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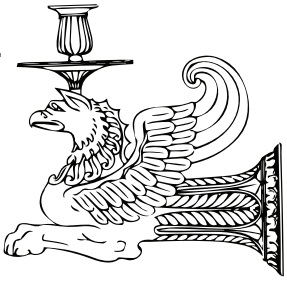

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Whither Fiscal and Monetary Policy?

- Appraising the Ongoing Revolution-

A Socratic Dialogue

STRATEGIC ECONOMIC DECISIONS, INC.

TEL: +1 480.883.3200 ■ EMAIL: MAIL@SEDinc.com

WEBSITE: www.SEDinc.com

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Whither Fiscal and Monetary Policy?

- Appraising the Ongoing Revolution-

A Socratic Dialogue

People ranging from central bankers to ordinary investors are increasingly confused about what is going on in macro-economic policy. For several years, we have been hearing such questions as:

● Why has there been virtually no inflation anywhere despite huge government stimulus (deficits and money creation) during the recovery from the global financial crisis?

● How could the US Fed lose control of monetary policy as it briefly did during the autumn of 2019 when the repo rate (the new Fed funds rate) soared unexpectedly from 2% to 10% one afternoon? This would have been inconceivable before the Fed's recent choice to control the repo rate rather than the Fed funds rate. Do the authorities know what they are doing?

● What about the failure of higher deficit spending to cause higher interest rates?

● How could interest rates have fallen rather than risen in the direct aftermath of the cessation of government bond-buying that accompanied the end of QE? This happened in three countries in the OECD. Whatever happened to the law of supply and demand?

● Given that the US monetary base has exploded in the past decade, why was there no increase in inflation as most observers expected?

● More and more people are concluding that the level of government deficits and cumulative debt no longer "matters" to a nation's well-being, as we were always taught it would. Remember? "Too much debt can bring down a nation." What is the truth about deficits and debt?

● Progressive democrats in the US have no qualms about borrowing trillions of new dollars to provide huge new benefits to the voters, e.g. Medicare for All, and a free lunch as well. They seem to assume that they can simply "print" money and that this will *not* seriously impact inflation. Are they right in supporting those Modern Monetary Theorists (MMT) who say that money creation need not impact inflation?

● Why does the size of the central bank's balance sheet *not* seem to matter? In the US, the Fed's balance sheet increased fourfold since 2010, yet this never seemed to matter to Main Street, that is, to GDP growth. It was only Wall Street than benefitted. .

Background: Back in 2010, when QE was being implemented, we went out on a limb to argue that QE would not in fact amount to the kind of money printing that would cause inflation. This reality, along with the ongoing deflationary impact of the Digital Revolution, would keep inflation very low. We also argued that the huge size of the Fed's balance sheet would not pact the economy at all. As for fiscal policy, we argued that the huge increase in government deficits had been and would be required simply to offset the collapse in private sector spending during the recession. Because of this, large deficits would not increase inflation by increasing *aggregate* demand. These predictions came true by and large.

But our arguments did not go as deep as they should have. For we were unaware of how profoundly the nature of the economy was changing, *and* of how dramatically both fiscal and monetary policy would be transformed between 2010-2030.

This essay zeroes in on the transformation of fiscal and monetary *policy* that is now underway, and attempts to make sense of this transformation and what it portends. In doing so, we provide answers to most of the questions posed above.

Summary: Part 1 focuses on fiscal policy and why large deficits and debt do not matter as they once did. We also discuss the revolution in the way nations can *fund* large deficits. Part 2 discusses "money" and monetary policy. In particular, we analyze recent radical changes in monetary policy, and in the behavior of inflation.

Part 3 introduces a new perspective on the kind of *coordinated fiscal and monetary policy* that will be needed from now on – one explicitly designed to prevent disinflation and negative interest rates in particular. Part 4 warns of the risks to the economy were the teachings of Modern Monetary Theory (MMT) taken too seriously – in particular their ridiculous analysis of inflation.

I have chosen to use a Socratic Dialogue throughout as this makes the essay much livelier and briefer than it otherwise would be.

Part 1: Myths and Half-Truths about Fiscal Policy

Question: Did the economist John M. Keynes really invent fiscal policy in the 1930s?

Answer: Yes and no. He developed a theory of how overall demand in an economy could be stimulated in recessions by offsetting a decline in private sector growth with an increase in government spending. Then in good times, government would curtail its spending and repay the debt built up during recessions.

