No. 09-23
June 2009

WORKING PAPER

THE MICROECONOMIC FOUNDATIONS OF MACROECONOMIC DISORDER: An Austrian Perspective on the Great Recession of 2008

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MERCATUS CENTER
GEORGE MASON UNIVERSITY

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The Microeconomic Foundations of Macroeconomic Disorder:

An Austrian Perspective on the Great Recession of 2008

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April 2009

Prepared for inclusion in *The Meltdown of the World Economy: Alternative Perspectives on the Global Financial Crisis,* Steven Kates, ed., Edward Elgar Publishing.

Modern neoclassical macroeconomics has taken on the air of what John Kenneth Galbraith decades ago termed "the conventional wisdom." In particular, since Keynes, the economics profession has taken for granted a broad vision of macroeconomics that looks for the explanations of both booms and busts in the movements of various aggregate variables. The whole sub-discipline of "macroeconomics" is premised on the belief that the standard microeconomic tools are not of much use in understanding the dynamics of growth and business cycles. Even with the rational expectations revolution purporting to set macroeconomics back on microfoundations, the language of aggregate supply and demand, over-simplified versions of the Quantity Theory of Money, and the aggregative analytics of the Keynesian cross and simple models of functional finance still fill the textbooks and inform most policy debates. As we find ourselves in a significant recession that none of these models foresaw, nor seem to be of much help in extracting ourselves, other approaches to macroeconomics have an opportunity to fill the explanatory vacuum. The Austrian school is uniquely positioned to fill that gap, as Austrians have long rejected the fundamental assumptions of modern macroeconomics and have developed an alternative approach to business cycles and economic growth that sheds a great deal of light on the current recession as well as suggesting ways to prevent future boom-bust cycles.

Austrians and Modern Macroeconomics

For Austrians, the start of economic analysis is the human actor trying to figure out what his ends are and how best to deploy his means to achieve them, but doing so in a world where his knowledge is fragmentary and often inarticulate and where the future is clouded by genuine, structural uncertainty. From the start, these preclude the use of standard neoclassical assumptions about rationality and self-interest. Austrians are not interested in describing the

equilibrium outcomes of fully-informed individuals and firms maximizing their utility and profits respectively. Such pictures of the world are useful, at best, as contrasts to the ways in which real-world humans attempt to peer through the fog of uncertainty to better deploy their means for their desired ends, whether that is a single person engaging in economizing behavior or a firm searching for profits. All human action is, for the Austrians, speculative and entrepreneurial in that there is no assurance of success and genuine error and regret are possible (unlike neoclassical models where the best decision possible given the data at hand is assumed to be made).

This depiction of human action translates into a conception of the market process. As individuals attempt, in Mises's (1966) words, to "remove their felt uneasiness" by better deploying their means toward their desired ends, they have several options. First, they can engage in exchange and give up lesser-valued means for higher-valued ones. Exchange is mutually beneficial ex ante as both parties imagine they are being made better off by the trade, even if ex post they turn out to have erred. Such simple exchanges improve the subjective well-being of individuals or households, and as the inconveniences of barter take their toll, eventually traders discover the use of a medium of exchange. Monetary exchange brings with it the evolution of distinct money prices for each good, which in turn enables traders to more clearly calculate the gains and losses of various activities.

Money prices are also crucial to the second way in which people can improve their position: They can engage in roundabout processes of production. Rather than trade consumption good for consumption good, actors can gather together a variety of inputs and create a new output with them. This can be as simple as constructing a tool or as complex as producing automobiles. Carl Menger (1981 [1871]), the founder of the Austrian school,

recognized the importance of intertemporal production by distinguishing between goods of the "first order," or direct-consumption goods, and goods of the "higher orders," or capital goods that contribute to the production of first-order goods. In the Austrian vision, individuals see opportunities to improve their future consumption possibilities by consuming less now and using some of those resources to "finance" multiple-stage production processes that will provide more output in the future. It is our current savings (i.e., the reduction in current consumption) that makes it possible for us to wait for the larger future output. Savings, for the Austrians, is the vehicle for long-run growth as it makes possible more roundabout processes of production.

