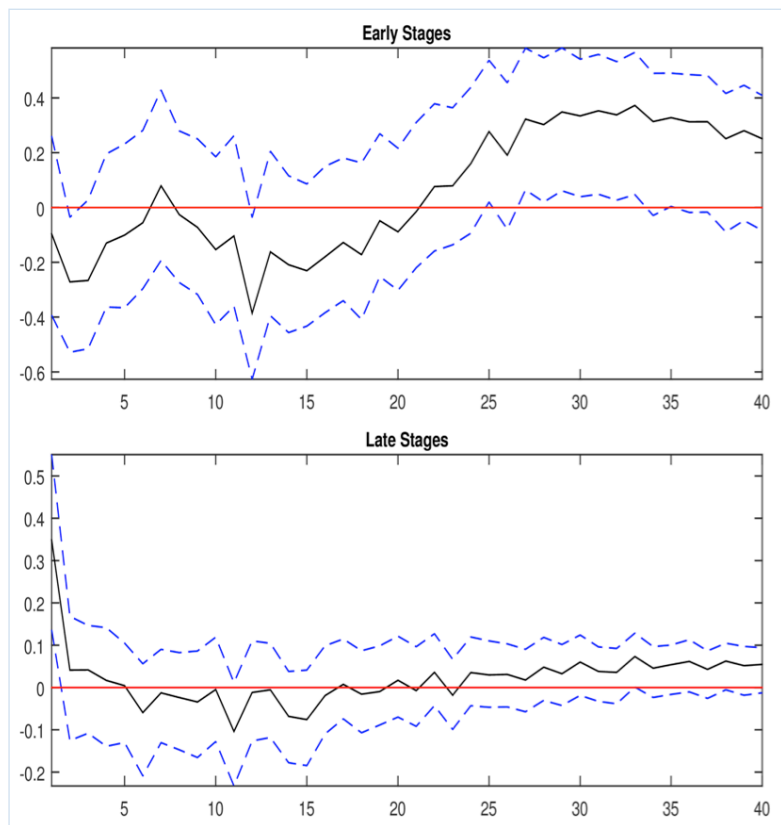
The aggregated stage results therefore support that the two distinct patterns in the individual industry responses are significant and meaningful. To summarize, there are clear differences in the magnitude and timing of employment responses across the ten industries, and these differences can be grouped according to the general stage of production that an industry is associated with. Industries associated with relatively early stages tend to see a more volatile and persistent response of employment to expansionary monetary policy, with meaningful increases coming 25 to 35 months following a policy shock. On the other hand, industries associated with relatively late stages tend to see a large, initial increase in employment growth in the first month after an expansionary policy shock and negligible effects on employment afterwards. The results for the other four industries can only be interpreted speculatively, but the declines in employment immediately after the shock in trade transportation and utilities, information, and professional and business services indicate that a transfer of employment from the intermediate stages to earlier and later stages may happen in the short run after an expansionary shock.

**Figure 5: Response of Employment Growth in 10 Industry Sectors to Expansionary Monetary Policy Shock, with 90% Confidence Bands**



Vertical axis: expansionary monetary policy shock in percentage points. Horizontal axis: months after the shock. Confidence bands are computed using the wild bootstrap method.

**Figure 6: Response of Employment Growth in Aggregated Early Stage and Late Stage Industries, with 90% Confidence Bands**



Early stage industries are mining and logging, construction, and manufacturing. Late stage industries are education and health, leisure and hospitality, and other services. Vertical axis: expansionary monetary policy shock in percentage points. Horizontal axis: months after the shock. Confidence bands are computed using the wild bootstrap method.

## RESULTS: EARNINGS

The second specification investigates the extent to which an expansionary monetary policy shock impacts sector-specific labor markets along the price dimension, i.e. earnings. Impulse response functions are presented in Figures 7, 8, and 9. Figure 7 plots the response of all 10 sectors, Figure 8 shows each sector's response individually, and Figure 9 shows each response bracketed by 90 percent confidence bands. The F-statistic and robust F-statistic from the first stage regression in this specification are both large at 58.4 and 20.7 respectively. Once again, therefore, we can be assured of a valid instrument.

First, consider Figure 7. The figure plots the response of the percentage change in earnings in all 10 sectors for 40 months after an expansionary monetary policy shock. Unlike Figure 3 there are no clear trends to the responses here. There are certainly differences in the magnitude of different sectors' hourly earnings response, especially immediately following the monetary policy shock, with mining and logging once again showing the largest reaction. However the responses in all industries bounce back and forth from negative to positive values over the 40 months without a clear pattern emerging. The noisiness of these results suggests that monetary policy has little effect on the price dimension of the labor market, i.e. earnings.

To examine if there are any discernible patterns in the response of earnings for a particular sector, consider the individual impulse responses presented in Figure 8. Unlike in the employment results, there are no consistent patterns among early stage responses (red) relative to the late stage responses (green), or the ambiguous stage responses (blue). The pattern of responses is very noisy for each sector, in that the responses tend to bounce around zero with no clear pattern emerging. To the extent that there are changes in earnings following a monetary policy shock, they appear to happen immediately. There is essentially no impact after 40 months for any of the 10 industries.

Construction, manufacturing, trade transportation and utilities, information, professional and business services, and leisure and hospitality all show substantial initial declines in hourly earnings which quickly reverse. On the other hand, mining and logging,

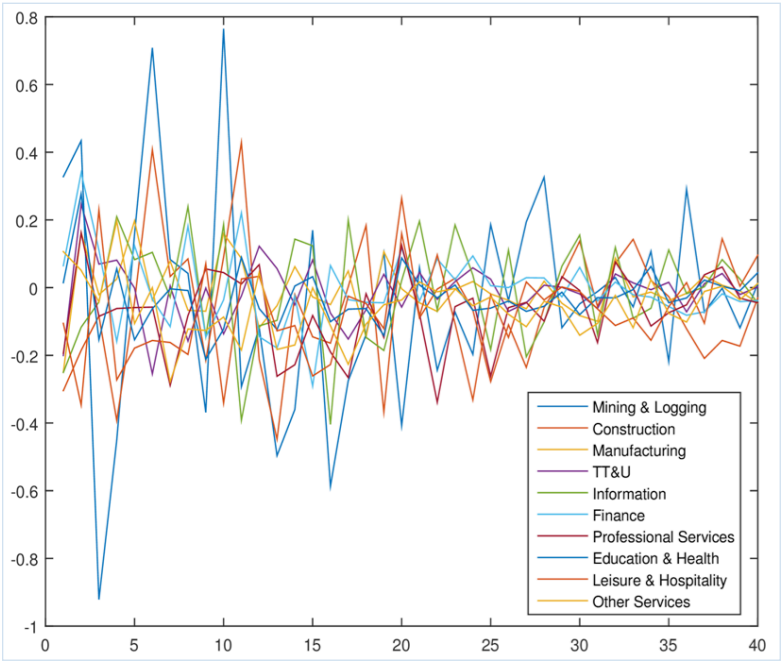
financial activities, education and health, and other services show initial increases that then decline relatively quickly. There is no apparent pattern to which sectors experience an initial increase or decrease in earnings. After 20 months the magnitude of responses becomes smaller for most industries.

These results suggest that there is little to no response of hourly earnings to monetary policy. Figure 9 plots each industry response bracketed by 90 percent confidence bands to check for statistical significance. Once again, the bands for each industry response straddle each side of zero, indicating statistical insignificance at the 90 percent level. To investigate further, the three industries corresponding to the relatively early or relatively late stages are once again aggregated together.

Hourly average earnings in each month for mining and logging, construction, and manufacturing are summed together, likewise for education and health, leisure and hospitality, and other services. The percentage change in these aggregated series are then included in the VAR as earnings growth for the relatively early stages and earnings growth for the relatively late stages. The impulse responses from these results are presented in Figure 10. The top panel of Figure 10 shows that earnings growth in the early stages turns significantly negative 3–4 months after the expansionary monetary policy shock at a magnitude of  $-0.4$  percent, before turning significantly positive in months 6 and 10 after the shock at a magnitude of  $0.30$  percent –  $0.35$  percent.