But in fact, back as far as the Pharaohs of ancient Egypt, governments had understood the need to stimulate their economies in the event of a bad harvest, or other forms of distress. To fight unemployment, the Pharaohs would increase the number of temples being built, and provide

jobs. A government that did not help save people from starvation would itself confront the wrath of the people. We can think of famines back then as the business cycles of today.

Q. Over the 20th century, deficits have kept rising, and few countries ever run surpluses. Normal people see this, and are very concerned about the endless growth of government debt. Were they correct in these worries?

A. Yes. There are two main reasons why normal observers were correct to be concerned. First, if one nation ran ongoing deficits that were significantly higher than average, global investors would interpret this as a sign of bad management on the part of that government. This would lead to a lower currency, and to higher inflation and interest rates due to excess aggregate demand. History abounds with examples of nations that literally did go broke because of excessive debt loads.

Second, the greater the growth of national debt (the sum of past deficits), then the higher would be the expense of *servicing* the debt. Only 20 years ago, investors worldwide were frightened of developments in Japan where government debt kept rising and rising. The main worry was: How will the Japanese government be able to afford the growing interest expense on its debt? Will the rising share of the government's budget going to debt servicing crowd out other and more important budget priorities?

Q. Are you going to suggest that something has changed, and that we should no longer be as worried as we used to be about ever-growing deficits?

Funding Government Deficits – a Rethink

A. Yes. First, we have gained a better perspective as to *when and why* debt matters – in particular why it hasn't mattered in the past ten years in most OECD economies. Second, our understanding of *how to fund* large deficits is being transformed as we write. Third, there has been a transformation in our understanding of *how to cope* with rising debt-servicing costs.

Q. Why has growing debt not mattered in the past decade?

A. To begin with, a decade of near-zero interest rates meant that debt servicing costs (especially in Japan) did not prove troublesome at all. This relieved global markets. Additionally, large deficit spending did not stimulate the economy as much as many had feared. This is because the debt merely replaced the fall in private sector borrowing for houses and capital investments – both way down even today. Also, a vast global flight to "quality" gave rise to an insatiable demand for safe government securities. This depressed any upward pressures on interest rates due to increased federal borrowing. Finally, the Fed via QE started to buy-in bonds from the banks. Thus, the number of bonds that would have to be financed by the public (driving up rates) fell by well over $3 trillion. In all this, the intention of the Fed was to reduce interest rates by increasing the demand for government securities.

These four reasons for reduced concern about the growth of debt were complemented by yet another development that astonished every central banker in the world: a reversal of the Phillips Curve. As US unemployment dropped from some 12% to 3.5%, there was no impact whatsoever on inflation – and thus on interest rates.

Q. On your next point, what do you mean when you say that our understanding of how to fund debt is undergoing a transformation. What exactly is going on here? What is new?

A. I have already touched upon one aspect of this development: the use of QE to buy in debt and leave it on the balance sheet of the Fed. But matters go much deeper. Consider how government deficits have been funded during most of our lifetime. When the Treasury needed more money to finance larger deficits, it would float additional sovereign bonds. The fear was always that, if there was excessive borrowing of this kind, interest rates would rise via **(i)** the law of supply and demand and **(ii)** via increased concern on the part of global investors about the future solvency of the nation. This is why the World Bank and the IMF keep close track of the fiscal integrity of different nations. The Debt-to-GDP ratio is one of the most closely monitored ratios in global economics.

Q. Are you going to say that there is no longer a need to bond-finance deficits as some are claiming?

Creating Money

A. Yes, this is correct. Here we can take a leaf from MMT. Suppose Elizabeth Warren is president and her spending plans will increase Trump's already high $1 trillion deficit to $3 trillion. In principle, her Secretary of Treasury can tell the Fed to create the required extra $2 trillion electronically and deposit it into the Treasury's bank account. Remember that it is the Treasury that pays all the nation's bills – not the Fed. Assuming as MMT does that the now less "independent" Fed does the Secretary's bidding, the deficit is now fully funded.

No Treasury checks will bounce. There is no increase in the "debt" of the nation as measured by the stock of outstanding bills and bonds. And, magically, there need be no increase in debt servicing costs. Remember that the Treasury need not fund its debt in this way. For two hundred years, it did so by simply issuing more T-bills and T-bonds. But this created more official debt and higher servicing costs, both now out of favor.

