Lawrence H. White

Volume Editor’s Introduction


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The present collection of articles spans the “economic theorist” period of Friedrich A. Hayek’s career, and shows that – at least with respect to the thorny issues of capital-goods pricing and interest – the period can be divided into two sub-periods. The first two articles represent the young Hayek’s first efforts in Vienna, while he remained more heavily influenced by his University of Vienna professor Friedrich von Wieser than by his post-university mentor Ludwig von Mises. The later articles represent the more mature Hayek’s efforts while teaching at the London School of Economics, efforts that culminated in his 1941 book *The Pure Theory of
These later articles, and the *Pure Theory*, develop in his own distinctive way a viewpoint grounded less in Wieser than in Böhm-Bawerk, Wicksell, and Mises.

**The Problem of Imputation**

Recalling his studies in economics, psychology, and law at the University of Vienna between 1918 and 1921, a period during which the distinguished economist Friedrich von Wieser returned from government service to a chair in economics, Hayek wrote:

> In economics it was my teacher Friedrich von Wieser who directed my interest to the intricacies of the subjective theory of value, on one particular problem of which, the theory of “imputation”, I wrote during the following year and a half a doctoral dissertation while employed in a temporary government office.¹

With his first degree (*doctor juris*) in hand, Hayek landed the government job in October 1921 by presenting a letter of recommendation from Wieser to one of the directors of the office, the prominent economist Ludwig von Mises. While working the office Hayek wrote a thesis for his second degree (*doctor rerum politicarum*), then took a leave of absence to spend the period from March 1923 to May 1924 as a graduate student and research assistant at New York University. In autobiographical notes, Hayek continued the story linking his thesis to the article on imputation collected here, which was first published in 1926:

I continued to register at the university for the degree of *doctor rerum politicarum*, and in the summer of 1922 started work on a thesis on the theory of imputation, for which I got my second degree in February or March 1923, just before I went to America. Though I learnt a great deal in the work and the article on *Zurechnung* [imputation of value] which later emerged from it is a fairly respectable performance, I rather hope that no copies of the thesis have survived.

… During the first six months in New York, I used my spare time … to turn my Vienna thesis on imputation of value into an article which Wieser had given me to understand might be used for the *Handwörtenbuch der Staatswissenschaften* but which ultimately appeared in Conrad’s *Jahrbücher*. On the whole I felt somewhat tired of the subjects which had chiefly occupied me in Vienna during the preceding year or so, such as the theory of subjective value or the problem of economic calculation under socialism …²

A series of papers by three Japanese historians of economic thought would amend this account: based on the historical circumstances and textual interpretation they propose that the other chaired economist at the University of Vienna, Othmar Spann, inspired and influenced

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² F. A. Hayek, *Hayek on Hayek: An Autobiographical Dialogue*, ed. Stephen Kresge and Leif Wenar (Chicago: University of Chicago Press, 1994), pp. 64-66. The dates indicate that although Hayek spent about a year and a half on the job before leaving for New York, he spent only the second nine months of that period writing his dissertation. This clears up an ambiguity in the passage previously quoted.
Hayek’s approach to the topic of imputation in his thesis. This is a surprising claim given that Spann rejected the subjective value theory of Menger and Wieser, and advocated in its place a holistic approach to economics that he called “Universalism” (to denote the antithesis to Individualism). In the published 1926 article and in the quotations above Hayek mentioned only Wieser and not Spann as the source of his interest in imputation. Regarding Spann, Hayek in his autobiographical notes allowed that, at about the same time that he came in contact with Wieser as a teacher, “a stronger though shorter-lived influence came from a younger man, Othmar Spann”. He credited Spann with “a few helpful ideas” on the logic of means and ends, but called his methodology seminar “unintelligible” and added:

I don’t think I learnt much from Spann … We did not get on together long, and after a short period in which I had been regarded as one of his favorites, he in effect turned me out of his seminar by telling me that by my constant carping criticism I confused the younger members.4

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3 Shigeki Tomo, “1922: A Watershed Year for Mises and Hayek,” Kyoto-Sangyo University working paper (September 2003); Susumu Egashira and Chikako Nakayama, “Hayek’s Transformation and his Dissertation,” unpublished ms. (no date); Susumu Egashira and Shigeki Tomo, “Spann’s Influence on Hayek : Dissertation and After,” unpublished ms. (no date). Tomo (p. 5) says that Hayek prepared his 1923 dissertation “under the supervision of Spann and Hans Kelsen”. Egashira and Nakayama correct this: Spann and Kelsen were the examiners who signed off on the dissertation. Supervision is another question. Although Hayek does not say so directly, Wieser – for whom he reworked it into an article – would have been its natural supervisor. The first part of Hayek’s unpublished dissertation, contrary to Hayek’s above-quoted hope, survives in the Hoover Institution’s Hayek archive.