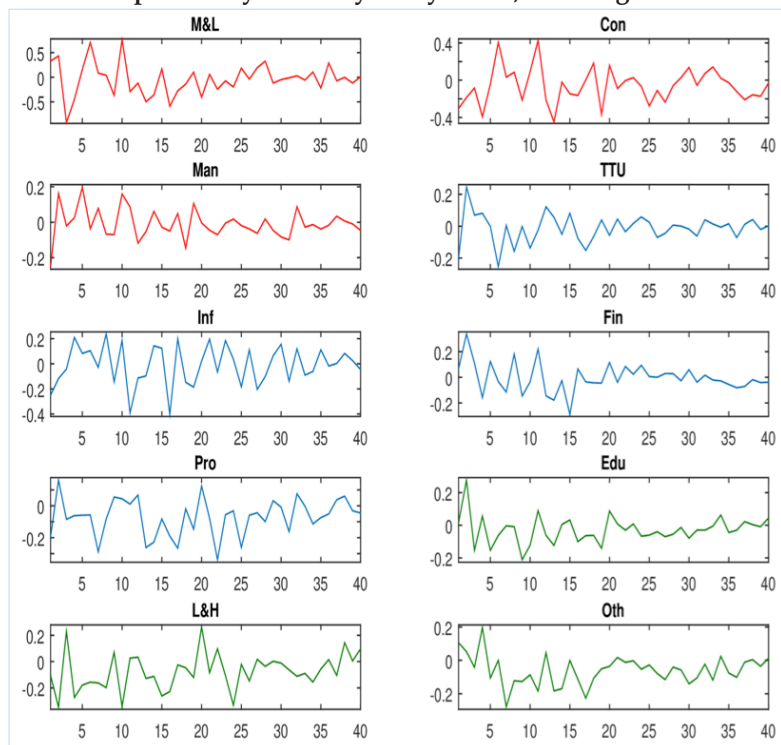


**Figure 7: Response of Earnings Growth in 10 Industry Sectors to Expansionary Monetary Policy Shock**



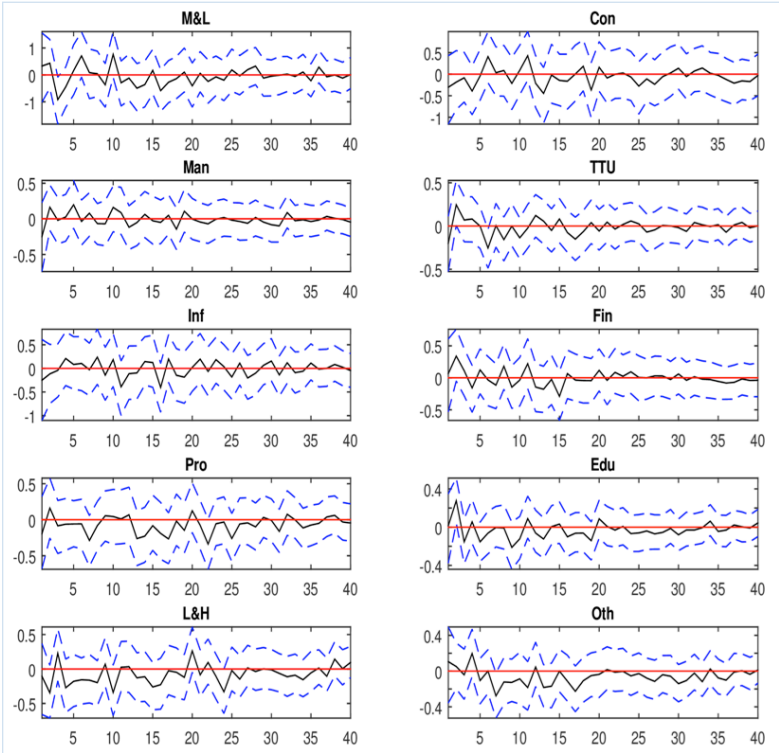
Vertical axis: expansionary monetary policy shock in percentage points. Horizontal axis: months after the shock.

**Figure 8: Response of Earnings Growth in 10 Industry Sectors to Expansionary Monetary Policy Shock, with Stages Indicated**



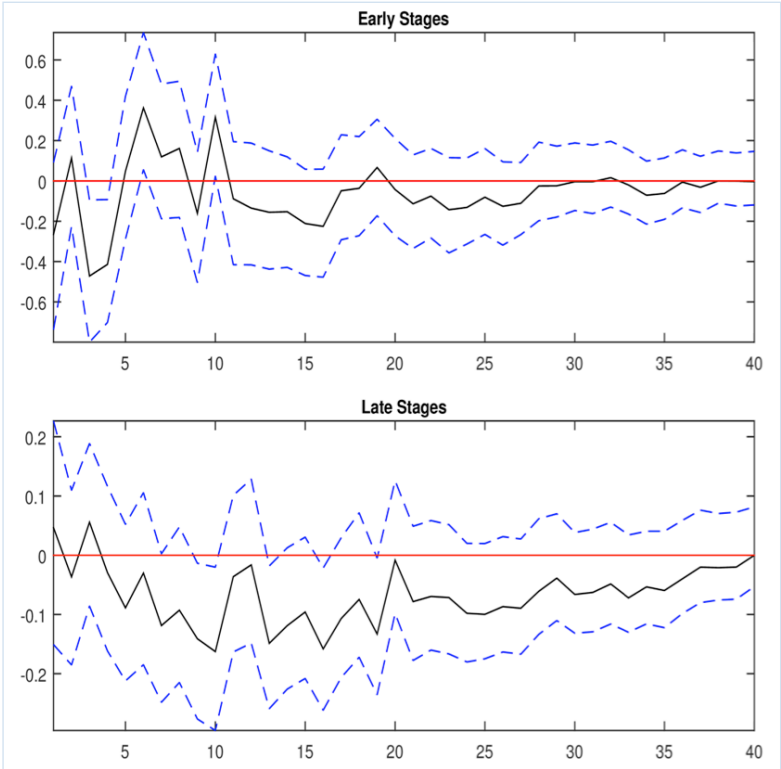
Vertical axis: expansionary monetary policy shock in percentage points. Horizontal axis: months after the shock. Red responses represent industries that occupy relatively early stages in a production process, blue responses represent industries that occupy ambiguous stages, and green responses represent industries that occupy relatively late stages.

**Figure 9: Response of Earnings Growth in 10 Industry Sectors to Expansionary Monetary Policy Shock, with 90% Confidence Bands**



Vertical axis: expansionary monetary policy shock in percentage points. Horizontal axis: months after the shock. Confidence bands are computed using the wild bootstrap method.

**Figure 10: Response of Earnings Growth in Aggregated Early Stage and Late Stage Industries, with 90% Confidence Bands**



Early stage industries are mining and logging, construction, and manufacturing. Late stage industries are education and health, leisure and hospitality, and other services. Vertical axis: expansionary monetary policy shock in percentage points. Horizontal axis: months after the shock. Confidence bands are computed using the wild bootstrap method.

Earnings growth has no significant response to the policy shock over the rest of the 40 months. The bottom panel shows that the response of earnings growth in the late stages is borderline significant between 10 and 20 months after the shock. However, the magnitude is small at  $-0.1$  percent, and the response is insignificant over the other 40 months.

The aggregate results indicate that the relatively early stages may respond to central bank induced changes in the interest rate through adjustments in earnings. However, the fact that the significant decrease in earnings in months 3–4 is quickly reversed in months 6 and 10 suggests that to the degree changes in earnings take place, they are quickly reversed and non-persistent. The results also confirm that earnings growth in the relatively late stages have little to no reaction to monetary policy. Overall, the results indicate that labor markets across the structure of production respond to monetary policy primarily through changes in employment rather than changes in earnings. This has two potential implications. One is that labor in recent U.S. history has been fairly nonspecific and able to shift from one sector to another with relative ease. The other is that wage rigidities may exist which prevents adjustments along the price dimension of labor markets from taking place. It is likely that both of these implications are true to some degree, but it is outside the breadth of this paper to investigate further.

## CONCLUSION

Austrian business cycle and Austrian capital theory provide a robust framework for analyzing the macroeconomy by illustrating how changes in the structure of production can provide for—or disrupt—macroeconomic coordination. An open question within this capital-based macroeconomic framework is how labor markets across the structure of production operate, particularly in response to central bank-induced changes to the interest rate. While the theoretical model can point out general trends, many of the specific labor market effects of interest will depend on the particularities of a given context. This paper has attempted to specify these labor market effects for recent United States history by estimating the response of employment and earnings to monetary policy in 10 different sectors relatively corresponding to different stages of production.

The results show that labor markets at any stage of production react to monetary policy primarily through changes in employment rather than changes in earnings. The responses of employment across industries show clear differences in magnitude and timing. Industries that are likely to occupy earlier stages of production—mining and logging, construction, and manufacturing—have more volatile and more persistent responses to an expansionary monetary policy shock. Industries that are likely to occupy later stages of production—education and health, leisure and hospitality, and other services—tend to have an immediate but less persistent reaction to the expansionary shock. All industries show a positive or negligible change in employment 40 months after the expansionary shock which indicates there is no lasting transfer of labor from intermediate stages to early and late stages. There is an initial decline in some industries that could be considered intermediate however—trade transportation and utilities, information, and professional and business services—which indicates that such a transfer may take place in the short run.

These results are useful in two respects. First, they will allow for a richer application of ABCT to real world events. When the Federal Reserve initiates expansionary (or contractionary) policy, one may now have a better idea of how labor market conditions will change across the structure of production. Secondly, the results suggest relevant auxiliary assumptions to be imposed on the model, such as the non-specificity of labor, the existence of wage rigidities, the greater persistence of policy in the early stages of production, and the lack of a lasting transfer of workers from the intermediate stages to the early and late stages (i.e., the existence of unemployed, non-specific labor). The biggest shortcoming of the results is the loose link between the aggregated industry sectors and a specific stage of production. A promising possibility for future work may be to analyze the effects of monetary policy at the firm-level for a subset of production processes where a specific stage of production for each firm can be more concretely identified.

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## RESPONSE TO A REVIEW OF MONEY, BANKING, AND THE BUSINESS CYCLE

BRIAN P. SIMPSON

**ABSTRACT:** Shawn Ritenour provides a review of my two-volume book *Money, Banking, and the Business Cycle* in the Winter 2016 issue of this journal. In his review, he provides a number of criticisms of the book and offers some compliments of the book as well. While I appreciate the compliments, most of the criticisms are not valid. In this response, I explain why it is that more money in the economy leads to more profits. I also show the difference between making a distinction between the rate of profit and the interest rate and saying they are independent of each other. Furthermore, I discuss the effect of changes in interest rates versus changes in the rate of profits. I discuss criticisms of Objectivist philosophy as well.

