

A MODERN CONCEPT OF ASSET PRICE INFLATION IN BOOM AND DEPRESSION

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ABSTRACT: The aim of this article is to demonstrate how monetary disorder spawns asset price inflation. This is re-interpreted here according to modern usage as meaning an empowerment of irrational forces in asset markets. The author blends insights from behavioral finance research and from Austrian business cycle theory to develop a hypothesis about how mental flaws of investors become inflamed by monetary influences and how these contribute to episodes of widespread mal-investment. Identifying two types of asset price inflation—boom type and depression type—this article draws on the last century of history to illustrate both through several stages, accompanied by a variable intensity of inflation symptoms in the goods markets.

KEYWORDS: asset price inflation, Austrian business cycle theory, carry trade, hunt for yield, irrational exuberance

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INTRODUCTION

During the long monetary experiment (including quantitative easing, near zero or negative interest rates, long-term interest rate manipulation) following the latest Great Panic and Recession (2008–2009), the term “asset price inflation” has become popular in market and economic commentaries. It seems that the writers are identifying the presence of speculative fever and frothy prices across a wide range of asset markets. Unfortunately there is much imprecision and too often the symptoms are divorced from the underlying monetary malaise. That is a pity, especially given that the present themes surrounding asset price inflation overlap considerably monetary economics as taught by the Austrian School (albeit that this highlighted distortions to the relative price of capital and consumer goods rather than to a broad array of asset markets).

The aim here is to link firmly the modern popular concept of asset price inflation to the monetary disorder from which it stems. Inspiration is drawn from Austrian business cycle theory. A key ingredient of the analysis here comes from behavioral finance theory. The mental flaws identified there in investment decision-making become prominent during periods of asset price inflation. The widespread intensification of these flaws is not due to random build-up of animal spirits but to inflammation by monetary disorder. Yes, a big political, economic or technological discontinuity may well be part of the process by which asset price inflation forms, but these are not a sufficient condition without the intervention of the money monkey-wrench.

In pursuing the relationship between monetary disorder and asset price inflation including the mental flaws described it becomes apparent that there are in fact two types of asset price inflations—the boom type, which emerges under conditions of flourishing investment opportunity, and a depression type, which forms when the overall economic situation is quite weak (albeit not so weak as to preclude the birth and growth of speculative narratives about investment opportunity which in turn excite highly leveraged activity across a limited range of economic activity). A giant monetary experiment features sometimes in the boom type of asset price inflation and always in the depression type.

The boom type is characterized by irrational exuberance in which capital gains fuel positive feedback loops about the various speculative narratives, reinforcing confidence in these. The depression types feature a “hunt for yield” driven by a famine of income on safe assets. The two forms of asset price inflation vary in significant respects. One task here is to plot the possible paths of both asset price inflation types through their various phases from start to finish. It is not impossible but rare for a depression-type asset price inflation to undergo metamorphosis into boom-type asset price inflation—at least according to the small sample size of history.

This paper makes reference to that history wherever possible to illustrate the analysis. In broad terms this starts with a definition of the concept. Second, the roles of irrationality and speculative story telling are detailed. Third, a clear distinction is drawn between the two types of asset price inflation. The relationship is described between asset price inflation on the one hand and goods and services inflation on the other (in effect, both twins born of the same monetary disorder). Finally, there is a short conclusion and discussion about the direction that future research into these topics could take.

GENERAL CONCEPT OF ASSET PRICE INFLATION INCLUDING IRRATIONALITY AND SPECULATIVE NARRATIVES

Let us start with a definition of the concept.

Asset price inflation describes the empowerment of irrational forces in asset markets by monetary disorder. This empowerment is characterized by an unusual prominence of flaws in mental processes as identified by psychologists (see especially Kahneman [2012]). Examples include irrational behaviour driven by “mental pain of realizing loss,”¹ feed-back loops from price action to

¹ Mental pain of realizing losses. Daniel Kahneman (2012) describes various experiments which illustrate that people become risk-seeking when all their options are bad. More generally he finds that “losses loom larger than gains” and that people are “loss averse.”

assessment of related speculative hypotheses,² anchoring effects,³ and several others including magical thinking⁴ and mental compartmentalization.⁵

These flaws are identifiable in various types of market conditions found under asset price inflation, whether characterized by “the hunt for yield” or “irrational exuberance.” There is much speculative storytelling and many investors become abnormally ready to embrace these tales, discarding their normal skepticism. During the course of the asset price inflation the stories come and go, as speculative excess produces outcomes (excess supplies and falling profits) which discredit them. The amount of distortion across asset markets is not general or equal, but depends on the evolving speculative narratives and the catalysts which drive these. The most powerful narrative of all may be new magical instruments designed by the central bank.

² Positive feedback loops are processes in which a change from the normal range of function elicits a response that amplifies or enhances that change. Shiller (2000) describes these as follows: “...news of price increases spurs investor enthusiasm, which spreads by psychological contagion from person to person in the process amplifying speculative stories that might justify the price increase. These bring in a larger and larger class of investors who despite doubts about the real value of the investment are drawn to it partly through envy and partly through a gambler’s excitement.”

³ Anchoring effects result from a cognitive bias that describes the common human tendency to rely too heavily on the first piece of information offered. An example would be the irrational tendency for investors to formulate their views about the outlook for interest rates many years from now based on where they are today and on where the Federal Reserve says it will steer them over the next two years. In principle the rational investor should form their expectations taking account of a whole range of scenarios which could be very different from today.

⁴ Magical thinking is the attribution of causal relationships between actions and events which cannot be justified by reason and observation. An example could be investors who follow almanacs in their decision making.

⁵ Mental compartmentalization is an unconscious psychological defense mechanism used to avoid cognitive dissonance or the mental discomfort and anxiety caused by a person having conflict emotions, beliefs within themselves. For example, investors in a situation of interest income famine, may focus on dividend income and how they spend out of this, distinguishing this from capital gain or loss. In rational mode there would be no difference between the two income sources. Security houses have abetted this irrationality by marketing “dividend-paying stocks” and high-yield bonds on the basis that they provide a stream of income for current spending purposes.

The asset price inflation goes through different stages from start to finish. Early on, currency devaluation may play a lead role in generating speculative stories and in practice, the Federal Reserve as the dominant central bank, plays a key role here. Even though other central banks at this early stage may not have launched their own contribution to global monetary disorder, asset markets in their country or currency (even if floating freely) can become subject to the increased forces of irrationality as fueled in the US.