Q: How can this be true? Is this black magic?

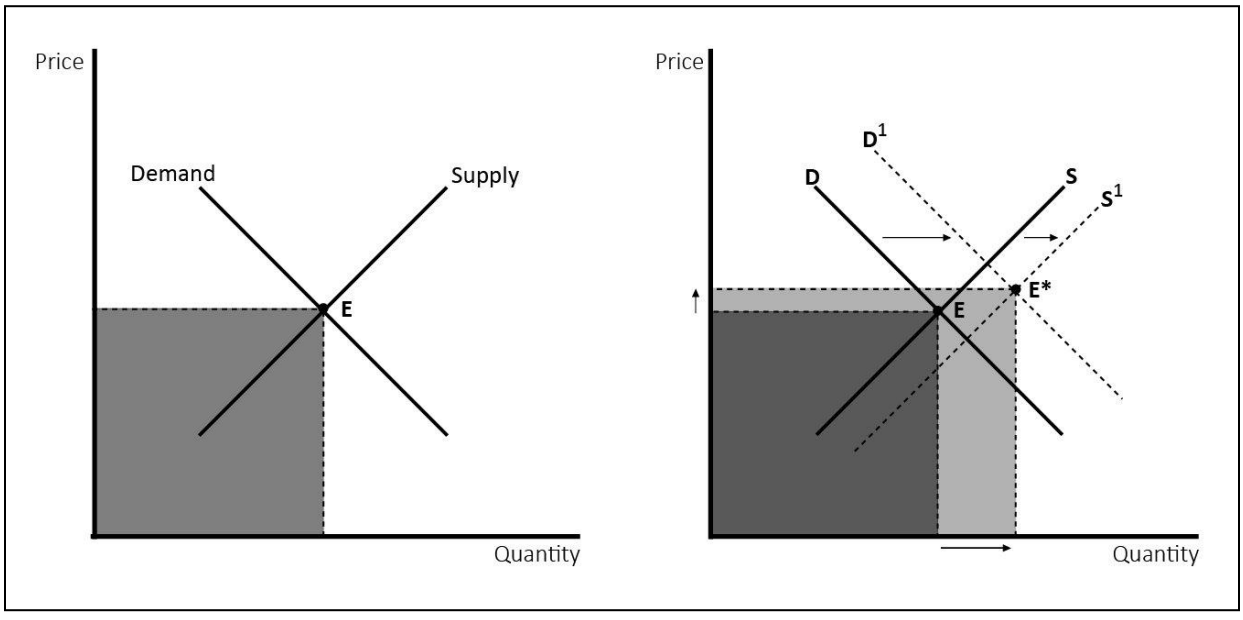
A. After receiving $2 trillion, the Secretary of the Treasury will send an IOU to the Fed stating: "The US Treasury hereby promises to repay you $2 trillion at a zero interest rate, in perpetuity." So the only "cost" of this seemingly reckless policy is this IOU which has no teeth. But who cares? This IOU is merely a new asset on the balance sheet of the Fed. It does not impact anything at all. And as we argued for years, the size and composition of the Fed's balance sheet *per se* almost never matters.

Q. What are the risks in this new money creation strategy?

A. The principal danger is this: suppose that this new ease of borrowing catches on, and makes it tempting for politicians to run large deficits every year. This is easy to contemplate, since the offers by a populist government for ever more free lunches could prove irresistible. Then the risk here is that inflation will break out as a result of ever larger stimulus to aggregate demand.

Suppose that you and I no longer need to pay for our medical insurance, or for tuition, or for lunch. Then we will have a lot of money left over to buy ever more consumer goods on Main Street – say, ever more swimming pools. Assuming that the resulting increase in the demand for swimming pools and cement exceeds the growth of supply – which is apt to happen, at least in the shorter run – higher inflation will result. Given how difficult it is to take away free benefits once bestowed on the voters, as President Clinton stressed, then it will be difficult to control a growing spiral of excess aggregate demand and ever larger deficits. This would be a disaster.