**KEYWORDS:** Austrian school, business cycle, net consumption-net investment theory of profits, profit, interest, Objectivism

**JEL CLASSIFICATION:** E14, E32

### INTRODUCTION

I thank Shawn Ritenour (Ritenour, 2016) for his thorough review and compliments of both volumes of my book *Money, Banking,*

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*and the Business Cycle*. He also levels many criticisms against the book. I respond to a few here.

## PROFITS AND THE MONEY SUPPLY

Ritenour states that a problem with my analysis is my claim that more money in the economy leads to more profits in the economy. He is fine with my claim that more money leads to more spending and revenue, but not with the connection between money and profits. He states, “Certainly more money leads to more spending and revenue. However, it is not clear at all that such spending necessarily leads to more profits. Profits are the difference between revenue and costs. If costs increase along with revenues... profits do *not* increase.” (Ritenour, 2016, p. 385 [emphasis in original])<sup>1</sup>

Here he fails to address the extensive discussion I provide to show how it is that more money leads to more spending, revenue, *and* profits. (Simpson, vol. I, pp. 33–34 and 61–72)<sup>2</sup> More money leads to more profits mainly because of the historical nature of costs. Costs reflect spending from the past and thus tend to adjust in a slower fashion to changes in the money supply and spending in the economy. Because of the historical nature of costs, when the money supply increases and causes spending and revenues to increase, costs *do not* increase as rapidly as revenues.

My discussion of how increased money and spending cause increased profits is based on George Reisman’s Net Consumption-Net Investment Theory of profits. (Reisman, 1996, pp. 228–229 and 719–774) Reisman provides significant accounting evidence and other forms of evidence to show the validity of this theory.<sup>3</sup> His theoretical evidence is corroborated by the empirical evidence provided on the rate of change of the money supply and the change in the rate of profit in my book. (vol. I, pp. 126–129, 153–160, 195–198, and 235–240)

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<sup>1</sup> For subsequent references to Ritenour’s review, I will only refer to the page number.

<sup>2</sup> For subsequent references to my book, I will only refer to the volume and page number.

<sup>3</sup> Rothbard identifies the same phenomenon, although with Rothbard it is an idea in its infancy. (Rothbard, 2009, pp. 993–994) Reisman puts forward a fully developed theory.

Reisman and I provide a mountain of theoretical and empirical evidence regarding how profits change in the same direction as the money supply. Ritenour ignores this evidence. He merely asserts without proof that profits will not change with changes in the money supply. If he is going to claim that Reisman and I are wrong, he must show logically and factually why we are wrong. He fails to do this.

Note also that nothing I say above regarding the movement in aggregate profits in the economy denies or contradicts the changes in the structure of production that occur during the business cycle. As Mises has stated, new money is not spent uniformly throughout the economy. (Mises, 1966 [1949], pp. 412–413) The money can show up sooner in some areas of the economy and some areas of the economy may experience larger changes in spending and profits than others during the cycle. My empirical evidence indicates that capital goods industries and industries in general that are farther removed from final consumption experience larger changes in spending and profits than consumers' goods industries and industries in general that are closer to final consumption. (vol. I, pp. 115–120, 144–146, 189–190, 221–223, and 225–230) This is consistent with the greater expansion and contraction of capital goods industries and industries farther removed from final consumption during the cycle that are predicted by Austrian business cycle theory (ABCT).

In addition, none of what I say is inconsistent with the profitability of individual entrepreneurs being based on their ability to have better foresight and be more innovative. Ritenour seems to think there is an inconsistency between aggregate profits being determined by the amount of spending in the economy and the profits earned by individual firms being based on entrepreneurial foresight. He states, "What matters [for profitability] is entrepreneurial foresight and not whether spending increases or decreases." (p. 397) In fact, both matter.

Ritenour fails to see that both matter because he fails to distinguish between what determines the profits earned by an individual firm versus what determines the level of aggregate profits. As I have discussed, aggregate profits are determined by the aggregate spending in the economy. However, any individual entrepreneur can earn a larger portion of those profits by possessing

better foresight and being more innovative. So, individual entrepreneurs or business owners who are particularly innovative can earn much larger profits than the average entrepreneur or business owner in the economy. Alternatively, entrepreneurs and business owners who are not very talented might actually incur losses. These individual profits and losses will sum up to the aggregate level of profits in the economy. This is all made clear in Reisman's discussion of his Net Consumption–Net Investment Theory of profits, which I refer to in my book.

### CHANGES IN INTEREST RATES VERSUS CHANGES IN THE RATE OF PROFIT

Ritenour's strongest objection pertains to my positive presentation of ABCT. He objects to my claim that slow and steady increases in the money supply will not generate the cycle because they can be incorporated into entrepreneurs' plans. He also states that I argue "almost exclusively that it [the business cycle] is due to an increased rate of profit due to increasing the money supply above what is expected." He goes on to say that "Malinvestments do not occur merely after entrepreneurs allegedly see profits increase due to increased spending...." He states that, as F.A. Hayek argues in *Prices and Production*, "the process begins with the increased spending of entrepreneurs due to monetary inflation via credit expansion." (p. 386 [emphasis in original])

The first point to make pertains to Ritenour's objection to my view that if increases in the money supply are slow and steady, they will be incorporated into entrepreneurs' expectations and not provide a stimulating effect. He claims that this is more monetarist than Misesian. (p. 386) However, Mises did, in fact, recognize that an increasing money supply provides no stimulating effect once it is incorporated into the expectations of economic actors. (Mises, 1966 [1949], pp. 776–777 and 792–793) I also show as a part of my defense of ABCT from the criticism based on so-called rational expectations that a slow and steady increase in the money supply will not generate the business cycle because businessmen can incorporate such an increase into their expectations and make the appropriate adjustments. (vol. I, pp. 104–105) Ritenour states in another part of his review that he considers this to be an "excellent

defense" of ABCT, (p. 384) so I am not sure why in this portion of his review he takes exception to the claim that slow and steady increases in the money supply will not create the business cycle. This phenomenon is consistent with ABCT.

One point I agree with Ritenour on is that malinvestment begins with the spending created by credit expansion. I acknowledge this in my discussion of credit expansion and interest rates. I also acknowledge that the effect of changes in spending on the rate of profit takes time to occur, since the new money must be spent and re-spent throughout the economy. (vol. I, pp. 33, 35, and 73–74) However, I do use much more space in the book discussing how spending affects the rate of profit because that phenomenon is not well understood by most economists. The process of credit expansion and the creation of malinvestment is much better understood (at least by Austrian economists). That might be why he thinks it appears that I "almost exclusively" argue that the business cycle is due to changes in spending and profit when, in fact, I do not.

The belief that I almost exclusively argue that the business cycle is due to changes in spending and profit might also come from the fact that I do place greater importance on changes in the rate of profit, relative to interest rates, in causing changes in investment than Austrian economists generally do. While some Austrian economists do emphasize the role that inflated profits play in the business cycle (for examples, see Mises, 1966 [1949], p. 549 and Salerno, 2012, pp. 5, 17, 20, and 28), as with Ritenour, they place much more emphasis on the role of interest rates.

Ritenour states that I seem unaware that the originator of ABCT, Ludwig von Mises, emphasized the importance of artificially low interest rates in causing the cycle. (p. 387) I am not unaware. But that is what makes the emphasis on the rate of profit, as I state in the book, "an advance in ABCT." (vol. I, p. 74) I provide ample evidence of the significance of changes in the rate of profit to the business cycle and yet the rate of profit has not received the attention it warrants from Austrian theorists, including its originator.

This is really a minor debate about ABCT. I am not arguing that increases in the money supply do not cause the cycle through a process of credit expansion (i.e., I am not arguing that ABCT is invalid). I am not even arguing that increases in the money supply

cause the business cycle solely through changes in the rate of profit. I am merely arguing that more emphasis should be placed on changes in the rate of profit than on changes in interest rates. Hence, Ritenour's claim that this is the most troubling weakness of the book (p. 386) is not justified. His claim here is based on a failure to see what causes changes in the rate of profit and the effects of those changes in the economy. In addition, his claim makes it appear that I am proposing radical changes to ABCT. However, my argument requires only minor changes to ABCT.

## CONFLATING INTEREST RATES AND THE RATE OF PROFIT

One of the serious errors committed by Ritenour is his conflation of interest rates and the rate of profit. He also makes a number of inaccurate statements regarding what I say about interest rates and the rate of profit based on this conflation. Understanding these errors will help improve one's understanding of these important variables and thus improve one's ability to explain the causes of the business cycle.

In my book, I make a distinction between interest rates and the rate of profit. These are two separate rates of return. The rate of profit is the return on capital invested in a business enterprise to produce a good. The interest rate is the return on funds loaned to others. (vol. I, p. 30) It is clear that these two rates of return exist in the real world. Most people have paid or received interest on money borrowed or loaned to others. That is different than the profits earned by businesses that appear as net income on their income statements. Using these profits, it is easy to calculate a rate of profit on capital invested. Return on assets and return on equity are two examples of a rate of profit.

Ritenour takes exception to what I call the rate of profit and claims that the rate of profit is actually the rate of profit I refer to minus the interest rate. He cites Rothbard (Rothbard, 2009, pp. 509–516) to help make his case. While it is true that Rothbard does refer to a rate of profit equal to the rate of profit I refer to minus the interest rate, Rothbard refers to this as "pure profits" or "entrepreneurial profits." This is the profit earned for risk taking or the uncertainty an entrepreneur faces. (Rothbard, 2009, pp. 354

and 529) However, Rothbard also refers to the rate of return that businesses earn, which is equal to the rate of pure profit plus the interest rate. (Rothbard, 2009, pp. 354 and 513–514) What I refer to as the rate of profit is this rate of return. Hence, the rate of profit I refer to is consistent with Rothbard's treatment of the subject.