4 Hayek, Hayek on Hayek, op. cit., p. 54.
Shigeki Tomo speculates that the absence of Spann’s name from the 1926 article “may reflect the fact that Hayek was purged from the Spann circle in the middle of [the] 1920[s].”\footnote{Tomo, op. cit., p. 7. Tomo has confirmed in correspondence that he did not mean 1920, but the mid-1920s. His best guess is that Hayek attended Spann’s seminar after his return from the US in May 1924. He reports that Oskar Morgenstern’s diary indicates that Spann asked Morgenstern to stop attending on 3 September 1924, and it is reasonable to suppose that Hayek was disinvited at the same time. Egashira and Tomo, op. cit., p. 7, based on textual interpretation, propose that in Hayek’s dissertation his “choice of the theme is influenced by the thought of Spann.” The strongest evidence they provide is that early in the dissertation Hayek favorably cites Spann’s work. But, as they acknowledge, Spann’s influence is absent from the 1926 article. Thus they conclude that “the influence of Spann on Hayek is no more than a guess because Hayek has denied it and the name of Spann does not appear in his [published] works.” Whereas Spann rejected the individualistic Mengerian subjective value theory as the starting point for economics, Hayek in the 1926 article insisted on exactly that starting point.} An alternative interpretation is that Hayek was purged for the same reason that Spann’s name was absent, namely that Spann’s influence was, just as Hayek recalled, short-lived. Under the influence of Wieser and then Mises, it is understandable that Hayek’s thinking moved quickly away from Spann’s after submitting the dissertation for his approval in March 1923.

The absence of Mises’ name from the 1926 article also calls for explanation. Recall that after studying with Wieser, Hayek began writing his 1923 dissertation on the Wieserian approach to imputation while working in an office where he had just became associated with Mises. He reworked the dissertation at Wieser’s behest, into the shorter article included here, while away in New York. Hayek did not join Mises’ private seminar until after returning from the US in May 1924. It is therefore not surprising to find that the article reflects the influence of Wieser and not that of Mises. Mises’ direct influence on Hayek could only barely have begun when the article was completed (though it did not appear in print until 1926).

Hayek was, however, already aware of Mises’ argument – first published in 1920 – that a socialist planning board, in an economy without competitive entrepreneurial bidding for the
services of labor, land, machines, materials, and so on, could not assign appropriate prices to those factors of production. Mises had written in his 1922 book *Socialism*:

>To suppose that a socialist community could substitute calculations in kind for calculations in terms of money is an illusion. In a community that does not practice exchange, calculations in kind can never cover more than consumption goods. They break down completely where goods of higher order are concerned. Once society abandons free pricing of production goods rational production becomes impossible.\(^6\)

Hayek seems to be challenging this argument in his 1926 article when he wrote:

>If one holds the view that no fully satisfactory solution to the [imputation] problem has yet been found, it cannot be excluded - as several younger authors claim - that the determinants for the prices of the factors of production exist only in an exchange economy and that for this reason an imputation of value is not possible. Yet this admission would be tantamount to abandoning subjective value theory as a satisfactory explanation for economic processes and would deprive these authors of the very basis for many of their analyses.

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If Mises (who was 30 years younger than Wieser) was one of the “younger authors” to whom Hayek referred, then the claim in the second sentence above – that to deem non-market imputation of factor values impossible is to reject subjective value theory in the explanation of economic processes – meant that Hayek was siding with the position of his teacher Wieser and aligning himself against the position of Mises. Such an alignment may seem inconsistent with Hayek’s well known later arguments supporting Mises’ critique of socialism. In the 1945 essay “The Use of Knowledge in Society” Hayek pointedly rejected Joseph Schumpeter’s proposition “that consumers in evaluating (‘demanding’) consumers’ goods ipso facto also evaluate the means of production which enter into the production of these goods.” Hayek argued that to impute appropriate factor values an observer would need to know not only all consumer demand curves, and all factor supply curves, but also every possibly relevant bit of information about production techniques and local circumstances held by any of the myriad producers in the market. Hayek then took Schumpeter (and by implication other economists who thought “market socialism” feasible) to task for conflating an abstract model with reality:

