

From Keynes to Hayek: The marvel of thriving macroeconomies

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Abstract Inherent ignorance of and uncertainties about the future may translate into doubts about the overall viability of market mechanisms. However, these doubts are quelled by a broad empirical observation: market economies thrive. Hayek sometimes abstracted from such ignorance and uncertainties in order to identify the market mechanisms that are essential to thriving economies. His often-overlooked “interest-rate brake,” for instance, keeps the rate of implementation of new technologies in line with peoples willingness to save. A careful reading of macroeconomic history suggests that artificial booms often ride piggyback on genuine booms. During a period of technological breakthroughs, the central bank’s adherence to the Real Bills Doctrine overrides the interest-rate brake and engenders an unsustainable boom.

Keywords Ignorance · Dispersed knowledge · Interest-rate brake · Austrian theory of the business cycle

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From Keynes to Hayek: the marvel of thriving macroeconomies

My message this evening is inspired in part by a recent article by Greg Hill in *Critical Review* titled “From Hayek to Keynes: G. L. S. Shackle and Ignorance of the Future.” Clearly, Hill is mimicking Ludwig Lachmann’s 1976 title, “From Mises to Shackle. . . .” Dealing with the Hill-Shackle perspective on Hayek and Keynes will allow me to segue into some thoughts on the cogency and applicability of Hayekian macroeconomic theory—or what I’ve come to call “capital-based macroeconomics.”

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According to the abstract of Hill's article, Shackle draws Keynesian conclusions from Austrian premises. More specifically, he argues that the knowledge required for a General Equilibrium does not and cannot exist in a sufficiently complete and coherent form to justify the Austrian conclusions. The irreducible ignorance of the future, according to Shackle, provides a compelling basis for our going with Keynes.

"For Shackle," as reported by Hill (2004: 61), "the very concept of equilibrium is *logically* incompatible with the notion of autonomous choice." That is, market participants don't know and can't know what the future choices of others—or even of themselves—will be. It is impossible, then, for these autonomous choices across time to be coordinated on the basis of knowledge generated by current choices and registered by the price system.

The implications for the Austrian theory are clear. Hayek's critical contrast between the intertemporal coordination that can be achieved by the free play of the market and the intertemporal *dis*coordination that results from the manipulation of a key market mechanism, namely, the interest rate, is strictly invalid. The rate of interest, in Shackle's reckoning, cannot coordinate saving and investment decisions. (Hill 2004: 71). With the interest rate intertemporally out of play, the Keynesian conclusions follow almost trivially. The price system can't do its job; market economies are inherently dysfunctional; and periodic collapses into depression are the norm.

My summary here hardly does justice to Greg Hill. His article begins with a reminder of some intriguing intellectual history. In the mid-1930s, Shackle was writing a thesis on capital theory at the London School of Economics. His supervisor was Hayek. But Shackle's thinking took a turn when, a few months before the publication of Keynes's *General Theory*, he heard Joan Robinson set out the principal themes of the Keynesian vision. Shackle was so deeply impressed that he abandoned the principal themes of the Hayekian vision—though he managed to keep Hayek in service as his thesis supervisor.

If we can get past the thought that it was Joan Robinson who paved the road from Hayek to Keynes, we can almost understand Shackle's receptiveness to Keynesian ideas. Shackle doubted the legitimacy of abstracting from uncertainty while dealing with the time element in the production process. But that is exactly the abstraction that characterized Hayek's *Pure Theory of Capital*, which was then in the making. As Hill (2004: 71) puts the matter, "In the Austrian theory of capital, 'time' has been separated from its troublesome twin—ignorance of time-to-come."

Drawing upon the subsequent contributions of both Hayek and Shackle, Hill (2004: 59) envisions an all-encompassing economic theory based on the "twin premises of dispersed knowledge [Hayek] and irreducible uncertainty [Keynes as interpreted by Shackle]." Hill makes the case, though, that if a research agenda is to be based on only one of those twin premises, the Keynes-Shackle premise is the more appealing. The fact that some critical knowledge is simply lacking may have a greater claim on our attention than the fact that existing knowledge is dispersed.