It is important to distinguish between the rate of profit that businesses earn on capital invested and the interest rate because, for one thing, they both exist and identifying them can help us understand the world in a better fashion and, for another, they both play a role in the business cycle. If one conflates these rates of return, as Ritenour does, one's understanding will not be complete. For instance, one will not be able to see all the influences a change in the supply of money and credit has on the economy.

In addition, it is important to understand that businesses do not look at entrepreneurial profits to determine their return on an investment. They look at the entire return. It may be helpful for economists to use entrepreneurial profits as a conceptual tool to better understand economics. However, that is not the financial incentive motivating entrepreneurs and businessmen. I have never seen any type of financial statement analysis that subtracts costs from revenues, divides the result by the capital invested, and subtracts the interest rate from this quotient to get the rate of return that investors think they will earn.

Furthermore, in connection with this topic, Ritenour claims that I fail to recognize that a decrease in interest rates increases the rate of profit. (p. 386) This is a false statement. I recognize in the book that a decrease in interest rates can increase the rate of profit (as I use the term) by decreasing interest costs. (vol. I, p. 73) I also recognize how decreased interest rates can increase profitability by decreasing discount rates. This, of course, increases profitability by increasing the present values of investment projects. (vol. I, pp. 76–77) This effect on profitability is separate from the effect that decreased interest rates have on the rate of profit by lowering the costs of businesses.

Ritenour also claims that I treat the rate of profit and the interest rate as "completely independent" of each other. (p. 387) It should be clear that this claim is false. Part of the dependence between the interest rate and rate of profit that I demonstrate exists is discussed above. I also discuss in the book that, because the interest rate and rate of profit are competing rates of return, they influence

each other when they move too far apart. For instance, if the rate of profit increases relative to interest rates, businesses will tend to decrease their lending and increase their borrowing to finance their own investment projects, which now appear more profitable than lending money. This puts downward pressure on the rate of profit and upward pressure on interest rates, creating a tendency to reverse the initial changes. (vol. I, pp. 34–35) Clearly, there is no independence, and I never make the claim in the book that the two rates of return are independent of each other.

After inaccurately claiming that I fail to recognize how decreases in interest rates can increase the rate of profit and also making the inaccurate claim that I treat interest rates and the rate of profit as completely independent of each other, Ritenour goes on to allege that I refute my claim that interest rates and the rate of profit are independent of each other when I explain how interest rates reduce borrowing costs and thus raise profitability. (p. 388) Ritenour builds one inaccurate claim upon another and, at the same time, contradicts his claim that I fail to recognize how decreases in interest rates can increase the rate of profit.

Part of the problem is that Ritenour conflates making a distinction between interest rates and the rate of profit with saying they are completely independent of each other. The conflation can be seen explicitly when he states, “Simpson makes a hard distinction between the interest rate and the rate of profit and treats them as completely independent of one another....” (p. 387) However, there is a difference between making a distinction between two things and arguing that they are completely independent of each other. For example, a mother and a two-month old baby are two distinct living beings, but they are not independent of each other. The baby is dependent on the mother for all its needs, and there are other dependencies as well. As another example, Rothbard distinguishes between entrepreneurial profit, actual returns, and interest, but recognizes the dependencies between them. The case is the same for my treatment of the rate of profit and interest rates.

## OBJECTIVISM

Ritenour also commits the error of claiming that Objectivism—what he calls Randianism—is based on faith. (p. 388) This could



not be farther from the truth. The highest virtue in Objectivist philosophy is rationality. This means going by facts and logic. It means observing the world and using reason to reach conclusions based on a logical analysis of the facts one observes.

Faith means basing one's beliefs not on a logical analysis of the facts—not on rational evidence—but believing in something without evidence or, in fact, believing in something that stands in contradiction to the evidence. This has disastrous effects on one's ability to gain knowledge. Anything goes if one bases one's beliefs on faith.

Faith, of course, is also the method of belief employed by religion. It is well known that Objectivism stands in opposition to religion. In attempting to associate Objectivism with faith, Ritenour is attempting to throw a lifeline to faith. In essence, he is saying, "See, fellow Christians, it is okay to go by faith because the intellectual opponents of religion embrace faith, too." But the attempt to save faith is not only futile, it is cognitively harmful.

Ritenour takes a number of other jabs at Objectivism. For instance, he claims that Objectivism is quirky and strange. (pp. 384 and 395) Notice that these are not actually arguments against Objectivism; they do not logically or factually refute any aspect of Objectivism. If one is going to show that an idea or philosophical system is invalid, one cannot merely offer intellectually empty accusations as the means of doing so. Such accusations reveal nothing about whether the ideas they are directed at are invalid.

Ritenour also makes a number of related accusations, such as that the Objectivist arguments I make are unnecessary and unhelpful. (pp. 390–391) However, the Objectivist arguments I make are necessary and helpful in integrating economic ideas with more fundamental philosophical ideas, including ethical and epistemological ideas. This integration provides a much more comprehensive understanding of the world and thus a much more powerful argument for the free-market ideas defended in the book.

For instance, one issue discussed in my book and the relevant sources I cite is how statist policies that call for government interference in the marketplace—government violations of individual rights—are based on the altruist code of morality (i.e., the morality of self-sacrifice). I also discuss how laissez-faire capitalist policies

are based on the morality of rational self-interest. (vol. I, pp. 101–102, 134–135, 203, and 210–211) The links shown between these ideas help one see that free-market economics is not only practical, it is moral. Likewise, they show that statist politics and economics are not only destructive from an economic standpoint, they are immoral as well. This completely disarms the statist morally and gives the moral high ground to the advocates of capitalism.

Ritenour questions whether altruism provides the moral basis for statist policies, but when he does so, he, again, does not provide any arguments to refute my claim. (pp. 390–391) This is a pattern throughout his review. He asserts without proof and questions or rejects ideas put forward without confronting the evidence provided for those ideas. If he disagrees with an idea, his method is to dismiss it without consideration, regardless of the evidence put forth to support the idea. This is not a proper method of thinking.

## CONCLUSION

Ritenour commits many errors and makes a number of inaccurate claims about the content of my book. His most egregious error is making repeated arbitrary assertions—assertions without proof or evidence. If one is going to make a claim that something is true, he must present evidence to back up his claim. Likewise, if one is going to claim that a person's position is false, he cannot simply ignore the evidence presented for that position. He must show logically and factually why the person's position is false.

There are many other errors committed by Ritenour—in fact, I have identified eleven other errors. Unfortunately, space does not allow them to be analyzed in this article. Nonetheless, even based on this condensed response, one gets a good idea of the kinds of errors he commits. Many of Ritenour's objections appear to be based on my arguments being different from the arguments of other Austrian business cycle theorists. I encourage people not to ignore or dismiss the arguments in the book simply because they are different. If one does not do this, one will see that the ideas in the book advance ABCT and improve our understanding of the business cycle.

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## BOOK REVIEW

### *PUBLIC DEBT: AN ILLUSION OF DEMOCRATIC POLITICAL ECONOMY*

GIUSEPPE EUSEPI AND RICHARD E. WAGNER

CHELTENHAM, UK, AND NORTHAMPTON, MASS.: EDWARD ELGAR, 2017, 192 PP.

KARL-FRIEDRICH ISRAEL

Professors Giuseppe Eusepi of Sapienza University of Rome in Italy and Richard E. Wagner of George Mason University have added another book to the already extensive list of literature on the political economy of public debt. The purpose of their book is to correct two major flaws in the existing literature. First, they argue that it is “pure illusion to treat a democratic regime as being indebted.” Second, they try to show that it is “pure mythology to treat so-called fiscal policy as the means by which governments manipulate public debt to promote systemic stability” (Eusepi and Wagner 2017, p. vii). Surely, both claims will strike the average reader as bold and by no means self-evident. They require analytical

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substantiation and clarification of terms. What exactly is illusory and mythical about the indebtedness of democratic regimes and their fiscal policy? Eusepi and Wagner's analysis spans 164 pages separated into 6 chapters.

In the first chapter of the book, the authors provide a very brief overview and some fundamental criticisms of the conventional macroeconomic approach to fiscal policy and public debt. The legacy of Keynes's *General Theory* in putting deficit spending at the forefront of fiscal policy measures to promote macroeconomic stability and full employment is well known and has been widely discussed among modern economists. Eusepi and Wagner argue that treating "political activity as a balance wheel to offset changes in private activity is overwhelmingly at work in contemporary political economy" (p. 7) and critically add "that the image of the balance wheel reflects the hold of myth and not the power of logic and observation." According to the authors, underlying the balance wheel view is a "mythical" as opposed to a "realistic" type of theory, because it is merely "postulating" instead of actually "generating" the outcomes under consideration. In their view, the conventional "theory contains no explanation grounded in individual action that is able to generate the observed result." In other words, it lacks *microfoundations*.

The authors themselves draw the connection to the famous micro-foundations debate in modern macroeconomics. However, following Kirman (1992), they argue that representative agent analysis has not actually solved the problem, but only added another layer of "mythical" thinking. In this respect, one might say that Eusepi and Wagner are close to the "ultimate in microfoundationalists," a label Hartley (1997, p. 107) used to describe Austrian economists in the Misesian tradition. Yet, the book is not a contribution to the latter, but rather to public choice theory.