Producers make their decisions about what to produce and how to produce it based on the signals provided to them by current prices and their judgments about what will be wanted in the future. This is the essence of entrepreneurship. Producers purchase raw materials, machinery, or other higher-order goods, as well as labor, and combine them to produce output that they believe can be sold at a price that exceeds the cost of the inputs *plus the implicit interest rate required to wait for the output in the future*. Because humans, all other things equal, prefer the present to the future, the fact that production takes time means that the value of the final good must exceed not just the monetary costs of the inputs but also the value of the time the production takes. For Austrians, therefore, the interest rate plays a key role as the central price guiding intertemporal production. At lower interest rates, which reflect more patience on the part of consumers, production processes with more stages of production (i.e., those with more steps between raw materials and the final output) will be relatively more worthwhile, while higher interest rates and consumer impatience will make shorter processes relatively more desirable. The crux of the matter is the degree of *intertemporal coordination*, or the degree to which the roundaboutness of

production plans are synchronized with the preferences of consumers for more or less consumption in the present or the future.

This conception of production and consumption has an important implication for how capital is understood. In neoclassical analyses, capital is normally treated as a homogenous aggregate; it is "K" in various models. This is a crucial error from an Austrian perspective. Because capital is, for the Austrians, always embodied in specific goods, it cannot be treated as an undifferentiated mass. Entrepreneurs purchase inputs or build machines that are designed for specific purposes. They cannot be costlessly redeployed to an infinite number of other uses the way the homogenous conception of capital might suggest. Austrians see capital as *heterogeneous* and having a limited number of specific uses (Lachmann 1978 [1956], Kirzner 1966). The same is true of labor. The skills and knowledge workers have are not appropriate for all potential production processes, thus their human capital can be conceived of as heterogeneous and specific to a limited number of uses.

Capital is not only heterogeneous in this sense, it also might embody error. Given an uncertain future, producers are always making their best guess as to what to produce and how, so the range of capital goods in existence at any moment is likely to embody a variety of entrepreneurial errors. For example, if two producers buy up the inputs to produce a particular kind of running shoe, but the demand is only sufficient for one to be profitable, then the capital of the other has been misallocated. Of course, we cannot know that until the market process unfolds and the one firm's losses indicate that the value of their final product was not sufficient to cover costs including interest. This point is important because it implies that we cannot just add up the value of existing capital to get some aggregate measure of "total capital." That procedure would only be valid in equilibrium where we knew that each higher-order good was

deployed correctly. We cannot add up existing stocks of capital to get some aggregate. In thinking about capital, we must pay attention to both where the capital (and labor) sit in the structure of production and factors that might distort price signals in ways that make it more difficult for firms to synchronize their production with the public's preferences about consumption.

The Austrian approach to macroeconomics can already be seen as being fundamentally microeconomic. What matters for growth is the degree to which microeconomic intertemporal coordination is achieved by producers using price signals, especially the interest rate, to coordinate their production plans with the preferences of consumers.[1] However, this coordination process can be undermined through economy-wide events that might well be called "macroeconomic." In particular, the very universality of money that makes possible the coordination that characterizes the market process can also be the source of severe discoordination. If there is something wrong with money, the fact that it touches everything in the economy will ensure that systemic "macroeconomic" problems will result. When money is in excess or deficient supply, interest rates lose their connection to people's underlying time preferences and individual prices become less accurate reflectors of the underlying variables of tastes, technology, and resources. Monetary disequilibria undermine the communicative functions of prices and interest rates and hamper the learning processes that comprise the market.