On its own terms, Hill's case for the Shacklian research agenda is a persuasive one. At this point, then, let me make a recommendation. If you believe that the fundamental economic problem is a knowledge problem, and if you see yourself as sitting on the fence between Hayek and Shackle, then don't read Hill! His article could push you off in the direction of Keynesian Kaleidics.

Almost unavoidably, though, the economics that Hill sees on the Shackle side of the fence is Keynesian fundamentalism: liquidity preference as the primary demand-side determinant of the interest rate, the absence or near-absence of what Hill calls "expectations-independent reality"; waves of optimism and pessimism, self-fulfilling prophecies, businesspeople who "follow the herd" and occasionally "lose their nerve."

Hill hasn't provoked me into countering piecemeal these and other supposed perversities of the market system. But the very notion of failure-prone market economies inspires my own take-off on Lachmann's 1976 title.

From Mandeville to Magnan: Keynes and the failure of the market economy

We are all familiar with Bernard Mandeville's early eighteenth century *Fable of the Bees*, which carried the alternate title *Private Vices; Public Benefits*. Mandeville was not an economist and certainly not a *laissez fairist*, and he was too quick to categorize self interest as a vice. But he gave early exposure to the idea that decisions made by individuals on the basis of their own self interest can have favorable consequences for society as a whole. Of course, it would take Adam Ferguson, Adam Smith, and a number of other classical liberal thinkers to turn the fable into a formula for economic prosperity. We can note Hayek's bow to Mandeville in his 1966 'Lecture on a Mastermind' and can remind ourselves that it was Hayek (1967) who built on Adam Ferguson's expression, "The Results of Human Action but not of Human Design," to anchor his ideas in the classical liberal tradition, showing how the market economy can in principle deal with the knowledge problem.

The pairing of Mandeville with Magnan in my mock title gives us a sharp contrast between the fable of the bees and the failure of the bees. It was Antoine Magnan, a French entomologist, whose 1934 book *Le Vol des Insectes* inspired a Keynesianesque conclusion. The bumblebee is technically incapable of flight. Even a casual reading of Magnan, however, reveals that he actually made no such claim, but folklore tracing to his book has it that the bumblebee in flight is inherently unstable and prone to crash.

While googling around to get the Magnan story straight, I came across plenty of living lore about the bumblebee. For instance, an Arkansas-based firm, Packaging Specialties, Inc., has adopted the bumblebee as its logo to symbolize the idea of actually achieving the impossible—packaging chickens, in this particular case. PSI's blurb about its logo (accessible at <http://www.psiark.com/bee.htm>) is true to the Magnan legacy:

The bumblebee's ability to fly has long perplexed scientists. Its proportions and aerodynamics make flying technically impossible. Scientists have no explanation for the bee's ability to fly beyond pure will and determination. At Packaging Specialties, we understand the bumblebee better than we understand the scientists. That's because the word "impossible" isn't in our vocabulary either. Packaging Specialties creates packaging solutions that other companies say can't be done. And we do it every day.

Although we can admire the entrepreneurial spirit, we have cause to doubt that PSI has achieved the impossible. Casual observation suggests otherwise. (Who said the Austrians aren't empiricists). We notice that with or without this particular Arkansas firm, bumblebees fly and chickens get packaged.

Magnan, if we accept the folklore version of his message, was way off the mark in 1934. But so too was Keynes in 1936. Bumblebees fly and market economies thrive. For an Austrian audience, I hardly need mention the countless instances of markets-gone-right or summarize the findings of James Gwartney and Robert Lawson's latest annual report on *Economic Freedom of the World*.