> *Suppose that, on the other hand, these large and easily financed deficits for some reason do not cause the increase in aggregate demand to exceed that of aggregate supply. Then in this case, there is no problem with financing the deficit by having the Fed print money for the Treasury.*



When we write this, remember that inflation (higher prices) can only occur if the demand *curve* shifts out faster than the supply curve for the products and services on Main Street, as shown in the two market equilibria **E** shown in the Figure. [Inflation will also result if the supply curve moves backwards more than the demand curve does.] Nominal GDP *levels* in the Figure are given

by the **P x Q = GDP** "areas" shown, and GDP *growth* can be measured by the difference in the size of these before-and-after areas.

These points are axiomatically true and cannot be disputed, even if very few people understand them. Deflation for its part will occur when the curve-shift hypotheses in this example are reversed, and the price level **P** drops.

To underscore this point, consider the widespread belief that inflation results from an increase in the money supply. It may do so *provided* that the increase in the money supply ends up shifting the demand curve for products sufficiently far outward. But absent any impact on the location of the demand curve, such variables will have no impact on inflation. Indeed, just run a vector auto-regression on the behavior of inflation with respect to changes in any of those "monetary aggregates" that quants love to exhibit. There is virtually no correlation, as Harvard's Professor Ben Friedman has demonstrated at length.

Q. You have not mentioned the role of any changes in the location of the supply curve of goods and services. Could these matter to inflation?

A. Indeed they can – even if these are rarely identified or discussed by any commentators. As readers of these ***PROFILES*** know, our main explanation of *why* inflation has been trending downward since 1981 lies in the stunning and ongoing outward shift in the supply curve made possible by the Digital Revolution. We know manufacturers of heavy goods who have been able to cut costs by 45% simply by utilizing 3D printing. Then there are the costs of making a phone call, mailing a letter, and running an office with no secretaries. Examples here are legion.

Why Supply Curve Shifts Have Been Ignored

Q. How can it be that no attention is ever paid to shifts in the supply curve? Experts only talk about shifts in aggregate demand.

A. This is partly the legacy of Keynes. He realized that government could impact the economy by shifting the demand curve forward and backward as desired. He believe that government could *not* do the same to the supply curve. He was largely right. As a result, "macroeconomics" became synonymous with "demand management." He ignored the fact that *non*-governmental developments such as technology revolutions could shift the supply curve outward and create disinflation of a kind to which today's Fed has been oblivious.

All this bears on the "secular stagnation" theory espoused by Larry Summers and others. This theory is problematic because it largely ignores what has happened to the supply curve since 1980. With ever better products and services made possible at no extra cost, i.e., with the supply curve shifting rapidly outwards, nominal **GDP = P x Q** growth can *seem* to slow down as it has, but who cares? The all-important rate of unemployment has kept falling. The economy remains

in great shape. In our view, the word "stagnation" is out of place here. The growth rate of GDP *alone* does not tell us as much as we think.

Note: C*hanges* in nominal GDP growth can be seen graphically in the above Figure by studying how the **P x Q** "areas" change with shifts in the curves.

To restate this, there is nothing wrong with slower GDP if the supply and demand curves shift in the way they have in recent years. To this point, were inflation measured properly, taking the technology revolution into proper account, then today's nominal **GDP = P x Q** would be even lower than it is since the price level **P** would be even lower. Yet the economy is humming along just fine.

This point is never made, and the reason why is that shifts in the supply curve are not taken into account in most macroeconomics. Instead, invalid estimates of productivity are substituted for proper supply-curve-shift analysis.[1]

Part 2: Myths and Half-Truths about Monetary Policy

Q. What is new on the monetary policy front?

A. Plenty. Let's start off by discussing the two fundamental changes in policy that have already been adopted. Thereafter, we propose a fundamental change in policy that *should* be made.

As for recent policy changes, first there is the advent of QE. Second, there is utilization of the *repo rate* and the *reserve remuneration rate* by the Fed to conduct monetary policy. These have replaced control of the Fed funds rate.

Q. Could you start off with QE? There seems to have been considerable confusion about what it actually achieved. In particular, why did all this "money printing" not drive up inflation?