More specifically, Austrians have offered a theory of the business cycle that brings together the themes outlined above.[2] According to the Austrian theory, the boom phase of the business cycle is initiated when the central bank attempts to supply more money than the public

[1] Hayek (1984 [1928]) is the canonical article on the centrality of intertemporal coordination to the Austrian conception of the market.
[2] Key contributions to Austrian business cycle and macroeconomic theory include Hayek (1966 [1933], 1967 [1935], 1975 [1937]), Mises (1966, ch. 20), Horwitz (2000), and Garrison (2001).

wishes to hold at the current price level. As these excess supplies of money make their way into the banking system, lenders find themselves able to provide more loans even though they have seen no increase in saving from the public. Central bank open-market operations add to their reserves in a way indistinguishable from private deposits. This increase in the supply of loanable funds (note that "loanable funds" need not equal "private saving") drives down interest rates as banks move to attract new borrowers. These lower market rates of interest appear to signal to firms that the public is now more patient and more willing to wait for consumption goods. Had the expansion of loanable funds been financed by genuine savings, the lower interest rate would be sending an accurate signal about the public's wishes. However, when the expansion is caused by an excess supply of money rather than a shift in the public's time preferences, the tight relationship between market rates of interest and underlying time preferences is broken.

The lower interest rate signals to producers that the public is more willing to wait; they therefore engage in longer-term processes of production, i.e., ones that have more stages between raw materials and final, consumer good. Longer processes are more productive, which is why they are desirable to producers, and the lower interest rate makes it economically rational to stretch out production in this way. Capital goods are created or purchased and refit to engage in these longer processes. Labor is bid away from markets closer to final goods and toward earlier stages of production. Prices and wages are bid up, and as Garrison (2001) argues, the economy can, at least temporarily, exceed its production possibilities frontier because, as we shall see, the projects being financed by the monetary expansion are ultimately not sustainable even as they create all the observed measures of a boom in the meantime. The boom cannot last because the underlying preferences of consumers have, in fact, not changed and they are, in fact, not willing to wait longer for output. So even as producers are shifting resources from producing goods for

current consumption to earlier-stage goods, consumers continue to demand current goods with the same relative intensity as they did before the monetary expansion. The inflation-driven lower market rate of interest is sending out a false signal about the public's preferences.

The intertemporal discoordination becomes evident as a tug-of-war erupts between the attempts by some producers to purchase inputs for longer production processes, while others continue to bid up input prices for goods closer to consumers. Both groups cannot be successful given the realities of the resources available. Eventually, those producers engaged in the longer processes find the cost of inputs to be too high, particularly as it becomes clear that the public's willingness to wait is not what the interest rate suggested would be forthcoming. These longer-term processes are then abandoned, resulting in falling asset prices (both capital goods and financial assets such as the stock prices of the relevant companies) and unemployed labor in those sectors associated with the capital goods industries. So begins the bust phase of the cycle, as stock prices fall, asset prices "deflate," overall economic activity slows, and unemployment rises. Key to the bust is the specificity of capital and labor noted earlier. The abandoned capital goods associated with the longer production processes cannot be instantaneously and costlessly converted over to new uses in the consumption goods sectors. The same is true of labor: Unemployed workers must find their way into the particular sectors closer to final consumption where labor is needed, and they will likely take a loss in income in the process and may even require a different set of human capital to be successful. The bust is the economy going through this refitting and reshuffling of capital and labor as it eliminates the mistakes made during the boom. For Austrians, the *boom is when the mistakes are made and it is during the bust that those mistakes are corrected*.

Standard aggregative macroeconomics is not very helpful in understanding the process Austrian cycle theory describes. Most fundamentally, if GDP is conceived in terms of C+I+G, the idea that consumption and investment might trade off is difficult to comprehend. When investment is treated as an undifferentiated quantity, rather than the Austrian "stages of production" approach, the whole notion of intertemporal discoordination and the problems raised by heterogeneous capital are also impossible to see. The ways in which artificially low interest rates distort the *composition* of "I" rather than affecting the total quantity are obscured in the mainstream approach, yet are central to the Austrian understanding of the errors of the boom and the corrective process of the bust. Keynesian and later models that do not understand investment decisions, and the capital goods they lead to, in terms of the specific best guesses of a whole series of microeconomic entrepreneurs will find it difficult to understand the distortive effects of artificially low interest rates. Hayek recognized this as early as his review of Keynes's *Treatise on Money*, when he wrote, "Mr. Keynes' aggregates conceal the most fundamental mechanisms of change" (Hayek 1995 [1931], p. 128). Over 75 years later, that sentence remains a very pithy summary of the Austrian critique of not just Keynes, but of the whole class of models from a variety of schools of thought that comprise modern, post-war macroeconomics. For Austrians, there are indeed macroeconomic questions, but there are only microeconomic answers.