The implicit claim here that savings tend to get invested and technological innovations tend to get exploited need not be based on some skilled messaging of the macroeconomic data. Neither the enormous increase in prosperity of the United States from colonial times to the present nor the enormous differential between today's living standards in the United States relative to the living standards in Cuba can be explained without recourse to some notion of market-governed coordination. Decentralized economies are characterized by

more coordination—including intertemporal coordination—than can be attributed directly to “accident or design,” to use the Keynesian phrase.²

Before further exploiting my idea of the bumblebee as an apt metaphor for the market economy, let me save poor old Antoine Magnan from the implicit claim that he was Keynes’s counterpart in the field of entomology. The truth is that Magnan never claimed that bumblebee flight is impossible or even that understanding bumblebee flight is beyond the abilities of entomologists and aeronautical engineers. Nor is the bumblebee’s “will and determination” at issue here. What is at issue is the distinction between mobile wings and stationary wings. Magnan was simply noting the significance of an equation set out by aeronautical engineer Andre Sainte-Lague. If the bumblebee’s wings were stationary (as are the wings on a conventional airplane), then it could not maintain level flight except at speeds much higher than a bumblebee normally flies. Unfortunately for Magnan, the subjunctive clause in his claim was ignored by dullards and jokesters, and the idea that bumblebees somehow defy the laws of physics spread through the popular media.

We can imagine that in the 1930s some insightful Swedish or Austrian macroeconomist might have penned a statement analogous to Magnan’s: If the interest rate is held at some target level (as is typically done by the central bank), then the market economy cannot achieve sustainable growth except in the unlikely case in which the target rate happens to be the natural rate. Dullards and jokesters might well have ignored the subjunctive clause and spread the word that it impossible for an economy to achieve sustainable growth. The parallels here are clear. Because of oversight or misunderstanding, both the bumble bee and the market economy are seen as being chronically behind the power curve. And as in the case of the bumble bee, any actual instances of a prosperous and growing economy might then be attributed to some special “will and determination” or to Keynes’s “animal spirits.”

But Keynes was no Magnan. Greg Hill is true to the scripture when he suggests that the interest rate *is* intertemporally out of play. For Keynes, though, the economy must grow without any intertemporal guidance not because of some central-bank imposed fixity, but rather because the interest rate has been pressed into duty elsewhere—to keep the demands for liquidity in line with the central bank’s supply of money. The economy might well grow, but its growth rate and even its ability to make full use of the existing productive capacity is unlikely to endure. The expectations that underlie the hiring of labor and other business decisions are fundamentally unanchored in economic reality. In the Keynesian vision, the lack of timely intertemporal guidance condemns market economies to instability and ultimately to collapse. Magnan knew how bumblebees fly, But for Keynes, the question of how market economies thrive never got answered—because it never got asked.

So, just how do market economies thrive, macroeconomically speaking?

When entomologists observe the bumblebee in flight, they don’t claim that the impossible is being achieved or that “will and determination” have prevailed over the constraints imposed by physics. Rather they seek to explain just how its flight is possible. Mobile wings are the key to the explanation. When macroeconomists observe that market economies thrive, they

² Greg Hill, whose general reaction to a written version of my presidential address I appreciated, suggested the most likely Keynesian response to my broadly empirical case for decentralized market forces: the Keynesians would simply note that the “thriving macroeconomies” are actually “very much ‘mixed economies’ with a large public sector and, arguably, are still a long way from ‘serfdom.’”

too should seek to explain just how. And, for the Austrians, market-determined interest rates are the key to the explanation.

At some level of abstraction, it is permissible to observe that something works and to ask what sorts of mechanisms must be in place to make it work. This is the level of abstraction that characterizes Hayek's *Pure Theory of Capital*. Whatever obstacles must be overcome (in the forms, for instance, of dispersed knowledge and even lacking knowledge) resources seem to get allocated in patterns that conform with intertemporal preferences—as depicted by Hayek's warped pie-shaped figures, which abstract from uncertainty and other market imperfections. This is how I read Hayek's *Pure Theory*.