To assume all the knowledge to be given to a single mind in the same manner in which we assume it to be given to us as the explaining economists is to assume the problem away and to disregard everything that is important and significant in the real world. … I am far from denying that in our system equilibrium analysis has a useful function to perform. But … it is high time that we remember that it
does not deal with the social process at all and that it is no more than a useful preliminary to the study of the main problem.\(^7\)

This 1945 statement does not in fact contradict the 1926 article with respect to the feasibility of socialism, because in the earlier article Hayek was not talking about socialism. Its subject was not pricing by a real-world central planner, but rather imputation by “us as the explaining economists” who have by assumption “all the knowledge” necessary about a model that we ourselves build. Hayek’s 1926 claim is that an analyst who has stipulated the tastes, technologies, and resources of a model economy might in principle impute prices to its factors of production while abstracting from market exchange. In other words, in principle the economist might solve a general-equilibrium model for factor prices, simultaneously with solving for consumer prices and for production input and output quantities. That Hayek was proposing such an approach to the factor-pricing problem is apparent in his remark toward the end of the article that “[u]nder Walras’ leadership, the mathematical school of economics has already tackled successfully a similar set of tasks”.

In a pure exchange economy without production, given the assumed endowments of consumer goods, the consumers’ subjective values are the sole cause of exchange and the sole determinant of prices. In the simplest case of two consumers and two goods the explaining economist can, to put it in standard neoclassical terms, draw a two-dimensional Edgeworth-Bowley box and thereby illustrate the simultaneous determination of the range (or point, if we assume quasi-competitive behavior despite the bilateral monopoly situation) of mutually

beneficial exchanges and implied relative prices. In the case of a pure exchange economy of
many consumers and many goods, an economist who knew all preferences and endowments
could likewise determine prices and quantities traded. Hayek in 1926 proposed that economists
could extend the subjective value theory of the pure-exchange-economy model to a production-
economy model although, as he himself noted, “altogether different conditions apply” to factors
of production, and thus their prices “require a separate explanation” from consumer goods prices.
In 1926 it remained to be rigorously established that a general equilibrium model of a production
economy with variable proportions could be solved for the prices of the factors of production.

Mises and Hayek differed from their opponents in the socialist calculation debate of the
1930s and 1940s regarding how much relevance the solution of a general-equilibrium model
would have for guiding factor pricing in a real-world non-market economy. Their opponents, the
“market socialists” Oskar Lange and Abba Lerner, offered the solution of a simultaneous-
equation general equilibrium model as a practical technique for real-world planning. Hayek in
1926 made it clear that he was not asserting the feasibility of socialist planning in a complex
real-world economy, because complete information about endowments and tastes could not be
taken for granted. He cautioned: “each solution of the imputation problem must take into
account the totality of all the complementary goods used in an economic system and all the needs
for whose satisfaction products are employed. This necessity may render impossible the
practical application of imputation to any comprehensive economic system.” In 1945 he
emphasized the additional necessity for taking into account the totality of relevant possibilities
for productive transformation of goods, and – in place of 1926’s cautious “may” – insisted
against Lange and Lerner that the ineliminable dispersion of knowledge indeed renders
impossible the practical application of the GE-model-solving approach to directing any complex
real-world national economy. In what respects Hayek’s critique of socialist calculation was complementary to, or at odds with, Mises’ critique is a much-debated question that we will address here.\(^8\)

The 1926 article does, however, take a different view from the 1945 article with regard to the explanatory sufficiency of equilibrium theory. The two sides the socialist calculation debate also differed on how much relevance the general-equilibrium approach has for understanding the factor pricing of a real-world market economy. In 1926 Hayek in Wieserian fashion saw “subjective value theory as a satisfactory explanation for economic processes”. But by 1945, as noted already, Hayek cautioned that a GE model “does not deal with the social process at all”.