The authors' main point of contention seems to be that fiscal policy and public debt do not actually serve as a balance wheel, regardless of whether policy makers should try to use it as such. They do not engage in prescriptive policy analysis. Rather, they try to explain fiscal policy as an emergent phenomenon. They argue that a theoretical framework for the explanation of policy measures that we observe around us must take due account of the actual institutional environment within which the relevant actors make

decisions, and needs to abstain from idealizing assumptions about their underlying motives. Eusepi and Wagner put themselves in the tradition of *The Machiavellians* (Burnham, 1943), including Niccolò Machiavelli himself, Gaetano Mosca, Roberto Michels and Vilfredo Pareto, who did not idealize politics, but treated it, arguably more realistically, as a struggle for power. In particular, they build upon the work of Antonio de Viti de Marco.

The authors do not intend to contribute to modern macroeconomics, but explicitly to the political economy of public debt. They hold that a “realistic line of analysis [...] cannot rest content with positing relationships among aggregate variables, for to proceed in this fashion is to make it impossible to generate insight into the causal forces that are in play within a society” (Eusepi and Wagner, 2017, p. 32). Moreover, they explain that what they call “realistic” analysis is akin to Peter Boettke’s (2007) “mainline” in economic thought. The latter provides a broader and more encompassing perspective on social phenomena than conventional macroeconomics. It includes, for example, analyses of the relevant political regimes. In chapter 2, Eusepi and Wagner thus develop some preliminary thoughts on the differences between monarchical and democratic regimes as well as some implications for the analysis of public debt.

According to the authors, debt in monarchical regimes, where state activities are financed out of income from royal property, can analytically be treated just like debt in any individual case. Monarchs would certainly be more powerful than regular persons, but they remain individuals that manage their private property and take credit using their own property as collateral. The authors mention that the “macro literature contains many references to sovereign debt and the possibility of sovereign default” and claim that this “literature is reasonable for monarchical and dictatorial regimes, but it is not reasonable for democratic regimes” (p. 39). They argue that the “theory of choice is a useful framework for personal debt as well as for a monarch’s debts. It is not, however, generally useful for democratic debt because democratic debt emerges through some institutionally governed process of interaction” (p. 38).

While democratic debt may indeed emerge out of a somewhat more complex process, in which many individuals, negotiations and political bargains are involved, it strikes the reviewer as a rather odd claim to deny that the theory of choice is a useful framework for its analysis. After all, taking out a loan to finance

public expenses, or increasing taxes as an alternative, is always a matter of choice on the part of government officials, regardless of the political system. It might be true that the theory of choice as such does not tell us very much about the subject matter, but that would also be the case when analyzing the indebtedness of monarchical regimes. A detailed analysis of the structural differences, that is, the institutional circumstances and incentives, under which representatives of democratic governments on the one hand and monarchs on the other make decisions, is required. Different arrangements of property rights are in fact a key issue. Put differently, monarchical debt also "emerges through some institutionally governed process of interaction," although it is a very different one.

Eusepi and Wagner recognize the role of property rights and briefly discuss their relationship with taxes, the latter being the most important source of finance for democratic regimes. According to the authors, taxes represent an infringement upon private property rights or a transfer of property rights from private citizens to public officials, depending on what view of democracy is underlying the analysis. They move on, focusing mainly on the differences between the idealized version of democracy as self-governance, in which property rights are voluntarily transferred by consent, and its actual features in the real world, which include varying degrees of coercion. In reference to Schmitt (1996), they argue that power and subordination are relevant features of all political systems, but "democratic regimes generate mythologies that disguise that power by invoking an ideology of self-governance." However, "power operates all the same." (p. 40)

While this is a very important point, the authors overlook that the masquerade of power and despotism in democratic regimes is just an instance of a more general phenomenon that is not unique to democracies. Whoever is in power under whatever political system has an incentive to create and spread an ideological justification for their position in order to protect it. This is as true for democratically elected officials as it is for monarchs or dictators. Take North Korea and the personality cult around the Kim family as a timely example of a hereditary dictatorship.

In the third chapter of the book, the authors provide some further discussion of what characterizes the democratic process of political decision making. In particular, they suggest that

an economy is better thought of as an “ecology” instead of an “engine.” The former view stipulates a system that comprises multiple economizing agents and allows for a realistic analysis of the subject matter, while the latter view pictures an economy as a machine constructed for a specific purpose. It is congenial to the mythical mode of analysis in modern macroeconomics. Chapter 3 picks up some of the thoughts from the beginning of the book and provides a transition towards the analysis of public debt under two types of democracy that follows. The subsequent chapter focuses on what de Viti de Marco (1936) called “cooperative” democracy, an idealized system that reflects the consent of the governed and represents an analytical benchmark. Chapter 5 covers public debt under “monopolistic” democracy, a more realistic form of democracy, which generates “gains for some people by imposing losses on other people” (Eusepi and Wagner, 2017, p. 85).

At the core of their argument lies the idea that public debt in democratic regimes does not follow the same principles as private debt under private law, namely, the principles of private property and freedom of contract, precisely because public debt generally emerges at the expense of some people, that is, against their will. The authors claim that “public debt falls within the rubric of public law and public ordering,” (p. 84) which operates differently, since it allows for coercive property transfers.

Chapter 4 starts with the benchmark case of public debt under the ideal of cooperative democracy. The conclusion should be straightforward, but is not drawn explicitly in the book. If state activities always reflect the consent of the people, there is no difference whatsoever between private law and private ordering on the one hand and public law and public ordering on the other. State activities would fall under the nexus of voluntary and mutually beneficial exchange relationships. In reality, however, the benchmark condition of consent is virtually never met. The authors still regard it as a useful point of analytical departure against which to compare real-world monopolistic democracies.

Eusepi and Wagner try to provide what they call a “canonical model of democratic debt” and explain that a

truly explanatory theory of democratic debt within the framework of a cooperative state must be able to explain the emergence of public debt



from an initial situation where such debt did not exist. The model of the cooperative state requires that we explain how a set of people might choose to create public debt, just as it must explain how a set of people will agree to tax themselves. Otherwise, all one can do is start with the existence of debt or taxation and assert that this prior existence reflects the consent of the governed because the analyst presumes that consensus is an inviolable property of democracy. (pp. 85–86)

Now, interestingly, the authors are of the opinion that a meaningful notion of public debt is very difficult to conceive even within a cooperative state, or at least, that it is not plainly obvious how public debt could emerge under such a state. This is surprising. Indeed, the assumption of perfect consent is entirely heroic when it comes to actual nation states as they exist, but if we decide to start with that assumption for analytical purposes, it is not very challenging at all to explain the emergence of public debt, that is, a debt contract for which all citizens of the state collectively pledge to pay back a loan plus interest over some period of time.

All citizens might agree, given their time preferences, that it is preferable to finance some desirable government project not out of savings and their current incomes, but via a loan that they promise to repay out of future income. In order for the people truly to be indebted collectively, the creditor must come from outside. Otherwise, only a subgroup of the people would be indebted while the rest would not. Analytically, there would be no difference between this case and, for instance, a married couple taking out a loan together to purchase a house. Of course, it is not the husband who gives a loan to his wife, or vice versa, but there has to be an external creditor for the couple to be collectively indebted.

The word tax might not be very helpful when describing the sum of money voluntarily given to pay back the loan, but this is a semantic issue, not a substantive one. In fact, all taxes paid under a cooperative state would be voluntary payments made because the expected benefit of the government projects so financed exceeds the opportunity costs from the individual perspective of every person in the community. We would be entirely in the realm of private ordering based on the principles of private property and freedom of contract. This is the implication of the assumption of consent, but it goes without saying that it is not “an inviolable property of democracy” in the real world.

Eusepi and Wagner do not provide such a general and simple analysis. Instead, they give the example of a town that by consent of the inhabitants decides to build a dam. They invoke all kinds of complications in the form of disagreements among the citizens about how to finance the dam. Some might prefer to pay the tax directly out of current income or savings. Others might prefer to take out a loan. In such a scenario, the town would of course not collectively go into debt. Only some citizens would, collectively in subgroups or individually. Other citizens of the same state might even become their creditors. This would not be an instance of public debt as described above.

Eusepi and Wagner argue that when the town's council decides to issue bonds to finance the dam, it would inevitably replace private ordering by public ordering (p. 88). However, the authors forget that under a cooperative system, it can do so only if every citizen gives consent. In such a case, we would remain within private ordering. What the authors convincingly convey, however, is that when we relax the assumption of cooperative democracy, which they implicitly do already in their discussion of the benchmark case, various problems with respect to public debt arise. These include that some inhabitants may be forced against their will to pay back a sum of money that government officials have borrowed to finance projects they themselves disapprove of. This precisely is the problem of political power.

The relevant question then is how can we approach the limiting case of cooperative democracy without coercion? Eusepi and Wagner make the important observation that as "a practical matter of democratic operation, the ideal of a cooperative democracy is surely limited to relatively small-scale democracies," which is why they work with the example of a town "that contains a few thousand people at most, and where people can easily and nearly costlessly move somewhere else if they choose to do so" (p. 86).

The obvious conclusion seems to be that the right of opting out of public programs, including full-blown secession for sub-communities, must be granted in order to approach cooperative forms of governance. However, the authors do not dwell on this point. It is ironic that these rights exist, for example, in the monarchy of Liechtenstein.