But Hayek spent the better part of his career explaining how the market system actually does work. His early "Economics and Knowledge" (1937) and subsequent "Use of Knowledge in Society" (1945) constitute his best positive statements about how in general the market system coordinates by mobilizing the dispersed information. It was in this latter article that Hayek used the word "marvel" to describe the price system. His intent was to shock the neoclassical readers out of their complacency—a complacency that grew from the repeated and unthinking neoclassical assumption that the data of the marketplace are simply "given." Hayek wrote "marvel" three times in two paragraphs (1948: 87)—in a seeming tit-for-tat with Keynes, who wrote "animal spirits" three times in two paragraphs (1936: 161–62). But, of course, relative to Keynesian thinking, the marvel, as used in my own title this evening, is that, with some data actually available to some people, a substantial degree of economic coordination becomes possible. In this and many other respects, the Austrian theory does occupy a middle ground (Garrison, 1982). Hayek's marvel is characteristic of the middle ground between lacking data and given data.

Hayek's explanation of how markets work, macroeconomically speaking, has come largely in the form of critical essays aimed at exposing the fallacies of Foster and Catchings (Hayek, 1929 [1975]) and later aimed at exposing the (same) fallacies of Keynes. And a brief description of non-perverse intertemporal markets precedes his analysis of business cycles (Hayek, 1935 [1967]). That is, before we can explain how things go wrong, causing the economy to collapse into depression, we must first explain how things could ever go right. Among competing schools of macroeconomic thought, both then and now, this methodological maxim is virtually unique to the Austrian school.

Many Hayek-inspired expositions of Austrian business cycle theory (including my own) begin with an account of how an increase in saving lowers the interest rate and leads to genuine, sustainable economic growth. This understanding is a prerequisite for showing how credit-expansion engineered by the central bank artificially lowers the rate of interest and spurs the economy to grow at a rate—and in a pattern—that is fundamentally unsustainable.

Following Shackle to Keynes, Greg Hill doubts that saving can get translated into investment. He makes the observation that "Consumers do not typically place orders for goods to be delivered in the future as they are canceling orders for today's goods" (2004: 70). Though Hill included no direct reference to Keynes here, his statement echoes a similar passage in the *General Theory* (1936: 210): "If savings consisted not merely in abstaining from present consumption but in placing simultaneously a specific order for future consumption, the effect [on investment decisions] might indeed be different." Some twenty years ago (this was before I mellowed out) I included this passage from Keynes in my "Austrian Perspective on the Keynesian Vision" (Garrison, 1985) and followed it with the analogous observation that "if the Black Jack dealer were to announce in advance the order in which the cards are arranged, the player would be in a better position to decide whether to 'stay' or 'take a hit.'" I thought my point was clear. To lament that neither Black Jack players nor entrepreneurs have all the data is to misunderstand both gambling casinos and market economies. But just

after presenting my paper in the colloquium at New York University, I was summonsed to Professor Lachmann's office. Lachmann was clearly disturbed. "You seem not to understand the significance of Shackle's insights," he told me. He then read aloud my Black Jack analogy and said, "But just as you were admitting that some data are simply lacking, you interrupted yourself with a joke!"

This evening I want to argue that considerations of both historical relevance and strategic advantage suggest that we should preface our business cycle theory with an explanation of how the economy responds to technological innovations. Historically speaking, artificial booms tend to ride piggyback on genuine booms. Our strategy, then, should be to explain how intertemporal markets work in the circumstances of technological innovation and then explain the consequences of central-bank interference with these intertemporal market mechanisms. Still, the greater point is one that, on methodological grounds, weighs against Shackle and Keynes. Equipped with mobile wings, the bumble bee flies; and guided by market-determined interest rates, the economy thrives.