Austrian Macroeconomics and the "Great Recession" of 2008

Austrian macroeconomics can offer a fairly comprehensive explanation of where we find ourselves in the current recession. One core concept in the Austrian approach is that although theoretical propositions are universally valid, they provide only the framework of a full historical explanation. In applying theory to specific historical episodes, Austrians recognize that the

particular details of each episode may vary in important ways, even as the outlines of the episode conform to the pattern identified by the theory.[3] In applying the Austrian cycle theory to specific historical episodes, therefore, the economist must pay close attention to the other kinds of factors in play that might have led to this particular episode's unique features.

The Austrian cycle theory emerged out of empirical data on the patterns of resource use and disuse that characterized 19th- and early 20th-century business cycles. That the capital goods industries expanded during booms and contracted during busts was an empirical observation that demanded explanation in any theory of the cycle, and the Austrians believe they had provided it. Common explications of the Austrian theory normally make the claim that the excess loanable funds created by the central bank will find their way into producers' hands who will use them invest in longer-term processes of production, as argued earlier herein. However, that claim is not a necessary feature of the cycle, rather a common one, especially in years past. Depending on the set of policies, institutions, and incentives in place, the excess of loanable funds could end up in a number of specific places, although all of them will be ones where the lower interest rate makes longer-term economic activity less costly.

In current recession, a series of such factors diverted the excess supply of loanable funds into the housing market, creating an asset bubble there that served as the basis for a set of ill-conceived financial instruments, all of which are now collapsing in the wake of the bursting of the housing bubble. The "Great Recession" is not a product of the greed of laissez-faire capitalism, rather, it is the unintended consequence of a pair of very significant interventions into the operation of the market process: the Fed's expansionary monetary policy and a set of policies that artificially reduced the costs and risks of homeownership, enabling the creation of

[3] O'Driscoll and Rizzo (1996) distinguish between the "typical" and "unique" features of any historical event. Callahan and Horwitz (2010, forthcoming) apply this type of approach to Austrian cycle theory specifically.

highly risky loans which themselves then led to even riskier innovations in the financial industry. From an Austrian perspective, the eventual collapse of this house of cards built on inflation represents not a failure of capitalism, but a largely predictable failure of central banking and other forms of government intervention. To the details of this process we now turn.

The empirical evidence on various measures of the money supply and related interest rates makes quite clear the ways in which the U.S. Federal Reserve System drove up the money supply and drove down interest rates since 9/11, if not earlier. This was very intentional policy on the part of the Greenspan Fed as it attempted to pull the U.S. economy out of the small post-9/11 recession. The Federal Funds rate fell to the 1 percent range for a period and stayed well below recent historic norms for much of the period prior to 2007. It is also worth noting the role played by the so-called "Greenspan Put." The Fed chair had made it clear that he believed that the central bank could do nothing to prevent the development of asset bubbles, but that it could cushion the effects when such bubbles burst. What is notable is that Greenspan seemed ignorant of the role the Fed might play in *causing* such bubbles as well as the incentives this policy created for investors, who now knew that they would be, at least partially, saved from any losses they might suffer due to a collapsing bubble. The latter surely had a role in making financial markets feels as though there was no downside risk to the housing-related instruments developed during the boom.

For these inflationary funds to fuel a housing bubble and financial sector-driven boom more generally, government policy had to play an additional role. A state-sponsored push for more affordable housing has been a staple of several recent U.S. administrations. At least since the Clinton Administration, the federal government has adopted a variety of policies intended to make housing more affordable for lower and middle income groups and various minorities.