In a mid-phase, forces of irrationality have strengthened and these spread over a wider span of asset markets giving rise to what market analysts describe as “speculative froth.” Yet in some markets the froth is already receding amidst the din of apparently isolated crashes. The central bank may respond to these, amidst concern that a sudden drainage of speculative froth across all markets could occur, by undertaking further monetary reflation. If successful, this might even induce some bottom-fishing in the crashed markets whilst adding to heat elsewhere. In a final phase there is an almost general plunge in speculative temperatures, sometimes financial crisis, and recession. The full extent of malinvestment at last becomes apparent.

The waxing and waning of speculative stories are central to the process of asset price inflation through time. The revelation of malinvestment (most likely via plunging profits or rents) and growing expectations of a tightening in monetary conditions (coupled perhaps with actual tightening) are catalysts to the waning. In particular, as the appearance of speculative froth grows in intensity and alongside forecasts of rising goods and services inflation gain prominence, speculation grows on “normalization” or “tightening” of monetary policy. The central bankers go on the speaking circuit to wonder aloud when they will start the normalization process. The president and finance minister might voice similar thoughts. Long-term interest rates begin to reflect that.

In principle we could imagine an asset price inflation coming to an end through a process of speculative stories waning (amidst accumulating disappointment) including the identification of malinvestment without any normalization of monetary policy. In the small sample size of history, though, there is no practical example of this. The asset price inflation of 1934–1937 in some respects is the closest, though there is a popular historical folklore which blames

the Crash and recession of 1937–1938 squarely on the Fed’s error of trying to normalize monetary conditions too soon (see below).

The monetary disorder which spawns asset price inflation also gives rise to goods and services inflation. We would be surely unlikely to observe one twin without the other being present somewhere, though care might well be required in ferreting it out and the relative vitality of the two can vary considerably between different episodes. For example, goods and services inflation may exist even where official statistics say otherwise, when account is taken of the “natural rhythm of prices.” It has been an insight of Austrian School economics that prices of goods and services on average should fluctuate through time (with a long-run tendency only to revert to the mean) under a regime of sound money (see Salerno [2010]). For example, during spurts of productivity growth, business recessions, periods of rapid globalization, the pressure on many prices would be downwards. The attempt of the central bank to stabilize prices during such episodes or even to generate a target low inflation rate induces monetary inflation. Stable official price indices, when the natural rhythm of prices is downwards, would be symptomatic of inflation.

All monetary disturbances do not start necessarily with the actions of a central bank. Under a gold standard, disturbances could come from shifts in the supply of gold or from perverse official intervention in and legislation regarding the banking industry which lulls the public into irrationally economizing on cash (and overestimating the safety of deposits), exposing them periodically to shock therapy. An example was the 1903–1907 boom and bust (see Brunner and Carr [2007]). Rothbard (2001) attributes the particular monetary disturbance then to Treasury operations which effectively increased the supply of monetary base—and of course there was unusual scope for market interest rates to diverge from unknown natural under the trauma of the San Francisco earthquake and the background of rapid technological progress in gold mining. In general, though, modern monetary and financial history is dominated by the great disturbances generated by the Federal Reserve. The specific features of the Fed-created monetary disorders have varied through time. The Federal Reserve has had huge discretionary power to set the path for high-powered money in the pursuit of shifting objectives, whether price stability, inflation targets, full employment, or some combination of these.

As the monetary base has become increasingly dislodged from the pivot of the monetary system (meaning that there is no broadly based stable demand for this aggregate which in any case is no longer a highly distinct asset) the Fed has sought to focus largely on setting the short-term term interest rate path. The tool of explicit injections of high-powered money on a large scale has been used in financial crisis and its recessionary aftermath. Many episodes of monetary disturbance have stemmed from the wide divergences created (wittingly or unwittingly) by the central bank between market rates across the maturity spectrum and the so-called neutral or natural level of interest rates (unknown at any time even though modern central bankers insist they can model it—see Williams [2017]).⁶

BOOM-TYPE ASSET PRICE INFLATIONS: CHARACTERISTICS

Boom-type asset price inflations occur in the context of persistently good economic news—likely including rapid productivity growth and living standards. The predominant mental flaw is the positive feedback loop—price gains across a wide spread of asset markets reinforcing the credibility of the particular speculative stories present there, including the macro-story of economic miracle or near-miracle. Good performance from essentially risky investments in the context of general prosperity and of interest rates below neutral level may cause investors to slant the probabilities of good scenarios in the future above those consistent with sober-rational evaluation and they may come to irrationally credit skill in their own investment choices.

Under the described glow of irrational exuberance there is likely to be malinvestment. Whilst this is taking place, growth of incomes and well-being is likely to be faster than what it would have been without the unsound money. Payback starts when the asset price

⁶ Empirical estimates of the neutral interest rate are based on observations of whether inflation is on a sustained basis below or above the target inflation rate. But this takes no account of the natural rhythm of prices. The central bank in aiming at an unchanged target during periods when the natural rhythm is downwards induces in fact monetary disequilibrium which may well show up most visibly in “financial instability” otherwise described as asset price inflation. Inflation below target does not mean that market rates were below the natural level.

inflation moves into its final stage. Even so there is some cushion from the earlier period against later adversity.

Boom-type asset price inflation is likely to go along with prices of goods and services rising faster than consistent with the natural rhythm which would accompany sound money (prices on average tending to revert to an unchanged mean over the very long run, but exhibiting substantial swings both down and up over the short and medium run). During a period of especially rapid productivity growth, prices would fall under a sound money regime.⁷ And during a business recession prices would fall to well below their long-run average. (Expectations of higher prices in the future help stimulate spending during the weak phase of the business cycle—see Brown [2015]).⁸ Evidence of unsound money policies could include prices moving sideways or slightly upwards when the natural rhythm would be downwards.

The monetary unsoundness (which accompanies boom-type asset price inflation) may well not be deliberate but due to a flaw in the monetary framework. Nonetheless, it has the result of steering rates below neutral, which contributes to the pattern of abnormally large and frequent capital gains. There is not widespread realization that money is unsound, and the central bankers may not realize it themselves (perhaps because they are focused on the aim of stable prices or low inflation, rather than realizing that in conditions of rapid productivity growth prices should be falling).

⁷ Sound money in this article means a regime where interest rates are determined freely in markets (both short-term and long-term), where the rules of the system mean that the outcome is very likely to be prices reverting to an unchanged mean over the very long run but exhibiting natural rhythm upwards and downwards as explained in the main text, and where these rules operate automatically with respect to the growth of high-powered money which is firmly at the pivot of the monetary system (as explained in the text).