We can spot Shackle his claim that some knowledge is simply lacking. But does this mean that we must explain just how entrepreneurs make do in the face of partial ignorance? I think not. It is not even necessary for us to explain just how specific scraps of dispersed knowledge get interpreted and mobilized. For instance, we need not explain just how, precisely, some technological innovation gets translated into some particular expectation about consumption demand in the future. It's quite enough for our present purposes to recognize that entrepreneurs are at work doing what they do. They are at work after the technological innovation just as the were at work before. But post-innovation, they're doing what they do in the face of changed opportunities and constraints. To economists who've learned their price theory from Hayek, it would seem odd to doubt that the entrepreneurs could cope with the changed opportunities and constraints. To have such doubts would be to doubt as well that they could have coped with the earlier, pre-innovation opportunities and constraints.

Let me be clear about relevance of a theory of expectations in this context. Several contemporary Austrian theorists, including Roger Koppl, Bill Butos, Peter Lewin, and Steve Horwitz, have made important advances in our understanding of market's ability to cope with an unknowable future. More power to them. I consider myself to be a consumer of theories of expectations and not a producer. And in terms of applied theory, I must admit that I'm simply baffled as to how entrepreneurs do what they do. Who among us economists could have expected that the Cadillac Division of General Motors could sell crew-cab pick-up trucks? Or who could have seen that there were profits to be made by producing after-market hubcaps that keep on turning after your Cadillac pick-up has come to a stop?

In a posting to mises.org (7/16/04), Bill Butos indicated that there is no settled Austrian theory of expectation. And he categorizes my own theorizing in *Time and Money* as more of an end run around expectations rather than a theory of expectation. Butos's end-run metaphor struck me as exactly right. The end run neatly captures my (and Bill's) methodological point. However important a theory of expectations might be as a theory in its own right and as an integral part of our understanding of market economies (and I think it is very important), it is not essential in responding to such critics as Hill (and Shackle) on the relative merits of Keynes and Hayek. We don't need to spell out just how the entrepreneurs do what they do. It's quite enough to spell out what sorts of things must be going on for the macroeconomy to thrive even in the face of changing market conditions, dispersed information, and some level of irreducible ignorance.

One sort of thing that must be going on during a period of innovations is a critical braking action brought about by a movement in the interest rate. The "interest-rate brake" is a little

piece of imagery introduced by Hayek in his *Monetary Theory and the Trade Cycle* (1933 [1975], pp. 94 and 179). It was ripe for development at the time but somehow got overlooked in subsequent expositions and application of Austrian macroeconomics. The interest-rate brake got some attention in an early review by Costantino Bresciani-Turroni (1934) and was put to good use by John Cochran and Fred Glahe in their book-length treatment of the *Hayek-Keynes Debate* (1999: 185). Many expositors recognize that during periods of innovation there is an increase in the demand for loanable funds and hence upward pressure on interest rates. And in my *Time and Money* (2001: 60), I actually used the brake metaphor in what I thought was a fit of originality—only to discover later that I must have gotten it from Hayek.³

As it turns out, better appreciation of the role of the interest rate during a technology-driven boom can allow the Austrians to play offense rather than defense with dealing with competing schools of thought, particularly with the Keynesians and the monetarists.

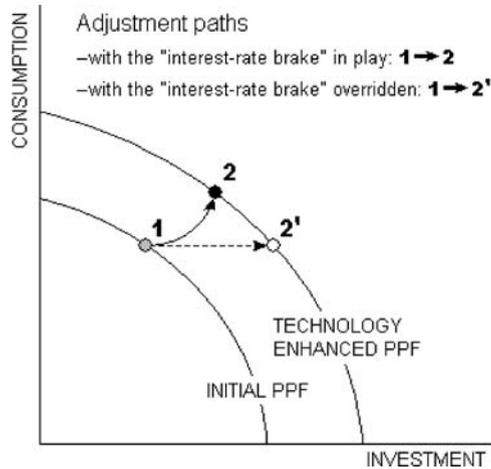
The strategic significance of Hayek’s interest-rate brake

Let me ask you to visualize a macroeconomy sitting comfortably on its production possibilities frontier. That is, the economy is fully employed, producing an assortment of consumption goods and investment goods that squares with people’s intertemporal preferences. Investment is financed by saving; the rate of interest clears the market for loanable funds at the natural rate; and profit margins are equalized throughout the structure of production. In short, the economy is in a macroeconomic equilibrium. Let’s simplify the pedagogy here by assuming that saving just offsets capital depreciation. The bumblebee just is maintaining level flight.