A. As stated above, QE was implemented via the Fed's buying risky bonds off the banks' balance sheets, and crediting banks' reserve accounts at the NY Fed with an equivalent amount of new bank reserves. QE was not very successful in stimulating the economy, or in creating inflation, or in lowering bond yields (which dropped for other reasons even in nations like Canada which had

[1] One way of thinking about and indeed measuring the size of an outward shift in a widget manufacturer's supply curve is to ask: For a given set of technological innovations, what for any given price **P** of widgets will be the *percentage increase in supply that is profit-maximizing?* The answer to this question – assessed for all possible prices - will be a set of numbers that represent the firm's new supply curve. No scalar measure of "productivity growth" can be derived from the correct method we have sketched here of how to measure the aggregate supply curve shift for individual or for all firms. This represents an altogether new way of thinking about today's widespread assertions of declining US productivity growth during the past twenty years. Productivity may well have risen.

no QE). Rather, QE dramatically improved the balance sheets of the nation's big banks. After all, new reserves are "cash equivalents" and are not mark-to-market assets like risky mortgage bonds. Reserves are relatively risk free.

Q. Did these new reserves act like money that is dropped from a heliocopter?

A. No. To see why, recall the meaning of the nation's monetary base: it is the sum of cash (dollar bills) outstanding, and of bank reserves. Back in 2006, cash amounted to some $900 billion, and reserves just under $50 billion, for a balance sheet total of just under $1 trillion. QE added no cash *per se,* but it did increase reserves by over $3.5 *trillion*. A heliocopter drop on the other hand would increase cash held by the public, but it does not impact the level of reserves. Both of these policies increase the overall monetary base.

Q. But isn't their impact on inflation and on the economy very different?

Two Differing Impacts of an Increase in the Monetary Base

A. Yes, and that is just the point. New bank reserves only stimulate the economy and inflation to the extent that banks extend loans to the public supported by these reserves. It used to be said that, "for every dollar of new reserves, banks can make $10 of new loans to people on Main Street." Once people receive the cash from new loans, they always *spend* that money on goods and services. This is what causes aggregate demand to rise. As a result, the economy gains steam, and inflation will rise.

The problem, of course, was that people suffering from huge losses to their net worth due to the housing crisis *chose not to borrow at all* against these new reserves. Indeed, they paid down debt. The same was true in Japan in the 1990s when the Japanese people had lost half their net worth in the crisis of 1989-1991. Central bankers worldwide failed to see how new bank reserves might prove "inert" in this sense.

The same is *not* true in the case of a heliocopter drop of cash. Here, no borrowing on the part of households is required for aggregate demand to rise. People tend to spend *all* of their new cash on goods and services. If enough dollar bills are dropped, then the price of a cup of coffee can literally rise from $1 to $100,000. It is *this* kind of money creation that we loosely call "money printing."

Q. So what matters when the monetary base expands is whether or not average people receive more cash to spend on Main Street. Correct?

A. Yes.

Q. Are there other forms of money printing that have this impact?

A. Yes. Tax cuts leave people with more cash to spend, for a given savings rate. So do checks mailed out to households by the Treasury, as happened in Australia after the 2008 global crisis that devastated the nation's mining sector. [We did the same here in the US in 2001.]

The End of Controlling the Fed Funds Rate

Q. What about the second major change in policy, namely the decision *not* to control short-term rates by altering the Fed funds rate?

A. Before 2009, it was possible for the Fed's Board of Governors to control the overnight cost of borrowing bank reserves – i.e., the Fed funds rate. It simply used "open market operations" to do so. But when QE was adopted, and the level of reserves went from $50 billion to $3.5 trillion, it became impossible for the Fed to conduct monetary policy in this manner. Reserves were too vast.

Q. So it now controls *two* different rates instead of the traditional funds rate. Correct?

A. Yes. First, it substituted control of the short-term repo rate for control of the Fed funds rate. Second, it began paying banks an interest rate on all their reserves, the so-called "reserve remuneration rate." This last innovation was very important, as it provided a completely new way for the Fed to stimulate/depress growth on Main Street. Here is how it can do so.

By *raising* the remuneration rate, banks have less incentive to go out and hustle to make new loans which would stimulate Main Street. Bankers could simply sit tight on excess reserves and enjoy a new sit-tight-dividend. But if the Fed *lowers* the rate it pays on reserves – even into negative territory –this will motivate the banks to hustle and extend new loans to normal businesses and individuals. This will stimulate the economy.

Q. Haven't there been problems with controlling the repo rate?

A. Yes, upon occasion, market forces such as a surge the in demand to make seasonal tax payments or to fund large auctions of T-bills have caused the repo rate to jump way above target, as it did last autumn when it jumped from 2% to 10% in one afternoon. But the Fed is dealing such instability by increasing the *floor* of bank reserves such that there will be no shortage of liquidity when demand soars. But to be sure, control of the repo rate is much more difficult than was control of the Fed funds rate when the market for bank reserves was so small.