⁸ Prices falling during a recession could in principle impede recovery if expectations were to develop of further near-term falls, encouraging some delay in purchases (even though eventually higher prices are expected beyond the price drop when the next strong economic expansion emerges). In principle and practice this possibility of deflationary expectations should not be overstated. Yes, in hindsight we might see business cycle recessions where prices seemed to be on a falling trend. But in real time no one would know for sure that increased economic weakness lay ahead—*ex post* price declines prices as measured by statistics do not correspond to *ex ante* magnitudes. Moreover, recorded prices do not capture various types of unofficial discounts which may have been front-loaded in the economic downturn.

The carry trades which flourish under boom-type asset price inflation include three in common with the depression-type. A fourth (the term maturity carry trade—from short maturity safe government bonds into long maturity) is found only under the depression type. The three are first currency carry trades (low interest monies into high interest rate monies), second credit carry trades (from low risk credits into high risk credits), and third liquidity carry trades (from liquid assets into illiquid). In all three cases the carry trader pursues extra income in the knowledge that there is some risk attached—whether adverse exchange rate movement, default, or market seize-up (inability to transact). Even under sound money regimes, of course, such carry trades take place and are consistent with rational pursuit of extra yield. The irrationality creeps in where the traders distort the probability of loss assessments to well below “fair value.”

For example, in the pursuit of currency risk premiums the traders may become over-confident in expectations that the high-coupon currency will continue rising or not fall (such as to wipe out the interest rate advantage). That over-confidence may twin with a good news economic story, such that the high-interest rate money economy is undergoing a profound economic change (for the better)—becoming, for example, much more “dynamic” than previously. General good news and positive investment results elsewhere might contribute to false confidence about the future.

Alternatively, in the pursuit of the credit risk premium, a string of low actual defaults consistent with good economic times might encourage the belief that the defaults will remain low, when in fact the rational investor should be giving significant weight to the possibility of bad economic or political scenarios in the future where this might not be the case. And as regards the liquidity premium, the high turnover which typically accompanies bull markets in assets and the exaggerated optimism that good times will continue might falsely encourage unrealistic expectations that this state of affairs will long persist.

A final point, boom-type asset price inflations do not emerge early on in a cyclical expansion. They arrive typically after many years of good economic outcomes and of course depend essentially on monetary disequilibrium.

BOOM TYPE ASSET PRICE INFLATIONS: A HISTORY

An early example of boom-type asset price inflation was 1924–1929. In the 1920s the new monetary experiment was the Federal Reserve seeking to steer the monetary base such as to alternatively promote faster economic recovery from the Great Recession of January 1920 to July 1921 and then stabilizing the price level in the face of rapid productivity change (electrification, the mass assembly line, radio) when the natural rhythm of prices would have been downwards.

We can see the signs of boom type asset price inflation accumulating in the years 1925–1928 amidst huge economic optimism both regarding the US and Germany (the second largest economy in the world at that time). Under the 1924 so-called Dawes Plan the Reichsmark in effect joined the dollar standard. A brief economic miracle ensued in the Weimar Republic. The Fed's monetary interventions bore down on interest rates relative to (unknown) neutral and caused the positive feed-back loops and other features discussed above to emerge across a range of asset market including US stocks, US commercial and residential real estate, and German credits, for example. A vast carry trade grew from the low interest rate monies and credits (especially dollars) into the high yielding German ones, and the apparent easy profits made along with the speculative narrative of German miracle revved up the momentum. Many of the German bonds were issued by municipalities, and more generally the flow of global carry trade funds was into German banks to get the higher interest rates available.

We can date a mid-phase of asset price inflation where speculative temperatures plunged already in some asset classes—the Florida land bubble burst in 1926, the Berlin stock market crash in May 1927 (see Voth [2003]). The rise of US equities had stalled in 1926 and early 1927 and the National Bureau of Economic Research records a mild recession around that time (October 26 to November 27).

It was amidst such faltering that Benjamin Strong (the New York Fed chief then the most powerful official in the Federal Reserve System) administered his famous “coup de whiskey” to the stock market (see Pollock [2013]). In fact, new injections of monetary base already occurred early in 1927, to be followed by a discount rate cut

in late summer, the latter ostensibly to help out Bank of England Chief Montague Norman in defending Sterling without (the latter) having to tighten monetary policy. Whatever the immediate motive, this late-cycle inflationary injection to sustain asset price inflation is the antecedent of what later became described as the Greenspan Put. And it was spectacularly successful in reinvigorating speculation on Wall Street. The carry trade into Germany resumed its boom, though that began to falter as Germany entered recession in the second half of 1928 and rising US interest rates by that point began to take their toll. The end phase of the great asset price inflation of the 1920s started in late 1928 and early 1929 amidst evidence that the nationwide real estate boom was faltering (beyond Florida) and then the Wall Street Crash. The German and wider European banking crisis in spring 1931 was the start of the final phase of bust.

The next boom-type asset price inflation was under the Kennedy/Johnson administrations. The years of the mid-1960s were an economic boom period, with rapid productivity growth (see Meltzer [2005]) in the US and more particularly in continental Europe and Japan where economic miracles were occurring. Yet the Fed was acting to resist market pressures to higher rates. New appointments to the Fed were Keynesians who were keen to pursue their hypothesized trade-off between higher inflation and unemployment. The Fed chair Martin was not a Keynesian but was nonetheless an advocate of “fine-tuning,” believing in his innate ability to “take away the punch bowl when the party got rowdy.” The rapid productivity growth and investment boom went along at the start with a subsiding of inflation and so there was no occasion to act on his thinking (which did not include any notion of a natural rhythm of prices downwards when productivity spurts). And as increasing public spending related to the Vietnam War and vast new social programs put upward pressure on long-term rates, the Chair saw his responsibility to help “manage public debt prices” and be “independent inside government” (see Meltzer [2005]).

A boom in the stock market and real estate prices doubtless helped by the lag of interest rates below neutral became characterized by the “Nifty Fifty,” the IOS, and the rise of the New York real estate moguls. Positive feedback loops between rising stock prices on the one hand and the hypotheses of global economic

miracle (double digit growth in Japan and high growth in France, Italy, and Germany) and the wonders of the new Keynesian economics on the other hand were not hard to find. As in the previously described episode of asset price inflation (boom-type) there was a mid-phase speculative set-back, this time in 1966, as the Fed instituted a “credit crunch,” partly in response to inflation concerns (CPI inflation up to 2 percent in late 1965) (see Pollock [2016]). Into 1967 the Fed delivered its “Greenspan Put” (in the form of suspending the crunch against the background of the stock market having fallen by 15–20 percent in the first half of 1966 and the economy having entered an apparent growth cycle downturn) even though, in the context of the Vietnam War, inflation expectations were rising.