Now let us suppose that newly available technological possibilities enhance the potential payoff of current investment. (Here’s where I need my PowerPoint, but I managed to resist the temptation to drag the hardware into our banquet room this evening [but see Figure 1]) We can say that strictly as a matter of technology, a given amount of investment now will result in a larger than before or better than before assortment of consumption goods in the future. This is the raw gain associated with the new technology. It can be represented by a point on a new PPF—a point located directly to the east of the initial equilibrium. (We’re measuring investment on the horizontal axis.) Can’t we imagine, though, that people will choose to take that gain only partly in terms of future consumption? They prefer to take at least some of the gain in terms of current consumption. That is, people can consume more now and in the near future (by drawing down inventories of consumption goods, which will lead to a reallocation of some resources to the late stages of production) and, thanks to the new technology, consume more in the future, too. Graphically speaking, we can say that the preferred point on the new PPF is one that lies not directly east but to the northeast of the

³ Larry Moss has directed my attention to a passage in Mark Blaug’s *Economic Theory in Retrospect* (1985 [1962]) in which Blaug sets out Böhm-Bawerk’s theory of capital and interest using the “brake” metaphor: “The true function of a positive rate of interest then is to act as a brake on the tendency to neglect present wants by overextending the period of production” (p. 505). The Austrian interest rate as an intertemporal brake stands in sharp contrast to the neoclassical interest rate as a reflection of capital’s productivity. What the interest rate actually reflects, according to the Austrians, is people’s reluctance to forgo enough current consumption to take the fullest advantage of time-consuming production processes. Interestingly, the brake metaphor is used by modern macroeconomists, especially by monetarists, but only to describe the disruptive policies of the central bank. Specifically, the central bank tends to be destabilizing by alternately hitting the gas (low interest rates) and hitting the brake (high interest rates).

Fig. 1 The significance of Hayek's interest-rate brake.



initial equilibrium. This idea should be seen as wholly noncontroversial, and it is wholly consistent with standard microeconomic analysis, which treats corner solutions (such as the due-east movement) as unlikely market outcomes.[18.2pc]

Now, what is the market mechanism through which the economy moves northeast instead of due east? Here, Hayek's earliest grappling with this question focused attention on the rate of interest and, more specifically, on the interest rate brake. The new technology gives rise to increased investment opportunities and hence to increased demands for investment funds. The supply of loanable funds, however, is not perfectly interest-elastic. The interest rate is bid up, putting a brake on the rate at which the new technology is exploited. In other words, increased incomes earned during the adjustment period are used in part to increase current consumption. Saving is increased, too, but not by enough to allow for a full-throttle exploitation of the new technology.

Let me note here, in case some of you are worried, that I am not articulating some underlying time-preference-*cum*-productivity theory of interest. I'm simply following Hayek along the adjustment path from the initial macroeconomic equilibrium to the new macroeconomic equilibrium. The high interest rate during the adjustment to a new intertemporal equilibrium reflects not the productivity of capital but rather the reluctance of income earners to forgo increased consumption. We can recognize that once the new equilibrium is reached, the higher income level made possible by the new technology may well get translated into lower time preferences and hence a lower natural rate of interest. This is a point most forcefully made by Frank Fetter (1977: 247).