If GE theory is insufficient for understanding the market process, then it needs to be supplemented (or partly replaced) by a theory of price and quantity adjustment through entrepreneurial competition (or something like it). Hayek would contribute to such a theory in his later essays “The Meaning of Competition” (1946) and “Competition as a Discovery Procedure” (1968). Israel Kirzner, in *Competition and Entrepreneurship* (1973) and later works, has further developed the Mises-Hayek approach to the market process. Franklin Fisher has been the most important developer of a neoclassical approach to equilibrating price adjustment.\(^9\)

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Hayek continued to consider Wieser’s omniscient-planner framework analytically useful for understanding and expositing the equilibrium conditions of a production economy, even though it did not illuminate the market process. Hayek used the “simple economy” device – exposition in terms of the optimizing principles to be observed by an omniscient Utilitarian planner of a non-exchange economy – through much of The Pure Theory of Capital of 1941.

A puzzle remains. If Hayek’s position in 1926 was that a general-equilibrium approach to value imputation was appropriate – or even obligatory – for subjective value theorists, why did he think that his point clashed with the position of marginal productivity theorists who stressed a need for competitive markets to price inputs appropriately in the real world? Hayek was talking about a purely logical construct, a Wieserian one-mind omniscient-planner “simple economy” or equivalently a Walrasian-type GE model. The marginal productivity theorists – at least Mises and the later Hayek were talking about the real-world economy of many minds. One could hold both positions, as indeed Hayek did in 1945 when he said that GE analysis was a “useful preliminary” for theoretical understanding although it disregarded “everything that is important and significant in the real world” for the economy’s guidance. So why did Hayek in 1926 think it a mistake – a rejection of subjective value theory – to claim that markets are needed to price inputs appropriately? He must have interpreted those who stated that “an imputation of value is not possible” in a non-exchange economy to be putting forth a proposition about Wieser’s logical construct rather than a proposition about a real-world socialist economy. Hayek appears to have

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10 Expositions of general equilibrium theory often invoke the proposition, based on the First and Second Fundamental Welfare Theorems, that one can solve for an economy’s equilibrium allocation by solving the maximization problem of a benevolent social planner. For a critical perspective on this approach see Kevin D. Hoover, The Methodology of Empirical Macroeconomics (Cambridge: Cambridge University Press, 2001), pp. 83-85.
interpreted Mises as rejecting Wieser’s one-mind general equilibrium approach as inherently useless for understanding factor pricing. Mises for his part did not reject equilibrium constructs per se, though he did criticize Wieser’s approach to as a path to understanding factor pricing.

Could Hayek have had some other critic of Wieser in mind besides Mises? Joseph Schumpeter is a candidate. According to R. C. McCrea’s review of Joseph A. Schumpeter’s *Theorie der wirtschaftlichen Entwicklung* [*Theory of Economic Development*] Schumpeter held the position that, in McCrea’s words, “the [determination of factor] income problem cannot be solved by an explanation of value phenomena, for income phenomena are price phenomena”.11 That is, value phenomena in Wieser’s sense inhabit economic theories, whereas factor prices inhabit markets. But Hayek discussed Schumpeter by name elsewhere in the article, so it would have been odd not to identify him where his was the position under criticism. For Hayek not to wish to criticize his new job supervisor Mises by name in print, on the other hand, would have been understandable. So it seems likely that Mises and not Schumpeter was the object of Hayek’s criticism.

Although Hayek’s position in the 1926 article can be partly reconciled with his position in the more famous 1945 article, there is an incongruence with another of his famous later articles, namely “Economics and Knowledge” of 1936. In that article Hayek insisted that observation of how people gather and communicate information through markets is a necessary empirical element to understanding market processes. Hayek later described the point of this argument as a criticism of Misesian apriorism, showing that there are sharp limits to the range of phenomena explainable by “the pure logic of choice” alone. But Mises’ position on socialism,

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that without actual market exchange an economy cannot appropriately price factors of production, is in an important sense more empirical and less aprioristic than Hayek’s 1926 position that factor pricing and optimal allocation can be understood by Wieser’s “simple economy” construct of a single decision-maker, which after all is based on nothing but the pure logic of choice.

If Wieser and Hayek of 1926 wanted to impute values to factors of production without market exchange, and therefore without prices, in what units are the values measured? Samuel Bostaph has raised the units question with regard to Wieser’s equations, commenting: “Assuming that they are subjective value units begs the question of how such subjective values have been objectified.”12 Hayek, following Wieser, clearly regarded them as cardinal subjective utility units, what other economists have called “utils,” objectified by the analyzing economist and able to be measured and interpersonally aggregated. After Lionel Robbins’ 1932 book The Nature and Significance of Economic Science – which was influenced by Mises – economists generally recognized that choice-theoretic utility does not require cardinal and interpersonally addible properties in order for the theorist to derive demand curves and explain market prices, and so those properties can be excluded by Occam’s razor. But Wieser clearly conceived of utility as measurable and interpersonally addible when he spoke of maximizing total social utility and when he endorsed progressive taxation on the grounds that the poor man values a marginal dollar more than a rich man. Hayek acknowledged that Wieser “considers the calculability of utility as basic for dealing with the whole problem, as can be hardly avoided”.