Among the government actions, those dealing with mortgage market government-sponsored enterprises were central. Fannie Mae and Freddie Mac are the key players here. Although they did not originate many risky mortgages themselves, they did develop a number of the low down-payment instruments that came into vogue during the boom. More important, they were primarily responsible for the secondary mortgage market as they purchased mortgages from others and promoted the mortgage-backed securities that became the investment vehicles du jour during the boom.

Both Fannie and Freddie are *not* "free-market" firms. They were chartered by the federal government, and although nominally privately owned until the onset of the bust in 2008, they have been granted a number of government privileges, in addition to carrying an implicit promise of government support should they ever get into trouble. With such a promise in place, the market for mortgage-backed securities was able to tolerate a level of risk that truly free markets would not. As we now know, that turned out to be a big problem. It is true that the problematic loans that were at the bottom of all the current recession were generated by banks and mortgage companies and not Fannie and Freddie. However, their presence as "Big Players" in the mortgage market dramatically distorted the incentives facing those truly private actors.[4] Their willingness and ability to buy up mortgages originated by others made private actors far more willing to make risky loans, knowing they could quickly package them up and sell them off to Fannie, Freddie, and others. Fannie and Freddie had both various government privileges and the implicit promise of tax dollars if need be. This combination enabled them to act without the normal private sector concerns about risk and reward, and profit and loss. Their relative immunity from genuine market profit and loss sent distorting ripple effects through the rest of the mortgage industry, allowing the excess loanable funds coming from the Fed to be turned into

[4] On "Big Players" see Koppl (2001).

a large number of mortgages that probably never should have been written.

Other regulatory elements played into this story. Fannie and Freddie were under significant political pressure to keep housing increasingly affordable (while at the same time promoting instruments that depended on the constantly rising price of housing) and extending opportunities to historically "under-served" minority groups. Many of the new no/low down-payment mortgages (especially those associated with Countrywide Mortgage) were designed as responses to this pressure. Throw in the marginal effects of the Community Investment Act, which required lenders to serve those under-served groups, and zoning and land-use laws that pushed housing into limited space in the suburbs and exurbs and driving up prices in the process, and you have the ingredients of a credit-fueled and regulatory-directed housing boom and bust.[5] This variety of government policies and regulations was responsible for steering this particular boom in the direction of the housing market. Unlike past booms where the excess of loanable funds ended up as credit to producers, this set of unique events that accompanied this boom was responsible for channeling those funds into housing.

The boom in the housing market drove prices to unprecedented levels. Those inflation-fueled rising housing prices enabled other parts of the financial industry to develop new instruments that took the mortgage payments of borrowers as a flow of income that could be parceled out among investors. The variety of fancy instruments that comprised the secondary mortgage market were all premised on the belief that housing prices would continue to rise, thereby enabling subprime borrowers to continue so see rising equity, which in turn would enable them to afford their payments. If housing prices were to fall, and subprime borrowers find themselves with mortgages greater than the value of their homes, it would in turn dry up the whole flow of income and bring these other instruments down like the houses of cards they were.

[5] On the role of land-use regulation, see Mills (2009).

Of course, this is exactly what happened when the boom finally came to an end, as the housing industry found itself increasingly unable to find the resources it needed to build houses at prices that would be profitable and the flow of credit began to dry up. Once housing prices began to fall in 2006, the entire chain of investments built upon those rising prices was under threat. The stock market's large drop in the fall and winter of 2008–09 reflected the growing realization that the bust was underway and that the future earnings prospects of most firms had dimmed.[6]

The shrinkage of the housing and construction industries led those sectors to shed jobs and dramatically reduce investment in capital. The financial firms that began to bleed resources as their housing-dependent assets began to collapse in value also began to shed jobs and capital. These losses in employment and income have led to dropping demand throughout the rest of the economy. In addition, the losses of equity value in homes along with the declines in the value of retirement accounts and other investments caused further shrinkage in demand as households began to try to recoup through savings some of their lost wealth and/or saw absolute losses in investment income. All of these events together have led to the declines in the various macroeconomic indicators that we associate with recession.