A visible jump in goods and services inflation through 1967–1968, coupled with bouts of downward pressure on the dollar (within the Bretton Woods System), brought the party on this occasion to an end by forcing the Fed into a belated sharp tightening of policies. The crash of 1968 (from a peak which in real terms was 6 percent above the level of end-1965) and the recession of 1969–1970 were the catalyst to President Nixon and his central bank chief Arthur Burns (from January 1970) engaging in a powerful monetary reflation coupled with the devaluation of the dollar through 1971–1973. Asset prices (stocks and real estate) rebounded though never surpassing their 1967–1968 peaks in real terms. Then in 1973–1974 came the greatest crash since 1929, as the Fed tightened aggressively in response to headline goods and services inflation reaching double digits (as amplified by the 1973–1974 “oil shock”).

The next episode of asset price inflation again fits the boom-type description—the post-Plaza global boom of 1985–1990. The Volcker Fed, having ended the monetarist experiment already by 1983, came under growing pressure from the Reagan Administration to foster devaluation and monetary reflation in the context of a difficult growth recession from late 1984 to early 1986 (and the approach of difficult mid-term elections in which the Republicans indeed lost control of the Senate). The Administration appointed “supply-siders” to the Fed Board. Volcker was prepared to go along with the dollar devaluation strategy, never having fully shed his original mantle of “devaluationist” as the senior international economic official under the Nixon Administration who had

negotiated the devaluations of the early 1970s. He was alarmed by the widening of the trade deficit which occurred in the wake of the super-strong dollar of 1983–1984.

The related easing of US monetary policy fostered asset price inflation at a time when productivity and investment were indeed picking up underlying strength as a result of the Reagan supply-side tax reforms and the defeat of high inflation. And so there was the positive feedback loop from rising asset markets to belief in the fundamentals of the economic boom. The Louvre agreement to stabilize the dollar in early 1987 (safely past the mid-term elections) set off expectations that the Volcker Fed would now indeed tighten monetary policy in response to widespread evidence of rising speculation. And the crash of the US equity market briefly in October 1987 could be attributed to that shift.

A powerful monetary easing by Fed chair Greenspan—the first actual Greenspan put—who had succeeded Volcker in August was successful in re-stoking asset price inflation both in the US and globally through and extended late-mid phase, helping the Republicans keep the White House in November 1988. In Japan, the efforts of the monetary authorities to hold back the soaring yen through late 1985 and 1986 to early 1987 helped make that country the hottest zone of the global asset price inflation—definitely of type A as productivity and investment spending grew rapidly there. Resumed Fed tightening through 1989 in response to rising goods and services inflation, Japanese monetary action to counter “excess speculation” and a jump in German interest rates reflecting the fall of the Berlin Wall and German unification, all drove the asset price inflation into its final stage characterized by recession and crash.

The great boom and asset price inflation of 1995–2000 followed.

The story this time was the Federal Reserve tending (in clandestine fashion) towards a policy of “targeting inflation” (in July 1996 then-governor Janet Yellen presented at the invitation of Chairman Greenspan a paper to the FOMC on why inflation should not be lowered below 2 percent—see Brown [2015]) at a time when the natural rhythm of prices was downwards related to the surge of productivity. And when the ECB opened its doors, it adopted a virtual 2 percent inflation standard (see Brown [2013]).

One of the early huge speculative stories of this period was the economic miracle of the Asian tigers and cubs with a huge carry trade developing of funds flowing from dollars and yen into the high-yielding tiger currencies (many of which were in an Asian dollar zone). The yen was often the funding currency not just against the Asian but also more generally. The big speculative story of the IT miracle developed simultaneously. Alongside the currency carry trade was a credit carry trade. The latter encompassed also the corporate bonds issued by telecommunication companies. And there was the liquidity carry trade with LTCM and its fellow travelers finding “new ways” to boost returns by taking on illiquidity (in the case of LTCM focusing on off-the-run Treasury bonds).

The asset price inflation proceeded through a late mid-phase to the end-phase. The former included the Asian debt crisis of 1997, the wider emerging market crisis of the following year, and then forward to the bursting of the Nasdaq “bubble” and the Tokyo “IT equity” market in 2000. The credit carry trades burst spectacularly in the following year or two amidst tales of “fallen angels,” including such names as WorldCom and Enron going from fame to infamy.

The monetary contribution to all of this came from the Fed over-responding to the 1998 emerging market shocks and fears of a 2000 IT glitch and thereby fueling an intensified rise of speculative temperatures (the second Greenspan put). Then as goods and services inflation started to rise and concerns about speculative heat grew, the Fed tightened policy abruptly.

DEPRESSION-TYPE ASSET PRICE INFLATIONS: CHARACTERISTICS

Let us turn to depression-type asset price inflation.

This appears early on in a cyclical expansion and is triggered by radical monetary experimentation which has the effect of causing a famine of interest income famine. The radicalism fuels anxiety about a breakout of high inflation at some uncertain point in the more distant future. The consequence is a desperate hunt for yield characterized by a flaw in mental processes which Daniel

Kahneman (2012) describes under the heading of “loss aversion” or more generally “prospect theory.” He notes from experiments that if individuals are faced with certain loss they become risk-lovers, willing to take on gambles which offer a possibility of gain (compared to the starting level of wealth) but whose expected outcome is substantially negative. The combination of risk-loving behavior to avoid loss but risk aversion otherwise is contrary to normally assumed rational behavior in economics (as usually expressed in the context of declining marginal utility of wealth). In particular the individuals concerned are giving undue importance to the starting point (against which losses and gains are measured).

Under conditions of interest income famine as induced by radical monetary experimentation, many investors, especially those whose savings are normally concentrated in or wholly in safe bonds and money, find themselves facing certain loss. They exhibit the loss aversion as described in joining the Hunt for Yield. In this hunt they do not become economic optimists, though they may become susceptible to speculative story-tellers.

The narratives may span particular industrial sectors (for example energy or Silicon Valley) or more generally countries (Brazil or China) but there is no master narrative about prosperity. Positive feedback loops may form where price gains stoke belief in the story but this is not equivalent to the general optimism of type A asset price inflation. Yes “momentum trading” may be one technique of hunting for yield (buying assets which seem to be on a rising trend). But speculating on continuing momentum—often based on algorithms—is not the same as irrational exuberance about the economic boom continuing. In fact there is much buzz about “the most unloved bull market.” In stock market terms, we should expect price-earnings ratios to reach a much higher level at the peak in a boom-type asset price inflation than in a depression-type asset price inflation.