Q. Now what *should* the Fed be doing that it is not doing in your opinion? You mentioned the need for some new policy.

Part 3: A New Integrated Macroeconomic Policy

A. The problem here stems from a historical asymmetry in how the central banks understand and deal with inflation. Consider what we have witnessed on the part of the Fed during the past forty years. It is the Fed's Congressional mandate to adjust short-term interest rates so as to keep a lid on inflation and to maintain the integrity of the dollar. This policy reached its peak under the late Fed chairman Paul Volcker. During 1980 and 1981, soaring inflation forced him to hike the Fed funds rate to a shocking 21%. This precipitated recession, and the inflation rate rapidly fell from 14.2% back to 8% - and then ever lower in subsequent decades, for reasons unrelated to Volcker's policies.

Partly because of this celebrated example of monetary policy in 1980, we have always thought of the primary role of the Fed to be to control inflation by *limiting its upside*.

The Fundamental Asymmetry

Q. Isn't that its proper role? What is this "asymmetry" you just mentioned?

A*. The asymmetry stems from the disinflationary story of the past decade. The lesson here is that the Fed must not only set a <u>ceiling</u> upon inflation, but must symmetrically set a <u>floor</u> under it. All central banks have failed to do so. Indeed, not a single central bank has achieved its inflation target during the past eight years. Inflation has always lagged this goal, which is often stated to be 2%.*

Q. But isn't it much more important to limit the upside rather than the downside of inflation?

A. Most of us always thought so. Indeed, a policy of generating *higher* inflation has rarely if ever been considered. But from the recent experience of Europe and of Japan, and even the US, it has become clear that too much disinflation –negative inflation in the limit – is every bit as dangerous as inflation.

Q. Wherein is the danger here?

A. *The danger lies in those negative interest rates that almost always result from negative inflation.*

Q. But are negative rates not working perfectly well in several countries at present?

Problems with Negative Interest Rates

A. No. Stay tuned. There is an increasing recognition by central bankers worldwide that negative rates can be very problematic provided they get low enough. Whereas rates of 0% to minus 0.8% can be sustained in the short run, seriously negative rates cannot be.

Q. What specifically is so dangerous about negative rates?

A. This is a long story, the best explanation of which was recently set forth in a recent paper by Howard Marks of Oaktree Capital. For brevity, here are the three principal risks posed by negative rates.

First, when inflation and interest rates are sufficiently negative, banks will be forced to charge depositors a 1%, 2%, or 3% fee for *accepting* deposits. Households will stop making deposits at a certain point, preferring to hold money in their mattresses. This in turn will prevent banks from carrying out their principal responsibility: provide the financing that keeps the economy going.

Second, negative rates turn the entire concept of saving and investment on its head. For example, what young person would be rational to save every year in exchange for a negative return and for shrinking wealth? An economist might say that a young person would save because she believed prices would fall for a long time. We do not agree because of other factors that would matter, e.g., the psychological impact of falling wages and salaries that accompany negative inflation.

Third, the negative inflation that usually causes negative rates is bad in and of itself, and for a reason long understood. Suppose that we live in a world of a great deal of debt – as we do today compared with any previous period in history. Now the basic laws of economics imply that, when the prices of goods and services go down (deflation), so do salaries and wages. [They must remain proportional to one another.] But suppose that I owe you a debt of $1 million in exactly two years. I will be much less able to meet my nominal obligation to you if my salary has gone down. I may thus default on you, and you in turn would default on others, and pandemonium would break out. Debt spirals of this kind have been observed throughout history.

Q. So what policy do you recommend? How do you put a floor under inflation, if one even exists? And why do you speak of a new "integrated" policy?

Proactively Creating Sufficient Inflation

A. There is indeed a way to prevent negative inflation, and to permit the central bank to *achieve* a non-disinflationary inflation target of, say, 2.5%. The bank merely needs to print enough money that ends up in the hands of consumers (and firms if appropriate) who will actually spend it. In this way, it is possible to create sufficiently greater aggregate demand such that inflation increases – to whatever level is desired.