Our understanding of the role of the interest-rate brake is critical to our assessment of central bank policy during periods of technological innovation. Underlying the legislation that created the Federal Reserve as well as the thinking of the early Federal Reserve operatives was the real bills doctrine. According to this doctrine, the Federal Reserve's role was one of "accommodating the needs of trade." This innocuous-sounding phrase translates rather directly into increasing the supply of credit to match each new increase in the demand for credit. Of course, with supply shifting rightward along with demand, the rate of interest doesn't change. In effect, the objective of the Federal Reserve was to override the interest rate brake and send the economy due east rather than allow it to go northeast. The "needs of trade" imply the need to take the entire gain from technological advance in the form of increased future consumption.

The unworkability—the unsustainability—of such a credit policy is easily demonstrated. Accommodating the so-called “needs of trade,” conceived as the needed supply of credit at the pre-existing rate of interest, is inconsistent with the preferences of income earners, as registered by their pattern of spending and saving. The inconsistency materializes as an intertemporal disequilibrium, whose eventual resolution takes the form of an economywide downturn.

Hayek’s own summary assessment (1933 [1975]: 179) is to the point, although in his early work on business cycles, he attributed the cycles to any system of elastically supplied credit rather than to perverse policies of a central bank:

The immediate consequence of an adjustment of the volume of money to the “requirements” of industry is the failure of the “interest brake” to operate as promptly as it would in an economy operating without credit. This means, however, that new adjustments are undertaken on a larger scale than can be completed; a boom in thus made possible, with the inevitably recurring “crisis.”

In Hayek’s subsequent treatment of boom and bust, he attributed the unsustainable boom not to elastic currency *per se* but rather to central bank policy. The Austrian theory, then, not only shows just how the bumblebee flies but also identifies the circumstances in which sustained flight is not possible. Accordingly, Keynes’s ostensive demonstration that market economies are unstable and tend to collapse can be dismissed out of hand. The central bank’s policy of increasing the supply of loanable funds to match an increased demand for loanable funds, that is, its adherence to the real bills doctrine, effectively robbed the macroeconomy of its ability to thrive in the face of technological advance.

Hayek’s interest-rate brake also puts the monetarists’ objection to the Austrian theory in perspective. In correspondence with Milton Friedman some ten years ago—and elsewhere, I’m sure—Friedman made the point that, by historical standards, interest rates were not low during the 1920s. The evidence bears his point out. But interest rates were low by the standard of Hayek’s interest-rate brake. The Federal Reserve’s actions, both intended and actual, reflected the ill-conceived belief that a high interest rate should not be allowed to dampen a boom.

I think this audience will see that although I have framed the Austrian theory in a different way, featuring technological advance and the interest-rate brake, I have not altered the essential aspects of the theory. Still, there is a clear advantage in this reframing. The theory applies directly to the two most significant instances of boom and bust in the modern times. It applies directly to the 1920s boom and subsequent bust, when the technological advances came in the forms of electrification, home appliances, processed foods, and the mass production of automobiles. It applies directly to the most recent expansion and subsequent downturn, when the technological advances came in the forms of personal computers, the internet, the dot-coms, and still other dimensions of the digital revolution. Claiming direct applicability does not rule out our recognizing that other factors are at work, such as the policy blunders by both the fiscal and monetary authorities that made the Great Depression much more severe than it otherwise would have been and the dramatic fiscal imbalances during the recent downturn that have had their own effect on business confidence.

The claim of “direct applicability” is intended to characterize the comparison of the Austrian theory with contemporary theories of boom and bust. Significantly, the Austrian theory does not hinge on there being any price-level inflation during the boom. Prominent competing theories do. Hence, neither the short-run/long-run Phillips curve story, which is a stepchild of Friedman’s monetarism, nor the monetary-misperception theory, which is an outgrowth of new classicism, can make the claim of direct applicability. There was little if any price-level inflation during the 1920s, and the inflation rate never rose beyond the low single

digits in the 1990s. With little or no inflation to be misperceived by the agents of new classical models or to be differentially perceived by real-world employers and employees, who might be fooled into moving up a short-run Phillips curve, these theories lose their applicability. So, too, does standard textbook aggregate-supply/aggregate-demand analysis, which features price-level changes. At best, these mainstream theories might apply to other, less significant episodes in which an actual price and wage inflation is followed by unemployment. But they are simply not in the running when it really counts. How, then, can Hayek and the Austrians not be the presumptive victors in explaining boom and bust?