“Everyone and their dog” knows that depression-type asset price inflation is present, unlike for the boom-type. The Federal Reserve is constantly in the news. The media is abuzz with warnings of financial market froth. The Great Monetary Experiment is apparent to all. Everyone except perhaps the architects of the experiment put a high probability on it failing—meaning an eventual crash and great recession. And so there is a

general reluctance to invest in long gestation projects which pay off when these dangers loom large.

Instead, companies find that equity investors reward them for paying out cash, whether in the form of dividends or equity buy-backs. Financial engineering strategies—often including increased leverage—are attractive, which bring cash into the early years, especially where prices of credit products are inflated in an environment of hunt for yield. Many owners of small and medium-size businesses plan to sell these at some distant point, and under an environment of asset price inflation type B they are concerned that by then it may have reached its end stage. So they also become reluctant to enter into long-gestation investments. Similar considerations apply to executives in large companies whose compensation includes long-dated share options.

Hence depression-type asset price inflation goes along with low investment and low productivity growth in general. There are no 7 years of fat (as occurs under boom-type asset price inflation) to compensate for the 7 years of famine to follow. And yet there can be much malinvestment, meaning that overall prosperity suffers considerably, taking the fat and the lean years together. Much of this malinvestment is concentrated around particular speculative stories which get an abnormally strong following. And usually, but not always, this malinvestment is accompanied by high leverage (which means that the equity investors might indeed get big cash rewards before the end-phase arrives, having shifted much of the longer term risks to the buyers of inflated credit paper).

The boom of the carry trade into long-maturity fixed-rate bonds in search of a term premium (the fourth form of carry trade unique to depression-type asset price inflation as explained below) and into credits (amidst unrealistic low expectations of default) favor a buildup of speculative temperatures in residential real estate markets especially where leverage is typically high and the term of fixed-rate borrowing long. More generally, in the Hunt for Yield which typifies depression-type asset price inflation, residential real estate with its apparent steady income stream (whether actual or imputed rents) can become attractive to income-famine victims. Owner occupiers, however, especially where intended holding periods (of the present or future homes) are long, should not in principle feel better off to the extent that home price gains might

superficially suggest. They are both the payer and recipient of the imputed rent flow through many years to come, which are discounted in the calculation of present value.

Depression-type asset price inflation is likely to be accompanied by its monetary twin of inflation in the goods and services markets, but as for the boom-type this may not be easy to find in the official price indices. Again, we should measure such inflation in the goods and services markets by comparison with the natural rhythm of prices under sound money. For example, in a cyclical period of economic weakness, prices should fall to a lower level than during a period of strong economic activity. Low and below-target inflation measured over several years of cyclical weakness may be consistent in fact with symptoms of monetary inflation in goods and services markets, especially if there is rapid globalization tending to push down the prices of traded goods.

The lack of general economic optimism or accompanying irrational exuberance under depression-type asset price inflation could mean that stock markets, for example, appear less expensive using the traditional metric of price-earnings ratios. At the top of the market in a depression-type asset price inflation the P/E ratio is likely to be well below the peak reached in boom-type. Consistently, though, the stock market might be even more elevated under type B relative to “fundamentals.” Within the stock market under depression-type as under boom-type there may be a sector where P/E ratios are in the stratosphere, reflecting extreme optimism on a particular innovation. And under depression-type this optimism is likely to combine with a flawed mental process already discussed above—the willingness to take on poor gambles to avoid the certainty of loss elsewhere in the portfolio (especially on monetary assets).

The recession and crash which feature in the end stage of depression-type asset price inflation can be as bad as for the boom-type even though the preceding economic landscape was so much poorer (under depression-type). Yes, there is no huge investment boom to turn to bust at a macro level under the depression-type, but nonetheless investment could collapse by as much. All those speculative stories and associated leverage did produce within the weak aggregates (for investment) areas of sometimes spectacular malinvestment. As the stories fade or

become discredited, the slump of capital spending in those areas depress substantially the investment aggregates. Moreover, the weakness of consumer spending could be as much or more under the depression-type (than boom-type) as households realize that their future income expectations were wildly exaggerated in a context of vast financial froth (and this downsizing of expectations would occur in the context, most likely, of financial crisis, including failure of financial institutions, and including those responsible for pension provision).

The timing of the onset of final stage for depression-type or boom-type asset price inflations might well be influenced by central bank actions. Under the boom-type these may be prompted by concerns about rising prices of goods and services but also by much talk of excess speculation. Under the depression-type the central bank could herald a “policy normalization” prompted by much discussion of potential “financial instability.” Depression-type asset price inflations, though, are more likely than the boom-type to end without any effective monetary tightening or normalization at all. This is because the depression-type occurs in weak economic conditions, where the emergence of excess capacity and declining profits in key sectors previously leading the upturn could emit signals sufficiently strong to cause a shift of asset price inflation into its final stage without any contribution from central bank action.

In depression-type asset price inflations, there is much commentary about whether monetary tightening or normalization could make matters worse by causing a sudden plunge in asset prices. This theme can also emerge in boom-type asset price inflations, albeit that the general optimism and less widespread wariness of over-priced asset markets means that the sense of danger is likely to be less. This is the “point of no return” issue raised, for example, by Friedman and Schwartz (1963) in their analysis of the asset market booms in the mid and late 1920s (they conclude that the Fed’s belated actions to “cool the speculative temperature” made the inevitable downturn worse than if this had been left to occur “naturally”). After the asset price inflation has been in process long enough and there is so much froth around, the danger is that central bank signaling or action could bring a more sudden and violent downturn than allowing the asset price

inflation to burn out from “within.” Again, the prominence of this “debate” could be greater under depression-type than boom-type given the widespread realization that a monetary experiment is in progress and that froth has been deliberately created.

As regards the carry trades under depression-type asset price inflation, much of this is driven by momentum-type considerations—the trend is your friend. But there may be speculative stories which appear to justify the trades also and which get exaggerated in importance.

For example, a carry trade into an emerging market currency might be driven in part by highly optimistic story telling about the future of that emerging market economy. Carry trades into high-risk credits feature similarly a combined drive of income famine and story-telling (in this case about the ultimate corporate or sovereign borrower) though the latter may be less prominent in general. The illiquidity carry trade could include several elements of distortion. For example, the switch of liquid funds into private equity includes much story-telling about the efficiency which private equity managers unconstrained by quarterly earning calendars and public market filing requirements will bring to business operations. There are also the tales of how the private equity “barons” have fostered crony capitalist connections which open up paths through the regulatory maze which surrounds some of their businesses.