From the Austrian perspective, the current recession has many features of the typical boom-bust process associated with the school's theory of the business cycle. The central bank fueled an unsustainable expansion of the economy that eventually would reveal itself leading to a bust that would begin to try to correct those mistakes of the boom. This recession, however, had some unique characteristics about it that were due to a whole host of government interventions

[6] This pattern whereby the stock market is a slightly lagging indicator of a recession that has already started is one we see historically (for example, the Great Depression really started in the summer of 1929, months before the stock market crash). It is also consistent with Austrian theory in that the turning point of the boom into the bust is when the longer production processes become unprofitable. That knowledge will take some time to percolate through to investors, who will eventually see that unprofitability occurring economy wide, leading to broad-based reductions in stock prices. The stock market drop may also may have reflected skepticism about the policy measures being taken to attack the recession. I turn to those questions in the next section.

and policies in the housing and financial sectors. The Austrian theory predicts that excess credit will flow to long-term production processes. In this case, that was housing, as the lower interest rates from the Fed's expansion artificially reduce the price of housing and led to the sequence of events we have outlined. As noted in the prior section, the Austrian theory does not attempt to predict the specific path inflation will take, only that it will generally conform to the pattern whereby it ends up in long-term investments as a result of lower interest rates. That in this case it went into housing is a particular feature of this cycle that is completely consistent with the more typical features the theory identifies. Inflation by the government central bank, along with other government interventions and policies, account for both the typical and unique features of this cycle and are the direct causes of the current recession.

Can Policy Cure Recessions?

Given the Austrian diagnosis of the problem, what does the theory recommend as the cure? Because the theory argues that government was responsible for the boom that produced the bust, it will not be surprising to find a great deal of skepticism about the ability of government to extract the economy from the mess it created. In fact, Austrian economics takes it as a very strong rule of thumb that governments should refrain from intervening in the corrective process of the recession. Even if there were some number of things government might do to help the situation, we cannot ignore the question of whether political actors have the incentive to do those things *and only those things* once we concede their role in the recovery. More fundamentally, however, Austrians do not believe that even well-motivated political actors can know exactly what policy steps would be needed to produce a true recovery. This argument emerges out of the claim that intertemporal discoordination that manifests as a "macroeconomic"

failure is ultimately a whole series of failures at the *microeconomic* level. Therefore, attempting to correct those failures would involve both identifying where they occurred and knowing what the superior allocation of resources would look like. Given the Austrian emphasis on markets as processes for discovering just this kind of knowledge, their general policy recommendation is to allow markets to figure out where the errors are and where resources would be better used.

The first point can be dispatched with fairly quickly. The history of various stimulus and recovery programs does not suggest that governments can limit themselves to only those sorts of expenditures and policies that mainstream theory, assuming for the moment it is correct, suggests will be helpful. Once we open the door to political intervention as key to the cure, politicians will gladly make that an excuse to propose and pass a whole variety of items, regardless of whether they fit the economist's model of a pump-priming stimulus. The debate over the Obama Administration's stimulus package in the United States revealed just this sort of concern, as did the ensuing debate over his proposed budget. In both cases, the claim was made that these expenditures were necessary for economic recovery, yet a substantial portion of those expenditures, particularly the emphasis on health care, education, and the environment in the budget, have no known relationship to economic models of recovery. This is a precedent set by the Roosevelt Administration during the Great Depression, when even Keynes was moved to note that many of its proposals seemed more like "reform than recovery." Even if theory suggested that government should have a significant role in recovery, the institutional incentives of the political process are such that it would be very difficult to limit government to just that role. When governments overreach, not only do they create additional costs (e.g. debt) that might offset any imagined gains, they can also retard private recovery by adopting policies that pose long-term threats to private property rights or that are constantly changing course. Both of

these will create what Robert Higgs (2006) has termed "regime uncertainty" and has blamed for the length of the Great Depression.[7]