The Problem of Interest theory

Hayek’s 1927 essay on “The Problem of Interest Theory” is principally notable for the inconsistency between its critique of time-preference-based interest theory and Hayek’s own later position, as represented here by his 1936 essay on “Utility Analysis and Interest.” Hayek in 1927 criticized what he called the “ad hoc assumption that future needs are invariably valued lower compared to the same needs at the present time”. In 1936 Hayek took note of “the progress which has been achieved by Irving Fisher’s application of the modern apparatus of utility analysis.” In *The Pure Theory of Capital* he would declare that the interest theory exposted by Irving Fisher was “formally unimpugnable”. The consumer in Fisher’s theory has intertemporal preferences that, in equilibrium, imply the subjective discounting of marginal future consumption relative to marginal current consumption. That future satisfaction of a “need” is valued lower than present satisfaction of the same “need” then becomes an implication of the theory and not an “ad hoc assumption”. Subjective (or “psychical” as Hayek called it in 1936) discounting by consumers is the same concept that Hayek in 1927 characterized as “systematic undervaluation of future needs,” but without the suggestion (found in Böhm-Bawerk’s exposition) that the consumers are committing an error.

Hayek in 1927 lamented the way in which Böhm-Bawerk’s approach had excluded productivity explanations of interest. Fisher’s theory, alongside discounting, incorporates productivity in the form of an intertemporal production possibilities frontier.

Hayek in 1927 also criticized what he characterized as “Böhm-Bawerk’s approach, in which the structure of production generally did not constitute an object of analysis but was taken as given.” This is an uncharitable view of Böhm-Bawerk’s approach. Böhm-Bawerk’s model establishes an equilibrium in which the degree of roundaboutness in production – an attempted
one-dimensional representation of the structure of production – is endogenously determined along with the equilibrium interest rate. The equilibrium interest rate equates the marginal discount rate to the marginal return to extending the degree of roundaboutness (for example, the marginal return to delaying the harvest of a growing tree). Böhm-Bawerk offered a pair of diagrams that illustrated longer and shorter structures of production as series of more and fewer concentric rings. Hayek used triangular diagrams for the same illustrative purpose. (Hayek’s diagrams were, however, more readily adapted to other uses, particularly to illustrate the progress of an Austrian business cycle.)

In an interesting footnote, Hayek offered a novel rationale for the thesis that more roundabout production processes yield a greater physical output from given inputs: “The longer the time period in question, the greater the number of methods available for roundabout production, so that now production methods with a higher yield may become feasible, which previously have not been available.” On reflection, however, it is clear that Hayek’s rationale is not the most persuasive. The greater productivity of more roundabout production processes can be more helpfully explained as a logically implied characteristic of the frontier of non-dominated choices: any positive discount rate implies that a longer process must be more productive to be potentially preferable to a shorter process. This latter rationale, when we assume smooth intertemporal preferences, entails that the frontier of outputs from economically viable point-input production methods is convex when plotted against time-to-fruition. Under Hayek’s rationale alone, the frontier could be a jagged step-function.
In an appendix to *The Pure Theory of Capital* Hayek essentially repudiated his 1927 article, commenting that in it he had used a particular approach “without being aware of the illegitimate assumptions which it involves.”\(^{13}\)

In “Utility Analysis and Interest” Hayek used Fisherian diagrams to analyze an economy without “psychical discount,” or in other words Josef Schumpeter’s assumption that with future income equal to present income marginal future consumption is *not* discounted relative to marginal current consumption. Combining Schumpeter’s assumption with the assumptions that capital accumulation is the only source of higher future incomes (technical progress being absent) and that capital accumulation is subject to diminishing returns, Hayek found that the economy’s net saving, economic growth, and interest rate must all converge to zero. Hayek’s analysis of the convergence to equilibrium persuaded him that the marginal return to capital accumulation (“productivity”) was the dominant determinant of the equilibrium interest rate, with time-preference relegated to the minor role of determining the rate of saving along the path to stationary equilibrium.