The carry trade which features largely under depression-type asset price inflation and not at all under boom-type is the term maturity trade—the switching of funds from short maturity top government debt into long maturity in expectations of earning a “term premium.” The idea that there is a normal expectation of extra income from lending for a long time at a fixed rate rather than at a floating rate is dubious at any time. Higher long-term rates than short-term are likely to reflect expectations of less capital abundance in the future (for example, if investment opportunities improve and/or savings become scarcer or if government spending increases) and concerns about higher inflation. The demonstration that there is in fact a margin over and above (the so-called term premium) and that indeed normal equilibrium conditions call for this is dubious at best.

But in the hunt for yield and weak economic conditions which are intrinsic to asset price inflations of the depression-type, investors are more than usually willing to chase the hypothesis that a positive term premium should be expected, and there are strong grounds for speculating that this could be unusually positive. A big story at hand is secular stagnation. The persistent economic weakness marked by low productivity and low investment spending is fertile ground for Keynesian economists to paint their picture of long-run depression marked by a natural rate of interest which is sub-zero or barely positive. And indeed, actual market rates get caught in a “warp” of self-fulfilling expectations. The low investment generated by the monetary experiment and related uncertainty in turn becomes empirical justification for the secular stagnation story.

In rational mode, investors would question whether anyone can foretell with such precision the long run and would insist on putting significant probabilities on a return of robust economic conditions several years from now. But even some of those investors who cling to such rationality may become subject (under conditions of interest income famine) to another mental flaw which sustains the term carry trade. This is the magical thinking (fn. 4) about the power of the central bank to determine long-term interest rates.

The story is that the central bank’s “new” monetary tools enable it to fix long-term rates also. Many investors might doubt this, realizing that the stock of long-term fixed-rate paper outside the central bank is still huge and shifts in expectations amongst the holders of this (and the potential short-sellers) could surely overpower the would-be rate fixers in the central banks. But for now they realize that many market participants are ready to believe in the new powers of the central bankers and they convince themselves that “it is never wise to fight the Fed.” Yes, at some point someone will call out that the emperor has new clothes, but that could be a long time from now, and meanwhile let’s get in on the ride.

Speculative story telling tends to generate exaggerated focus (by investors and analysts) on flows rather than stocks. It is much easier to compose narratives about who is buying and selling than about the great silent majority of investors who continue to hold existing positions in the given asset rather than selling into or out of such

buying or selling waves. Central bank purchases of government bonds are one such flow story which gets disproportionate market weight in depression-type asset price inflations.

Could depression-type asset price inflation ever undergo metamorphosis into boom-type?

In fact that possibility can itself form a speculative narrative whilst depression-type asset price inflation is under way. Yes, in principle an economic miracle could take place. A surge in productivity growth could lie ahead, perhaps related to technological innovation or to political change heralding a sound money regime and fundamental reforms promoting free markets. Then the asset market prices which looked frothy in the context of the depression-type asset price inflation could now appear sober-rational. And if the central bank were to hold back the related rise of market rates in line with a higher (unknown) neutral level (perhaps responding to calm goods and services inflation in this environment), a boom-type asset price inflation could develop. It is quite possible, though, that all the speculative narrative about miracles could turn out to be false, and the excitement about an economic miracle and potential boom-type asset price inflation could all turn out to be yet another false dawn, perhaps culminating in speculative revulsion and the progression of the depression-type asset price inflation to its end.

Is it possible for the central bank to exercise successfully a “Greenspan put” in a late mid-phase, say, of a depression-type asset price inflation (as has happened often in boom-type asset price inflations), reacting to speculative temperature drops across a significant market spectrum and economic slowdown by making a big monetary injection?

Certainly the central bank could try to do so. Making success more difficult than at a similar stage of boom-type asset price inflation could be the more limited possibility of monetary injection (given that rates might already be very low and the monetary base dislocated from the pivot of the monetary system; moreover there may be by now widespread skepticism concerning the magic tool box of the central bank, including its latest state of the art non-standard implements). The range of potential speculative narratives to chase is also likely to be narrower than under

boom-type asset price inflation. Even so, it cannot be precluded in principle that a Greenspan put could have some success, especially if a big new story emerges coincidentally.

DEPRESSION-TYPE ASSET PRICE INFLATION: A HISTORY

The first example of depression-type asset price inflation comes from US experience during the period of neutrality (say 1915 to early 1917) in the Great War.

The huge influx of gold from the Entente countries (chiefly the British and French governments selling gold to finance their war purchases) added directly to the US monetary base (the US remained on the gold standard) (see Brown [2013]). Goods and services inflation is well-documented during this period, but how much asset price inflation was occurring alongside? One can imagine that with interest rates at seriously negative levels in real terms and potential huge erosion of the real value of monetary assets, there was much scope for irrational forces to build up. Yet wartime does not necessarily fit well with irrational exuberance. Anyone could see the danger that the US might ultimately join the war and the sacrifices which this would mean. Prosperity in the belligerent countries already declined sharply even though certain types of military type expenditure (and so-called war profits) boomed.

Real stock market prices in the US, which had been at around 70 in mid-1914 and were at around 60 at the end of 1914, peaked at around 80 in late 1915; they fell below 60 on the US entry into the war (spring 1917) and were around 40 at the end of the war. Consistent with the presence of depression-style asset price inflation through 1915–1916 were reports of booming demand for US dollar-denominated government bonds issued in New York by France and Great Britain, swollen by a hunt for yield. Also fitting this description was the flourishing carry trade into long-maturity US government bonds (this market did not exist on the eve of the Great War) as investors swimming in low interest liquidity with investment opportunity blunted by global confrontation seeking apparently safe income, plausibly overestimating the so-called term risk premium (and credit-risk premium in the case of French and British government bonds).

The next possible depression-type asset price inflation was a brief episode from 1921–1923. The Federal Reserve experimented with its new monetary powers to launch a powerful reflation designed to empower an economic rebound out of the Great Recession of January 1920 to July 1921. A firm diagnosis of asset price inflation, though, cannot be made; interest rates were positive both in nominal and real terms and there was no alarm about long-run inflation (indeed the US dollar was convertible into gold albeit that the international gold standard had collapsed at the start of the Great War). Arguably, the Fed’s policies did help spark the speculative rise of US equities through 1921–1922 by bearing down on market rates relative to the neutral level. The speculative narrative of the US as a prosperous safe haven certainly gained ground with European investors in the context of contemporary European turmoil). This tentative depression-type asset price inflation did not “progress” into an early bad end given the arrival of so much good news through the mid-1920s (see above) and eventually was followed by boom-type asset price inflation.

The Roosevelt Administration’s monetary and currency policies set the stage for the first definitive depression-type asset price inflation (see Brown [2015], ch. 7).