Some concluding thoughts

Finally, I turn to what I call the Pete Boettke question. Why, given the clear advantage of the Austrian theory over competing theories, does Austrian macroeconomics not fair better than it does in our profession's textbooks and academic journals? Or, to rephrase the question in the spirit of Boettke, "With this theory, why haven't we taken over the world already?" I'll content myself to my own version of the question. And, I'm sorry to say, I'll have to leave you with only the question itself and not with a satisfying answer.

We've grown accustomed to seeing the Austrians getting short shrift whether the focus is on history, theory, or policy. Allan Meltzer's recent *History of the Federal Reserve* (2003) is a case in point. Covering only half of central bank's history (1913 to 1951) in the 800 pages of this first volume, Meltzer provides detailed accounts of the many conflicts involving the Federal Reserve. During the 1920s, there were ongoing disputes between the New York Fed and the Board of Governors and between the Federal Reserve and the Department of the Treasury as well as ongoing differences of opinion about the need for coordinating the Federal Reserve's actions with those of the Bank of England. All the discussion centered on the rate of interest, but nowhere in the pages of Meltzer's first volume is there a satisfying account of the role of the interest rate in allocating resources intertemporally, about the importance of keeping the pattern of investment in line with decisions to save, or about the prospects of a thriving market economy in circumstances of Fed-dominated interest rates. And I think there is little hope that this material will appear in the second volume.

The neglect of the interest rate's role in keeping investment in line with saving is characteristic of writings in the monetarist tradition. The focus instead is on the money supply and the price level. Theoretical developments, particularly those that start with Don Patinkin's four-sector model are characterized by similar neglect. Alan Rabin's recent book, largely written by Leland Yeager and simply titled *Monetary Theory* (2004), is revealing in this respect. Lacking the cautiousness and perspective of the book's true author, Rabin categorizes "intertemporal planning . . . and related questions of saving, investment and economic growth" as "fringe complications" and "minor problems" (97). The overarching message of Hayek's macroeconomic writings—that monetary problems are relative-price problems and hence resource-allocation problems—is completely lost.⁴

⁴ Leland Yeager has pointed out to me that the paper from which the remark about "fringe complications" was lifted was concerned narrowly with the viability and applicability of Walras's Law. "What might be a 'fringe complication' in one context," Yeager makes clear, "may not be a fringe complication in some other broader (or different) context." Accordingly, one could argue that the issues itemized by Rabin (2004)—"intertemporal planning . . . and related questions of saving, investment and economic growth"—may well be in the fringe category in Yeager and Rabin's "Monetary Aspects of Walras's Law and the Stock-Flow Problem" (1997) but should not be considered fringe issues in Rabin's *Monetary Theory*, Chapter 3, which is the first of two chapters that carry the title, "Money's Demand and Supply: Equilibrium and Disequilibrium [1 & 2]."

Lastly, let me note that the situation is no better in the policy arena. In a recent interview with Ben Bernanke published by the Minneapolis Fed's *Region*, Arthur Rolnik (2004) asked about the dangers of deflation. Bernanke responded by making the case for monetary expansion. His principal reason for wanting to pump more money into the economy is that nominal interest rates should be kept appreciably above zero so that, just in case the economy falters, the Fed will have some room to respond!

With macroeconomic history, theory, and policy discussion being what they are, we have a lot of work to do. What's needed, of course, is a big dose of Hayek and not still another dose of Keynes. Fortunately, we've got the bumblebee and the marvel of the market on our side and, thanks to Hayek, we've got a marvelous theory to work with.

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