Hayek drew heavily on his 1936 analysis in Appendix I to 1941’s *The Pure Theory of Capital*, titled “Time Preference and Productivity”. He later had second thoughts about the dominance of productivity over time-preference considerations in determining the interest rate in “Time Preference and Productivity: A Reconsideration” (1945), reprinted as Appendix V to the latest edition of *The Pure Theory of Capital*.

Capital Consumption and Saving

In his essays on “Capital Consumption” (1932) and “Saving” (1934) Hayek developed the long-run implications of his emerging capital theory, the short-run (cyclical) implications of which he had sketched in Prices and Production (1931).

In “Capital Consumption” Hayek expressed concerns about the shrinkage of the capital stock in Austria that were shared by other Austrian-school economists, especially Ludwig von Mises and Fritz Machlup. He cites Oskar Morgenstern’s statistical study of the problem for the Austrian Institut fur Konjunkturforschung, published in 1931. Although he does not cite them, Hayek was no doubt aware of some of the other empirical efforts in Vienna to quantify the extent of Austria’s capital consumption. Ludwig von Mises, Engelbert Dollfuss, and Edmund Palla in 1931 produced Bericht uber die Ursachen der Wirtschaftsschwierigkeiten Osterreichs [A Report on the Causes of the Economic Difficulties in Austria]. Nicholas Kaldor, who at that time was a Hayekian, discussed capital consumption in an article on “The Economic Situation of Austria” in the Harvard Business Review (October 1932). Machlup would publish his research on “The Consumption of Capital in Austria” in the Review of Economic Statistics (January 1935).14

Hayek emphasized the point that in equilibrium there is a tradeoff between more consumption and more investment: “the physical quantity of consumer goods per capita can

only be increased by consistently devoting a larger part of productive resources to capitalistic investment rather than to immediate consumption.” One can illustrate the tradeoff by drawing a production possibilities frontier between consumption and investment, as Roger Garrison does in his book restating Hayekian macroeconomics, *Time and Money*. Although the point is simple, Hayek noted that it is implicitly denied by all those economists who “assume that the demand for capital goods changes in proportion to the demand for consumer goods”. The ranks of such economists in 1932 included “underconsumption” theorists of economic depressions, like John Maynard Keynes in his *Treatise on Money* (1930), which Hayek cited in this connection. Keynes amplified the underconsumption theme in his *General Theory* (1936). The assumption that consumption and investment move in the same direction has since been taken for granted by Keynesian macroeconomists up to the present day.

The business cycle theory of Hayek’s *Prices and Production*, as Roger Garrison has emphasized, is a theory of an unsustainable investment boom. The boom is unsustainable because investment expands above the level that can be financed – consistently with the consumption-investment tradeoff – by voluntary saving (abstention from present consumption). What finances the expansion in investment is instead an unwarranted credit expansion. Hayek labels the event “forced saving.” As Roger Garrison has pointed out, such a label unfortunately suggests that producers are compelling an immediate reduction in consumption by bidding resources away from consumers, that the economy remains on the same consumption-investment frontier even during the expansion phase of the business cycle. But an immediate reduction in consumption cannot be reconciled with the fact that the interest rate, the cost of consuming rather than saving, *falls* at the outset of the credit expansion. Garrison’s own restatement of the Mises-Hayek cycle theory, building on Mises’ recognition of “overconsumption” during the early
boom, provides greater coherence by recognizing explicitly that credit expansion can temporarily push the economy beyond its sustainable frontier by encouraging “over-full” employment of labor and machines. Unemployment of men and productive capacity fall below their natural rates. During such a credit boom investment can increase without an equivalent (or even any) reduction of consumption.\textsuperscript{15}

In 1932 Hayek had published a “Note on the Development of 'Forced Saving’” that traced the history of the concept among earlier economists. In his 1934 encyclopedia article on “Saving,” included here, he expanded his categorization of types of saving. Interestingly, the article criticizes the use of the term “forced saving” as a label for the phenomenon that Hayek himself had used it to label, calling such usage “an instance of the misleading practice of treating the term [saving] as equivalent to ‘capital formation’.”

\textbf{Maintenance of Capital, Technical Progress, and Excess Capacity}

\textbf{Debate with Frank Knight over the “Mythology” of Capital}

(forthcoming)