The halt to the dollar’s devaluation as marked by its stabilization in March 1934 at \$35 per ounce of gold (in Europe the French franc together with the Swiss franc, Dutch guilder and Belgian franc were still on gold—in a rump gold bloc), was the catalyst to huge gold inflows to the US. This was amidst growing speculation on demise of the gold bloc and on rising domestic and geo-political unease. The US Treasury and Fed in joint operations essentially monetized the inflows, meaning that base money soared (relative to GDP by a similar amount to in the years 2010–2013). Short-term interest rates remained pinned at zero, whilst long-term Treasury bond yields were remarkably constant at around 2.50 percent at 10 years. The dollar’s devaluation had created an inflationary psychology sufficient to scare households that the real rate of return on money and bonds could be persistently negative. The strong rebound in the economy which had started in 1934 and intensified in 1935/6 provided enough confidence for a Hunt for Yield to take off. But underlying doubts as to the robustness of the economy and the likelihood of a further crash meant that business investment

remained weak compared to previous cycles. The cyclical rise in prices from the low point in the midst of the Depression should not be confused with monetary inflation. But it is plausible that on top there were concerns about future possible inflation.

In 1936, the US stock market and commodity markets were booming amidst much anecdotal evidence of soaring speculative temperatures. Official statements both from within the administration and Fed encouraged the view that the authorities were concerned about this tide of speculation. There was talk that the US might cut the price of gold (See Meltzer [2003] and Kindleberger [2013 (1973)]). In early 1937 there was a fast stock market tumble, amidst also new concerns about anti-business policies of the re-elected Roosevelt administration and anxieties regarding geo-politics (see Brown [2015]). And the Fed was now enacting a series of reserve ratio hikes (pre-announced in the autumn of 1936).

The stock market jitters brought a Fed volte-face by early spring 1937 amidst administration pressure on the Fed to do so (including direct pressure from the White House on Fed chairman Eccles to intervene in the Treasury bond market to push yields lower—pressure to which the chairman acceded). This could be seen as the “Greenspan Put” moment—a late cycle monetary injection in response to evidence of speculative temperature falls. As such it failed—perhaps because it lacked power, perhaps because the background economic, political, and geo-political environment had become so sour, meaning that new speculative narratives could not find a following. Stock markets steadied through the spring and early summer. But then the crash came in the late summer amidst further geo-political bad news, actual weak economic evidence emerging (the NBER date the cyclical peak to May). The crash led a sharp economic downturn (the Roosevelt Recession).

The next possible depression-type asset price inflation was in the early 1990s. The Greenspan Fed responded to the economic downturn of 1990–1992 (in the wake of the bust to the Volcker asset price inflation of boom-type as extended by the first Greenspan put of late 1987 and early 1988) by holding rates at abnormally low levels for an extended period (1992–1993). The crisis of the savings and loan institutions and then the first Gulf War encouraged the Fed to persevere with its aggressive stimulus. A huge carry trade grew with a key destination—Mexico—where a wildly-heralded

economic miracle was occurring. There were also large carry trades into high-yielding Canadian, Australian, and Italian government bonds. As goods and services inflation started to pick up in 1994 and economic expansion surprised on the upside, the Greenspan Fed suddenly put on the monetary brakes. By year-end the Mexico boom had turned to bust, and more broadly sharp falls occurred across previous hot markets, including the Canadian and Italian currencies (popular high-coupon destinations). The US economy slid into a short-lived growth cycle downturn triggering some reversal of US monetary tightening. The economic miracle of the IT revolution was now emerging. In itself this would have cut short the end-phase of the 1992–1994 asset price inflation. New Fed error was to turn this relief into a new asset price inflation, this time boom-type (see above).

The next depression type asset price inflation came in the aftermath of the boom-type asset price inflation which entered its bust phase in 2000–2002. The central bankers club alongside the IMF concluded that there was a real danger of deflation which had to be avoided. The Greenspan Fed took the lead—and in late 2002 President Bush had installed there the Princeton professor Ben Bernanke renowned for his radical monetary views—in reformulating the framework of monetary policy so as to “breathe in inflation.” In early 2003 the ECB was to institute a similar reformulation (Otmar Issing saying that it was as important to prevent inflation falling below 2 percent as rising above it; see Brown [2014]).

This radical monetary policy was to set off a virulent asset price inflation (type B) which featured a booming US house market and construction a private equity boom, a lot of speculative story telling about fantastic profits in new financial areas, whether related to derivatives or more specifically related to European financial integration, about the endless demand for residential real estate in Spain (the new Florida for German pensioners), and a giant carry trade. Non-financial business investment and productivity growth remained subdued.

The carry trades included fantastic demand for the newly engineered high-yield debt products (hybrid debts emanating from bank subsidiaries packaged and labeled to appear high quality). Many investors, desperate for income in the new world where

central bankers were raising short-term rates glacially, saw new possibilities in the brave new world of financial innovation. There was a huge term carry trade into long-maturity safe government debt as investors hunted for yield. The speculative narrative, in fact told by the central bankers themselves, was that long-term interest rates would remain historically low due to the emergence of a huge savings surplus in Asia (see Bernanke [2013]). The carry trades in long-maturity debt and in credits sustained the housing boom.

In Europe the giant carry trades were into the higher-yielding debts of the periphery EMU sovereign debts, where yields came down to within tiny margins above German government bonds. A first warning that the asset price inflation was in a late mid-phase came with a downturn in US residential real estate prices already in late 2006. Then there was the crash of the Shanghai equity market. By summer 2007, credit quakes could be heard. East European credits and Spanish real estate credits suddenly weakened. The Bernanke Fed took emergency action to bolster liquidity but did this on a sterilized basis, leaning against any substantial cut in money market rates or monetary base expansion in view of the fact that the goods and services inflation rate was above its targeted 2 percent (and indeed rose to around 3 percent the next year).

This was a pretty feeble Greenspan put, but was nonetheless sufficient to set off a late speculative boom in commodities, and most spectacularly oil, in the first half of 2008 (the stock market, though, had peaked in late 2007). Alongside, an incipient commodity boom was getting under way, with oil prices in mid-2008 reaching the sky. A Shanghai equity market bubble had persisted through the second half of 2007 but burst already from early 2008. Then came the panic of late summer and autumn of 2008 followed by the Great Recession. Could there have been a bigger and more powerful "Greenspan put" in 2007 that would have set the stage for a late cycle rebound, including asset price inflation through 2008 and even 2009, culminating in an even bigger bust and depression than what actually occurred? We leave that to the counterfactual historians to answer, subject to the general observation above that a lack of general good news stories makes this more difficult under depression-type than boom-type asset price inflations (unless an economic or political miracle turns up).