Approaching the cooperative state is not primarily a question of public debt. Yet, it is reasonable to assume that genuine public debt would be extremely low, if it existed at all, under a cooperative state. Again, the tiny monarchy of Liechtenstein has practically no public debt outstanding. The authors conclude the fourth chapter by claiming that “de Viti’s ideal of a genuinely cooperative state is a limiting case that is difficult even to approach with respect to public debt, though it might be more easily approached without public debt” (p. 110). This might be true, but public debt ultimately does not seem to be a cause of non-cooperative or monopolistic governments. Quite to the contrary, it is, at least in its excessive form, one important effect of monopolistic governments. There are numerous problems involved in public debt, and it exists in such large quantities, because virtually all governments are monopolistic in de Viti de Marco’s terms.

Chapter 5 explicitly turns to the analysis of public debt under monopolistic democracies. In reference to Mosca (1939) and Pareto (1935), the authors hold that for “the most part, actual democratic systems operate in monopolistic fashion, meaning that they entail the dominance of a relatively small number of people over larger numbers” (Eusepi and Wagner 2017, p. 111). The authors explain that “people differ in their interests in and talents for acquiring political power. Possessing and wielding power will be more attractive to some people than to others. In this setting, political activity will become the province of subsets of people within any geographical territory.” Following Mosca, one might call this relatively small number of people the *ruling class*. For these people, public opinion and sentiment are the most important sources of power as explained, for example, in Wieser (1926) and de Jouvenel (1948). The characteristic feature of power, not only in monopolistic democracies, but in any political system, is that those who “hold positions of power can [...] distribute costs and gains among the population over which they rule” (Eusepi and Wagner, 2017, p. 112).

According to the authors, debt contracts of monopolistic governments never reflect the will of all the people, but merely the will of some. Given that most actual states are monopolistic rather than cooperative it becomes clear what the authors could mean by calling public debt an “illusion.” It is illusory to take public debt for what the generated ideological tale of democracy as self-governance

would have us believe. Public debt does not emerge out of consent, but is imposed upon the people by the ruling class that has successfully provided “ideological formulations that resonate with voter sentiments, such that people can support measures they would have opposed had they engaged truly in logical reasoning” (p. 130). This could include increased deficit spending.

More precisely, the burden of debt is imposed on a subgroup of the people. After all, there are also supporters of deficit spending among the electorate, and it is strictly speaking impossible to say, whether their support for public debt truly stems from a lack of logical reasoning as Eusepi and Wagner suggest. As a matter of fact, it might stem from perfectly logical reasoning. It is of course possible to personally benefit, directly or indirectly, from public debt. The authors do not consider this possibility. They realize that public debt virtually always “creates both voluntary and involuntary debtors” (p. 153), but even more importantly it creates voluntary creditors, who bring themselves in a position to benefit from the government’s power to tax. Others may benefit from public debt indirectly, when they become recipients of the additional government spending made possible by debt finance.

Under monopolistic democratic rule, public debt becomes a tool of power. Eusepi and Wagner correctly emphasize that it covers up a redistribution of wealth behind “illusory” slogans and “ideological images” such as “we owe it to ourselves” (p. 163). The authors point out that the bulk of public debt is in fact not even made explicit through the sale of bonds, but remains implicit in the form of other liabilities that the governments hold, for example, social security programs. They call this implicit public debt a “systemic form of collective lying” (pp. 138–141). They argue that it “is systemic and not personal lying because it is an emergent quality of a system of public ordering more than a quality of any politician, though it is also easy enough to find lying politicians, just as it is possible to point to lying business people for that matter.”

However, it seems rather odd to call lying a quality of a system. Here, the authors have forgotten, for a very brief moment, their ultra microfoundationalist inclinations. It is always individuals that lie, and if the system of public ordering encourages lies for personal benefit and the benefit of selected parties, it will attract opportunistic characters ready to tell them.

In the final chapter of their book, Eusepi and Wagner conclude that “there can be no such thing as public debt in a democracy because a democracy is not a sentient creature.” And furthermore, they claim that there “is no public that can pledge its wealth in exchange for credits from other people” (p. 163). Taken as such, these claims are exaggerated and slightly confusing. It is true that a democracy is not a sentient creature, of course, but neither is a monarchy. Democracies are composed of sentient creatures, if you like, and it is conceivable that they unanimously engage in a debt contract and pledge their wealth as collateral. It might be very unlikely to observe in any given community of a certain size, since such an arrangement would imply a socialization of personal default risk, but it is not impossible.

However, it is clear that much of the image of public debt, generated in ideological discourse is completely illusory. Professors Eusepi and Wagner have provided a fair number of arguments to substantiate this somewhat adjusted claim. The reviewer would hold that public debt is not an illusion of democratic political economy, but simply a very different creature from what it is made to be.

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## BOOK REVIEW

### *COMMUNITY REVIVAL IN THE WAKE OF DISASTER: LESSONS IN LOCAL ENTREPRENEURSHIP*

VIRGIL HENRY STORR, STEFANIE HAEFFELE-BALCH, AND LAURA E. GRUBE  
NEW YORK: PALGRAVE MACMILLAN, 2015, 193 + XII PP.

MICHAEL R. MONTGOMERY

When a community is hit by a disaster, how can it recover? What choices of that community enhance (or hamper) revival? These are some of the interesting questions considered about the economics of mega-disaster.

This volume (and the deep scholarly work that led up to it) was inspired tragically by major disasters around the globe over the last twenty-five years. Such disasters, of course, are not unique to our time. Quite the contrary: In the middle of the nineteenth century, John Stuart Mill, writing in the *Principles of Political Economy, Book 1, Ch. 7*, remarked on how often devastated communities could recover

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rapidly in the face of extreme tragedy. Mill's explanation focused on the accumulation of surplus capital (i.e., saving). A community that has accumulated significantly more capital than other communities will be able to withstand truly devastating events more successfully than can the average community. Mill's simple insight helps power modern research that seeks to discover why some stricken communities outperform other ones in striving to recover from disaster.

Up to this point, we have used Mill's capital concept narrowly. Let us now widen our concept of capital to include the social relationships inherent in communities. When we look carefully at these relationships, we detect complex communal connections of both business and social character.

One popular definition of "Social Capital:" is by Pierre Bourdieu: "Social Capital is a resource that facilitates collective action for mutual benefit...." Another is: "Social Capital comes in the form of social networks, norms, and narratives..." Woolcock (2001). Our authors emphasize "...bonding social capital... that exists among like-minded homogeneous groups...." The components of such ties might reasonably be referred to as social capital. Some of these recognized components are:

"Alertness" and the role of the entrepreneur: This is the ability to taste—so to speak—new wine in old wineskins. Our authors put forth good explanations of the two concepts (Chapter 2; pp. 12–16), with similarities and differences described between Kirzner's entrepreneur and the closely related Schumpeterian concept.

However, if "alertness" alone falters, then it is nice to have something else to fall back on—such as market forces. The authors, like most economists, believe in the power of market forces, which are still seen as crucial in finding a robust equilibrium. The authors are also happy to work with an "in-kind" model of remuneration.

The scholarly reader will appreciate the round-up of the several meanings that capture and compare the different shades of entrepreneurship concepts; e.g., social entrepreneurship, ideological entrepreneurship, public sector entrepreneurship, and Schumpeterian entrepreneurship. The authors allow us to treat these various flavors of entrepreneurship as close cousins.

Chapter 2 is what we could and should rightly call a *theory section* because it drives the main argument of the book. Its title,



"The Entrepreneur as a Driver of Social Change," encapsulates its meaning perfectly. The roots of most of this particular research derive from earlier work by Joseph Schumpeter and Israel Kirzner. and the authors furnish an excellent review of that literature.

Chapter 3 opens with an insightful game theory model illustrating how one might productively choose a decision path if faced by a "should I stay or should I go" situation due to a catastrophe. To make an informed decision, a "player" would need to be able to judge the likelihood of other players staying in the area. If only a few are staying, then our "player" should probably leave the area as well. But what if others who are announcing false plans too? How does our "player" get the necessary information as to others' true intent?

One's ability to "tap" the network would make it easier to analyze the situation and possibly make a joint decision with others about whether to leave or stay. A "loner" would have fewer signposts. Lacking fresh information, he or she "would not know how others in the area are thinking. They would not know about all of the 'unsettled facts' that would, in normal times, be routinely available to guide those who are uncertain into a rational decision-choice.

Social capital carries with it enough knowledge about local events to help in making such a fateful decision. The entire community's comprehensive knowledge base (i.e., network) is put to work on a pressing problem.

So. To stay or to go. Specifically, should we abandon our homes and move away, or should we try to rebuild?" It turns out that sharing of information among affected parties is crucial, due to what is known or not known by the other "players." If we know what the "leaders" in the community are most likely to do, it makes it less risky to the "follower" players to act accordingly.

What then about governments as cure for the crisis? In the eyes of many, only government can be effective enough to generate the large-scale coordination between both the private and the public sectors that are often needed in the wake of a large disaster. However, the authors suggest that a key cause of slower-than-expected recovery is more expansionist government policies—such as, for example, ridiculously harsh wage-and-price-control policies, as initiated aggressively by the governors of both

New York state and New Jersey. The authors have documented numerous incidents where regulations make it harder, not easier, to get back to something approaching “normalcy.”

With that foray behind us, the authors take us crisply through the burgeoning social-capital literature. They then attach that literature to the topic of “mega-disasters:” how victims can be helped, and how the “heroes” of such a story can be freed to help. Researchers have consistently found a positive relationship between various types of social capital and various measures of societal well-being. They also report a positive correlation between economic growth and social capital.

Unlike machinery, social capital usually normally resides—at least in part—in the human consciousness. Thus, things can be changed up very quickly. Incentives are even more important than in other dynamic situations.