This argument, however, is a mere sideshow for the Austrians. The more fundamental point is that even *theory* suggests that government can contribute little or nothing to the recovery process. The crux of the matter is that mainstream approaches to recovery are overly focused on macroeconomic aggregates such as consumption, investment, and unemployment, which obscure the adjustment processes at the heart of the Austrian conception, which have to do with the reallocation of resources among sectors at the microeconomic level. Developing policies that will "create jobs" or substitute aggregate net government spending for perceived insufficiencies of aggregate consumption or investment from the private sector is to not even ask the sorts of questions the Austrian theory suggests.

Recall that the core of the Austrian story is that the inflationary boom attracts both capital and labor toward the early stages of production as the artificially low interest rate makes longer-term projects look more profitable. As consumers continue to spend in their old patterns, in contradiction to what the interest rate seems to be saying they should do, industries closer to final consumption see demand staying constant and have to now out-bid producers in the early stages for various resources. For a period of time, as we noted earlier, this can drive the economy beyond its sustainable production possibilities frontier, as unemployment goes below the natural rate and capital owners use inputs with excessive intensivity. The bigger point is that both capital and labor are misallocated among the various sectors, with capital in particular being "malinvested" in the earlier stages of production. The Austrian theory is often wrongly termed

[7] Such regime uncertainty might also explain the ongoing lack of recovery, at least at the time of this writing, in the world economy. The lack of clear direction from the Obama Administration plus its apparent willingness to inject the federal government into firms such as General Motors might well lead private actors to be hesitant to engage in any long-term investment.

an "overinvestment" theory. It is true that there is "overinvestment" for a short period of time, but the real problem is that resources are "malinvested." Traditional aggregates may not show any change in the total level of investment even as resources are misallocated between the earlier and later stages of production.

The downturn in economic activity we associate with the recession is, on the Austrian view, the economy attempting to shed capital and labor from where it is no longer profitable. Because markets are discovery processes that take place through real, historical time, and because human actors have fragmentary knowledge, moving those resources to where they will be more productive cannot happen instantaneously. Entrepreneurs at the earlier stages of production will idle capital and labor as their profitability shrinks. Entrepreneurs at the later stages will now have to consider whether to purchase new capital or hire new labor. They may well have to wait until prices and wages fall sufficiently to make the purchases worthwhile. They may also have to wait until workers can learn where the new opportunities are, and possibly get retrained, much as some capital might have to be refit to be valuable at the later stages.

This adjustment process takes time, but also requires the skillful judgment of entrepreneurs across the economy about whether idled labor or capital can be profitably redeployed. Here too, it is not a matter of being too much or too little capital or labor, but capital or labor that is not suitable for a particular stage of production in a particular production process. The Austrian emphasis on the heterogeneity of capital (and labor) is central here, as capital cannot be costlessly and instantly reallocated from the early stages to the later stages as one might conceive it could be on the mainstream view of capital as an undifferentiated aggregate. The same can be said of government spending and investment of course, as simply assuming that

substituting G for I in the sum that comprises national income overlooks the shifts in capital and labor that would require, as well as the comparative efficiency of the two different lines of expenditure. The problem to be solved is not a matter of boosting aggregate measures of consumption and investment through any sort of government expenditure. The problem is ensuring that existing resources get reallocated away from sectors that were artificially stimulated by the boom to those sectors where consumers now wish to spend. Seeing the importance of the movement among the stages of production requires a different conception of capital and the production process, and one that moves away from a focus on statistical aggregates toward one that takes time and human plans seriously.

The policy conclusion is that only those located in the context of the market have the knowledge and the feedback processes to ensure that this reallocation process takes places as quickly and effectively as possible. Government expenditures, even if we take out the inevitable politicization of the process, will never match the ability of the market to discover where the excesses were and where the current demand is. That sort of microeconomic discovery process is precisely why Austrians have long argued against more expansive visions of government intervention and planning, and those arguments hold with equal force in times of macroeconomic disorder. It is not accidental that the modern Austrian emphasis on the epistemological advantages of the market grew of Hayek's participation in the two great debates of the 1930s: the socialist calculation debate and the debate with Keynes. The lessons of the former are also clearly evident in the latter.