The depression-type asset price inflation, with its origin in the monetary experiment undertaken by the Federal Reserve in the aftermath of the Great Recession (2008–2009) is still in progress at the time of writing. By early 2016 the asset price inflation had entered into a late mid-phase. Already one key focus of the asset price inflation—the energy sector—had burst, though there was now a prospect of some recovery from very low levels. Carry trades related to some currencies (Australian dollars, Canadian dollars, Turkish liras) had already imploded at least in part. The Chinese stock market swooned. Yet other speculative temperatures were still rising (think of the “FANGS” in Silicon Valley).

True to historic form, the Federal Reserve under Janet Yellen administered a “Greenspan put”—this time in the form of backtracking from its pre-announced program of raising short-term rates four times through 2016. Central banks in Europe and Japan responded to resulting upward pressure on their currencies (against the dollar) by initiating a new intensity of monetary experimentation (negative interest rates and quantitative easing) whilst Beijing ordered a new bout of state credit expansion. The term risk premium carry trade reached new peaks through early and mid-2016 as income-famine investors (especially life insurance companies in Europe and Japan) hesitated to push the sell button even when the yields on long-maturity government debt fell to zero or slightly below.

It is too early at the time of writing to judge the overall success of Janet Yellen’s Greenspan put. The election as US president of Donald Trump seems to have spawned a very powerful speculative narrative featuring a boom in economic growth on the back of deregulation and corporate tax cuts. If the grounds for optimism prove to be true, then yes, the depression-type asset price inflation of recent years might not have a bad end after all, though there would remain the danger of a boom-type asset price inflation developing further ahead. Skeptics on Trump-economics or other sources of economic miracle, by contrast, remain concerned by the dark scenarios of an early sudden and sore end to the depression-type asset price inflation, with the latest stories proving to be just that, rather than having any predictive power. The global economic rebound triggered by the Yellen Put of 2016 would be accordingly short-lived.

INSIGHTS FROM THE AUSTRIAN SCHOOL AND AN AGENDA FOR FUTURE RESEARCH

Asset price inflation as such is not a term in the Austrian “literature.” But many of the ideas and concepts which have been used in the exposition here are closely aligned with that tradition. And the recognition that money out of control cannot be “neutral” in effect (affecting all prices equally so having no real impact) is of course fundamental to both (see Salerno [2010]). Austrian tradition does not have investors acting rationally at all times. For example, Lachmann (1977) writes about how “expectations of different economic agents in a world of imperfect knowledge and uncertainty will diverge—and this divergence guarantees that some or even most of the expectations will be faulty and the plans based on them unsuccessful to some degree.”

Mises makes a more direct link between irrationality and monetary conditions, writing that “some of the investments made in the boom period appear, when appraised with the sober judgement of the readjustment period, no longer dimmed by the illusions of the upswing, as absolutely hopeless failures” (Mises, 2010 [1949]). There are antecedents here to the speculative storytelling and credulity highlighted here. Yes, Mises and Rothbard eschewed psychology, but over the longer haul this has had a role in the Austrian school’s tradition (Rothbard, 2012 [1976])

The Austrian business cycle theory is an intellectual neighbor to asset price inflation analysis, but distinct (see for example Sechrest [2006]). This theory does, in common with the analysis here, take as an illustrative starting point the central bank intervening in a way which would drive interest rates below neutral level (unknown). There is much in both about malinvestment and over-investment—long a key element of Austrian business cycle theory (ABCT) and more generally Austrian monetary theory. The ABCT focuses on relative production of capital and consumer goods and the relative price distortion of these. This does not feature in the analysis of asset price inflation as presented here—and indeed in type B there is low investment overall (amidst much malinvestment). The ABCT does contain the loose end of why do business people not see through the central banks manipulating rates below neutral and remain cautious in consequence; the present exposition tries to tie that end.

The concept of asset price inflation has much application to history. And indeed the view of Austrians about history is distinct. They do not see history as a laboratory for the empirical testing of hypotheses. King Solomon was undoubtedly right when he said there is nothing new under the sun, but the sample size of history is also very small. Austrian scholars have largely rejected empiricism as the model for economic thinking (Mises, 2012 [1949]). And Rothbard (2012 [1976]) comments “To the economic historian, economic law is neither confirmed nor tested by historical facts: instead the law where relevant is applied to help explain the facts. The facts thereby illustrate the workings of the law. The historian using the tools of natural and social science is in the last analysis an artist and hence there is no guarantee or even likelihood that any two historians will judge a situation in precisely the same way.”

That is the approach we take in the historical content of this article—looking at how the concepts of type A and type B asset price inflations can help us in the understanding of past episodes. But an alternative approach overlaps to a considerable degree. According to this asset price inflation is a “disease” generated by monetary disorder. The disease does not always take the same course, though by studying past episodes we can understand more about this, and hopefully improve our diagnosis power with respect to present or future episodes. The recognition from the evidence that the disease seems to take two types has much relevance for improving our diagnostic power. Even so, the disease metaphor has a big problem in application as there are not the measurements to fit. Yes we can conceptualize speculative temperature—meaning the prevalence of flawed mental processes, but how actually to measure it? This is not a science, though it may be helpful for the “artist” to use the metaphor of medicine.

What are the potential rewards and challenges that lie ahead for researchers into asset price inflation, especially if interpreted in the modern sense as described here and falling into two broad types (boom and depression?). Certainly the practical investor will derive no precise time-related probability distributions describing the unfolding phases of asset price inflation (together with its twin goods and services inflation) over coming years. The same negative comment applies to the older tradition of Austrian business cycle theory. Even though gaining little predictive power,

if any, though, students of these ideas can surely make greater sense of the economic and business world around them, becoming less impressed by superficial patterns and storytelling, and more searching for the nature of the monetary disorder behind the various symptoms. And demonstrating that monetary disorder is the culprit for the many economic and social ills associated ultimately with asset price inflation, there is a real chance of political outcomes that would favor human freedom.

What should be on the research agenda for future work?

The nature of monetary disorders and how to construct a monetary regime which minimizes these remains at the top of the list. Beyond that, there is a huge survey-type research of identifying the flawed mental processes of important groups of investment decision-makers and why these faced so little constraint even from within (self-discipline) or from outside. Then there is the huge topic of the two twins—why in some inflationary episodes is asset price inflation more virulent than goods inflation and in others the opposite? How and why does the relative virulence vary through the cycle? Some tentative answers have been outlined in this article but much research remains to be done—not in the hope of making firm predictions but of increasing our understanding about the nature of monetary disorder. Alongside that research is a huge educational job—teaching students who might one day influence practical investment or policy-making agendas about the damage to economic prosperity and freedom wrought by inflation, and in particular the asset price inflation of both types as identified in this article.

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