In the case of disasters, the authors play down somewhat the incentives that focus strongly on financial gain, and instead emphasize a more-broad-based concept of “reward.” Their “feed-back” mechanism includes things like social prestige and other such things, from which “high status” in the society may be achieved (p. 28). The authors sort of skip by this fairly radical adaptation, and with this adaptation, has the model morphed into a full-scale sociological one?

The authors make a strong case for their position that well-utilized social capital can make an important difference in the wake of a general disaster (p. 38). In one of the stronger portions of the book, the authors present other findings that corroborate their own findings. This is a very well-developed body of research indeed—and the authors should be congratulated for their body of work (pp. 38–42).

The authors emphasize the common-pool problem, preaching that “A community’s capacity to rebound is related to its capacity for self-governance” (p. 43).

Another theme emphasized by the authors is the superiority of *polycentric orders* versus a *monocentric* order. In a crisis, substantial uncertainty emerges as to what path should be taken. Different opinions will naturally emerge. Through differences of opinion, it is more likely that a better path will be discovered through

simple trial and error. By contrast, if governance is by rules of a rigid authority, then it will be all the more difficult to find, through experiment, a useful path. Otherwise, we risk wasting precious time and resources, including social capital.

But how—assuming that disaster has struck and the citizenry must face stark and unpleasant choices—can it get out of the disaster? The authors argue that it is precisely at this point where the entrepreneurial spirit is needed most. What is needed are private citizens who are willing to lead, to encourage, to raise spirits. It is here, the authors say, where entrepreneurs need to say: “Help the community members overcome the collective action problem that plagues community rebound!” The authors see entrepreneurs as fulfilling at least three crucial functions (p. 46): providing needed goods and services; restoring of social networks that have deteriorated during the crisis; and their appearance sends a “Let’s go!” signal to other parties who might be hesitating. To some extent, this is the familiar “pulling yourself up by your own bootstraps” story.

We turn next to the energetic and remarkable efforts of those broadly conceived “agents of entrepreneurship” whom the authors identify as the “heroes” of the book.

How is it possible to supply a disaster area privately in the wake of massive destruction? First of all, in a free market, one might expect market forces to do much of the initial job, augmented by entrepreneurs and any remaining social networks. After that initial spurt, buying and selling would surely continue, though at considerably higher prices due to widespread shortages. From this point on, one would expect some social capital networks would that would be coming-online. They would make the initial “profit” also. Skilled labor would enter the area quickly, sensing a profit opportunity. A true devastation would of course be unable to easily return to normal, and the stronger medicine of, let us say, social networks and entrepreneurship. Similar things were observed by the authors in their extensive research on the two storms.

In the 9<sup>th</sup> Ward in New Orleans, skilled labor and entrepreneurs came together, more or less spontaneously, to help—no questions asked. Similar successes also sprung up in the disaster areas of New York and New Jersey. Entrepreneurs (in the broad sense)

sprang into action, and in many cases their actions encouraged the despairing and created action where otherwise there would have been little action.

Chapter 6, “Regrowing Uprooted Social Networks” looks at the recovery of the devastated areas and observes steps that seemed to be helpful in bringing these areas back. The reader meets many of the “heroes” of this tale, and there are many. One challenge to those seeking to bring these areas back, was, surprisingly(?) “help” from government, which often earned poor marks. The tales told a fair share of circumstances where “for their own good” entrepreneurs were not allowed to take steps that they themselves felt were needed. Often, they lost those battles with government. This chapter opens the discussion as to how social capital can be created. The authors primarily use real-life examples, making the narrative more interesting. The remarkable flexibility and reorganizational features of social capital is how easily it can be transferred from one situation to a different one.

Many different skills are useful in the process of creating social capital. The “re-building process” surely must be one of the keys of social capital in the wake of a devastating catastrophe. The heterogeneous nature of social capital is one of the keys of its success. Similarly, such capital has many uses and has great flexibility. If a “hole” in the social-capital fabric opens, social capital can make repairs by calling upon skills of other members of the “social-capital chain.”

Ending this book are a few policy recommendations culled from the authors’ study. They suggest the following guiding lights.

Policymakers should ... instead of embracing top-down concepts, instead ensure that our entrepreneurial actors have the space to act.

Eliminate, suspend, or simplify the rules that hamper the entrepreneurial spirit, especially in a true crisis.

In conclusion, the authors suggest a simple, but powerful idea: entrepreneurs are agents for social change, especially so in natural disasters.

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## BOOK REVIEW

### *CHINA'S GREAT MIGRATION*

BRADLEY M. GARDNER

OAKLAND, CALIF.: INDEPENDENT INSTITUTE, 2017, 220 + XII PP.

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Bradley Gardner is a research fellow at the Independent Institute and Foreign Service officer with the U.S. State Department. Prior assignments include Research Analyst with the China office of *The Economist Intelligence Unit*; Managing Editor of *China International Business* and Editor-in-Chief for *China Offshore / Invest In*; and writer for *Czech Business Weekly*. He earned a B.A. in Chinese from the University of Southern California and an M.A. in Humanities from the University of Chicago.

This book has forty pages of endnotes and bibliography. Since I spent about a dozen years as a faculty member and researcher in China, I read this book carefully. There is a lot of detail here, and a style of writing we would expect in periodicals, instead of being the style of an economist. Indeed, the author's education is

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not in economics. The major theme explored is how a very large migration of people came from the Middle and Western China to more industrial and urban areas, especially in East China, where their labor was used more productively. Without the capital and entrepreneurship factors of production, none of this would have happened, but the author seldom uses economic terminology. China's economic transformation included the state's share of employment dropping from 60.5 percent in 1998 to 19.4 percent (Gardner, 2017, p. 2). China does not have the perfect public policy, as no nation does. Yet there were some matters that China had right, which allowed hundreds of millions of people to substantially improve their lives, in a relatively brief time span (p. 3).

This book has been written for the Chinese who have migrated to places of greater opportunity, compared to the migrants' former lives as farmers. Some of the foreign-owned major factories have taken "nearly every employee willing to work for the sum they're willing to pay" (p. 5). Between 1978 and 2012, "more than 260 million economic migrants" moved to urban centers (p. 5). China's national government has loosened up legal requirements about where Chinese citizens can move. The provision of schools, health care and other basic amenities for migrant families has been slow in coming sometimes, but it has come. Yet, "migration is by no means the only reason for the Chinese economic miracle," though it does give an insight into how policies are implemented in China (p. 7). The increased share of private sector jobs, compared to public sector jobs, dovetails nicely with the increased migration freedom within China (pp. 7–16). Rural land reform allowed labor to be used more efficiently, since less labor is needed to till the soil. The labor freed up could then migrate to more efficient uses of this important human resource. Indeed, the redistribution of land resulted in an increase of agricultural output. Loosening of *Hukou* requirements allowed more freedom for citizens to work in other areas of the country, aside from where they were born (pp. 8–9 and 13–33).

Rail transportation is essential and widespread in China. For example, in the Spring Festival travel season of 2016, snow caused about 100,000 passengers to become stranded at the Guangzhou train station. This predicament necessitated the presence of some 5,000 police officers to keep order (p. 4). With one of the factors being labor migration, three examples of cities that experienced

great growth between 1980 and 2010 in population are: Beijing, which expanded from 9 million to 21 million; Shanghai, which grew from 11 million to 20 million; and Shenzhen, which increased from 300,000 to 10 million (p. 37). The author did not include Guangzhou, which now has 40 million people, and some other large cities.

The author discusses the phenomena of special economic zones as it relates to the commercially thriving city of Wenzhou. Though, Wenzhou is certainly not the only special economic zone. A special economic zone is within Mainland China but it allows for tax incentives and other inducements to attract foreign capital. Entrepreneurs can borrow through the formal banking system and through the informal finance system, such as pawn shops, which deal sometimes in the equivalent of millions of US dollars. Mortgagees may be handled by these firms, in supplying capital to businesses. This type of firm is prevalent in Wenzhou (pp. 58–62). The author states that he believes the capital investment in Wenzhou has been an attraction for many migrant laborers (p. 66). Elements of capitalism are all over China. Any economist can see that readily. Furthermore, Gardner makes the preposterous statement that Wenzhou is the most libertarian place in China. The truth is that there are no libertarian places in China. In Wenzhou, as with other places, there is one party rule, strong gun control, and strong drug control that punishes dealers but treats drug abusers as having a health problem (the government helps drug abusers get off the drugs, through mandatory treatment). Again reminiscent of the style of popular news magazines, Gardner is loose with the facts. In China only a small percentage of people are allowed into the Communist party, or allowed to have any say at all in picking top leaders, and I do not think libertarians would go for that. Gardner does not have a precise writing style at all.

Nobel Prize-winning economist Arthur Lewis points out that in the presence of less expensive labor, capital invested in a project has a high return on investment (R.O.I.). Yet at some point the seemingly unlimited pool of available labor may start to somewhat diminish. Then the R.O.I. for capital would decrease as the complementary labor available decreases (p. 78).

Improvements in infrastructure in rural areas of China have resulted in a lifting of the quality of life. Part of this is the ability



for rural producers of agricultural and other goods to reach coastal markets (pp. 81–82). The manufacture of electronics and solar energy products is especially strong in China in comparison to other countries, and complementary labor and capital have made this possible (pp. 82–92 and pp. 95–96).