Government actors must refrain from the huge temptation to step in and attempt to speed up the recovery process. Both theory and history suggest that doing so will be counter-productive and only slow the market's attempts to recover from the excesses of the boom. For

the Austrians, the boom was the time the mistakes were made and the bust is the market's way of correcting them. Interfering with that subtle and complex correction process is beyond the ability of government. Only the decentralized decision-making and learning processes of the market can accomplish the millions of corrections that have to take place in myriad individual microeconomic markets.

Is the Austrian perspective then left with a "do nothing" approach to recessions? At the level of "stimulus" packages and similar sorts of specific policy interventions, the answer would be "yes." But in two other ways the answer is "no." First, saying that *government* should do nothing is hardly the same as saying "we" should do nothing. In fact, recovery from recession depends upon active and creative entrepreneurship on the part of millions of economic actors. The Austrian perspective argues that it is *they* who should be "doing something." However, that perspective also recognizes that government policymakers cannot know what it is that all of those actors should do, so for the entrepreneur-driven recovery process to happen quickly and effectively, policymakers must refrain from interfering with that process and also take steps to ensure that policy creates a stable and predictable environment in which those entrepreneurs can operate. The primary objective for policymakers should be to minimize Higgsian regime uncertainty and thereby facilitate the countless individual adjustments that are necessary for recovery to take place.

The second Austrian solution is a longer-term institutional one. At the root of the Austrian analysis is the ability of central banks to inflate without economic penalty and thereby set in motion the events of the cycle. For this reason, a number of Austrians have long argued for changes in the institutions of banking that would eliminate central banks and allow privately-owned banks to issue currency competitively and enable banks to develop interbank institutions

such as clearinghouses to perform a variety of important functions that such institutions performed before they were abrogated by central banks.[8] Such a move to a "free banking" system would put an end to the inflation that generates the boom and bust cycle and causes recessions and depressions. It would also break the link between government spending and monetary policy that often uses inflation as a way to monetize debt. As the stimulus plans endorsed by much of the profession continue to drive up the burden of government debt across the world, the temptation toward monetization will continue to grow. Unfortunately, should governments succumb to that temptation, it will only set in motion yet another chain of events that will create another, and possibly worse, boom and bust cycle. Separating money production from the state is the key institutional change that Austrians see as necessary not so much to recover from the current recession but to prevent future, possibly worse, ones.

Conclusion

Austrians themselves refer to their conception of the microeconomic market process as the factor that distinguishes them as a school of thought from the neoclassical orthodoxy (Kirzner JEL). Elements such as uncertainty, fragmented knowledge, heterogeneous capital, and the epistemological role of prices all matter for understanding macroeconomic phenomena as well, as Austrians see such phenomena as ultimately microeconomic in their causes and effects. It is the distortion of interest rates (which are prices) through expansionary monetary policy that initiates economy-wide disorder, and other government interventions in the market process will steer that disorder in particular directions. Finally, the Austrian conception of the market process

[8] See White (1996) and Selgin (1988) on the argument for "free banking." Another group of Austrians has also argued for the abolition of central banking, but prefer instead a version of a 100% gold standard. See Rothbard (2008). My own view is that the White-Selgin perspective is superior. However, what matters for the point at hand is that both groups do have a positive policy agenda for "doing something" to prevent future recessions.

provides reasons to be deeply skeptical of government stimulus programs as the appropriate solution to the very disorder that prior intervention has created. All of these microeconomic elements are on display in the Austrian understanding of the current recession and the appropriate ways to respond to it. Macroeconomic aggregates still, as Hayek wrote almost 80 years ago, conceal the most fundamental processes of change, and that observation provides the Austrians with their alternative, microeconomic, conception of the boom and bust cycle.

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