Continuing migration begets increased urbanization, which has resulted in a significant, new urbanization plan for China in 2014 (p. 102). Increased attention to health care in both rural and urban areas came about due to the SARS epidemic in 2003. SARS is the acronym for severe acute respiratory syndrome, (p. 111.) (I acquired SARS in 2003 but because I was middle aged, as opposed to being elderly or an infant, I recovered after being hospitalized.) A stronger economy, compared to before, allowed China to provide better education in rural and urban areas (pp. 115–116). Both unskilled and highly educated labor contribute to the economy. China has both types of labor, as does the US. Yet, relative to the US, China has more labor that is less formally educated (pp. 162–165). The ability to ship goods over the oceans has allowed both countries to benefit from these different types of labor.

*Kong zi*, commonly known as Confucius in the United States, is the central person who has influenced Chinese culture, even today. Yet neither *Kong zi* nor Confucius is ever mentioned in the book. When Mao passed on, his “little red book” also went away. Today the Chinese government has encouraged the use of *Kong zi* as a philosophy for the lives and institutions of the Chinese. In fact, books by Confucius are recited in public in mass groups. It is truly amazing that an author would not bring out the fact that Confucian thought is the most important value in Chinese culture, including ones in and outside of so-called Communist China. Gardner is thinking superficially about Chinese culture. Economists commonly view strong cultural influences as important factors in determining how economics or any other phenomena are approached in a country. Confucian philosophy includes the obligations that different members of society have with one another, obligations beyond profit maximization. The concept of what is good for the group is part of this. Some Western entrepreneurs have noted that this matter is important in determining the final agreements with Chinese partners. For example, decisions involving the construction of a plant must take into account how that affects other plants

managed by other companies. The emphasis on competition is less in China than in many other countries. Also, Confucian philosophy far outweighs the philosophy of foreigners, such as that of Marx (a German, after all).

Despite the exclusion of discussion of the philosophy of *Kong zi*, and many other basic details about China and economics, this book is entertaining and insightful. This is because the huge migration of Chinese from farms to urban manufacturing centers is a key to understanding recent years and is a continuing phenomenon inside China today. Also, there is the sad reality of prison labor, used in some manufacturing, which Gardner failed to mention.

## BOOK REVIEW

### *THE EURO: HOW A COMMON CURRENCY THREATENS THE FUTURE OF EUROPE*

JOSEPH E. STIGLITZ

NEW YORK: W.W. NORTON, 2016, XXIX + 416 PP.

DAVID GORDON

As Joseph Stiglitz sees matters, the euro suffers from a fatal flaw. The euro is the currency of 19 European countries; and common money blocks efforts of nations that, according to Stiglitz, need to devalue their currencies. More generally, attempts to restrict government control of the economy arouse the wrath of this implacable enemy of the market.

As he explains,

When two countries (or 19 of them) join together in a single-currency union, each cedes control over their interest rate. Because they are using the *same* currency, there is no exchange rate, no way that by adjusting their exchange rate they can make their goods cheaper and more attractive.

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Since adjustment in interest rates and exchange rates are among the most important ways that economies adjust to maintain full employment, the formation of the euro took away two of the most important instruments for insuring that. (p. 87)

This limitation on government policy is more than a theoretical possibility. The Troika (European Commission, European Central Bank, and International Monetary Fund), influenced by nefarious German bankers, insist on “sound” money, much to the distress of Greece and other countries in need of economic stimulus. Making matters worse, the Troika demands that these countries raise taxes and slash government services, in order to reduce their huge debts. If these demands are refused, the Troika threatens to cut off further loans to the ailing governments.

If the euro is not to Stiglitz’s liking, the gold standard is even worse:

America’s depression at the end of the 19th century was linked to the gold standard... with no large discoveries of gold, its scarcity was leading to the fall of prices of ordinary goods in terms of gold---to what we today call deflation.... And this was impoverishing America’s farmers, who found it difficult to pay back their debts.... So too the gold standard is widely blamed for its role in deepening and prolonging the Great Depression. (p. xii)

Stiglitz fails to note that many of the strongest defenders of the gold standard, e.g., Jacques Rueff, strongly condemned the gold exchange standard that prevailed in the 1920s. But never mind his historical mistake; let us concentrate on the most essential issue. Why does Stiglitz think that people cannot adjust to falling prices? Why must government control the money supply and, more generally, regulate the free market?

Here we arrive at the key to Stiglitz’s thought. He is a Nobel laureate, according to many the most important economic theorist of his generation, and he claims to have *proved* that an unregulated free market must almost inevitably fail.

There is an abstract theory (called the Arrow-Debreu competitive equilibrium theory) that explains when such a system of unrestrained competitive markets might work and lead to overall efficiency. It requires markets and information that are far more perfect than that which exists anywhere on this earth.... The circumstances that they [Arrow

and Debreu] identified where markets did not lead to efficiency were called *market failures*. Subsequently, Greenwald and Stiglitz showed that whenever information was imperfect and markets incomplete—essentially always—markets were not efficient. (pp. 303, 335, note 33)

Stiglitz's criticism of the market rests on a false assumption. General equilibrium theory describes an artificial situation irrelevant to the actual working of the market. (The conditions resemble what Austrian economists call the evenly rotating economy [ERE].) On the free market, the wish to earn a profit induces producers to meet consumers' demands. We grasp how this process works through simple common sense reasoning. As Mises explains,

This state of equilibrium is a purely imaginary construction. In a changing world it can never be realized. It differs from today's state as well as from any other realizable state of affairs... it was a serious mistake to believe that the state of equilibrium could be computed, by means of mathematical operations, on the basis of the knowledge of conditions in a nonequilibrium state. It was no less erroneous to believe that such a knowledge of the conditions under a hypothetical state of equilibrium could be of any use for acting man in his search for the best possible solution of the problems with which he is faced in his daily choices and activities. (Mises, 1999 [1949], pp. 707, 710–711.)

Stiglitz would no doubt respond with derision. For him, mathematical models trump common sense reasoning. As he remarks elsewhere,

The standard theorems that underlie the presumption that markets are efficient are no longer valid once we take into account the fact that information is costly and imperfect. To some, this has suggested a switch to the Austrian approach, most forcefully developed during the 1940s and later by Friedrich Hayek and his followers. They have not attempted to 'defend' markets by the use of theorems. Instead, they see markets as institutions that have evolved to solve information problems. According to Hayek, neoclassical economics got itself into trouble by assuming perfect information to begin with. A much better approach, wrote Hayek, is to assume the world we have, one in which everyone has only a little information.... The new information economics substantiates Hayek's contention that central planning faces problems because it requires an impossible agglomeration of information. It agrees with Hayek that the virtue of markets is that they make use of the dispersed information held by different participants in the market. But information economics does

not agree with Hayek's assertion that markets act efficiently. The fact that markets with imperfect information do not work perfectly provides a rationale for potential government actions.

Stiglitz "gives it away" in his last two sentences. The free market is deemed faulty because it falls short of the artificial standard of general equilibrium "efficiency." Where the free market is concerned, Stiglitz is a hanging judge.

Stiglitz has another argument to deploy against the free market, one that does not rely on the standard of competitive equilibrium. Keynes has shown that the free market needs to be propped up through government spending in order to maintain full employment. "An economy facing an economic slump has three primary mechanisms to restore full employment; lower interest rates, to stimulate consumption and investment; lower exchange rates, to stimulate exports; or use fiscal policy—increasing spending or decreasing taxes.... I have just described the standard Keynesian theory on economic downturns." (p. 94–95). It is significant that here Stiglitz does not require a mathematical model that proves Keynesian stimulus policies must work. What happens, e.g., if people fail to spend—in the manner that Keynesian theory assumes—the money they receive to stimulate consumption?

But why might fiscal stimulus not work? Here Benjamin Anderson and Robert Higgs, among others, have a convincing response. Uncertainty about what the government might do leads investors to lack confidence. If so, Keynesian stimulus will fail. What is needed instead is a "business-friendly" policy from the government. Stiglitz's objection to this line of reasoning should by now be obvious. No mathematical model supports it: "There is a persistent view that confidence can be restored if governments cut deficits (spending), and with the restoration of confidence, investment and the economy will grow. No standard econometric model confirmed these beliefs." (p. 384, note 41) Stiglitz does not point out that there is substantial historical evidence, e.g., in a classic paper by Robert Higgs (1997), that uncertainty about government policy does indeed inhibit investment.

For Stiglitz, the principal enemies are the "market fundamentalists," but he has odd views about what support for the free market entails. "Faith in markets by neoliberals not only meant

that monetary policy was less needed to keep the economy at full employment; it also meant that financial regulations were less needed to prevent 'excesses.' To conservatives, the ideal was 'free banking,' the absence of *all* regulations." (p. 152). But the free market ideal, as described by Mises and Rothbard, is very far from a system of unlimited private creation of fiat money. If the "excesses" Stiglitz mentions refer to speculative loans made possible by fractional reserve banking, the expansionist policies he supports lead to much greater instability than "market fundamentalism" tolerates. One wonders, further, why the Troika's demands that governments raise taxes to pay off large debts incurred by these governments are regarded as expressions of "market fundamentalism." It would seem more natural to regard these demands as one government program designed to remedy the defects of another.

Stiglitz does not consider Mises and Rothbard worthy of discussion. "Today, except among a lunatic fringe, the question is not *whether* there should be government intervention but how and where the government should act, *taking account of market imperfections*." (p. 86) He almost without exception proposes interfering with the free market, without demonstrating that the free market does not work. He agrees with the Queen in *Alice's Adventures in Wonderland*. "Sentence first—verdict afterwards."

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