> *This is axiomatically true – even in a depression when private sector spending is dead: Given any shift in the supply curve, backwards or forwards, it will always be possible to increase aggregate demand so that equilibrium prices* **P** *rise.*

Note that this policy is very different from more traditional policies that attempt to stimulate demand *indirectly*, e.g. additional bank reserves or tax incentives for businesses to invest. In a

recession much less depression, individuals may not respond to such incentives in the way the authorities would hope. They may simply sit tight in a liquidity trap.

Q. Would not the financial markets freak out were your policy to be proposed? Haven't we witnessed cycle after cycle throughout history where money printing leads to higher inflation - which in turn leads to more money printing, and even higher inflation, and so on?

A. Yes indeed. To counter this apprehension, the authorities would have to aggressively "guide" market expectations to realize that money printing will *only* be adopted if it is needed to reach an inflation target on the upside. The market must also realize that *negative money printing* will take place in the event that inflation rises above this target. This could result from various policies of the Fed and the Treasury to reduce the growth of aggregate demand.

Q. In what way is your policy "integrated", as you suggested above that it is?

Integrated Fiscal and Monetary Policies

A. We are proposing a fundamental rethink of macroeconomics – one transcending the limitations of Keynes' original perspective. Specifically, we believe that the starting point of sound macroeconomics should be the law of supply and demand, expressed in terms of shifts in the nation's aggregate demand and supply curves for goods and services. A proper set of macroeconomic policies would be an integrated set of fiscal and monetary policies (including money printing when necessary) that would shift the supply and demand curves inward/outward in whatever way is required to achieve an optimal economic equilibrium.

Q. You derive your "proper set of policies" from impacting shifts in the aggregate supply and demand curves of the economy. These shifts in the *aggregate* curves are nothing more than a summation of the *individual* demand and supply curves shifts of each individual and firm. As a result, you seem to be uniting both micro- and macro-economics in a novel way.

A. Yes, that would be our ideal. Macroeconomics from the start has been criticized for lacking microeconomic foundations. There is a well-known story in this regard. President Jack Kennedy was the first real Keynesian to occupy the White House. He wished to be surrounded by the best economic thinkers in the country, in is Council of Economic Advisers. He had been told that the most brilliant economist of all was Stanford University's Kenneth Arrow, then quite young. When he invited Arrow to join the Council, Arrow replied: "Mr. President, I am not sure that, as a microeconomic theorist, I would add anything to your macroeconomic Council. For I have never understood what macroeconomics is."

Q But what do you mean by an "optimal" equilibrium here? What is required for optimality?

A. I mean a level of output that maintains full employment *and* stable "target" nominal inflation. What I do *not* mean is maximal nominal GDP growth. The reason why was explained a few pages ago: the level of and changes in nominal GDP that sustain full employment and stable target

inflation may not at first glance be to our liking. In particular, we would be confused to discover that *lower* than maximal GDP growth may be superior to maximal growth.

Q. Can you give an example? This seems complicated.

A. It is. Suppose that the economy is running smoothly for five years in a row, but that sudden new technological developments shift the supply curve outward much more rapidly than in previous years. Given constant demand growth, this development will cause the ideal equilibrium to exhibit lower price increases (disinflation) along with a higher level of output. Optimal nominal growth in GDP, which equals changes over time in the product **P x Q**, can either increase or decrease *depending upon the slopes and shifts of the supply and demand curves.*

In today's world with its myriad technology shocks and slowing growth in demand, the optimal economic trajectory may be for growth to slow down over time – growth again measured by changes in the quantity **P x Q**. In extreme cases, it can be optimal for nominal GDP growth to become *negative*. Sorry, but this is not an easy topic!

This is where Larry Summers' concept of secular stagnation runs into trouble. For stagnation in nominal GDP growth may in certain cases be *desirable*. The reason why is explained in more depth in a footnote.[2]

Macro-Controllability Regained by New Policies

Q. In the past, you have stressed the importance of "macro-controllability," that is, the ability for a nation's macroeconomic goals to be achieved by possessing a sufficiently large set of policies with which to achieve these goals. Doesn't this bear on the above arguments? And wasn't this the topic of Jan Tinbergen's work in the 1950s, the first person ever to win the Nobel Prize in economics?

A. Yes. Tinbergen introduced the idea of controllability, and Stanford's Kenneth Arrow and Mordecai Kurz then formalized it and worked out the details in 1970. I am arguing that economies have become somewhat *uncontrollable*. Several new instruments such a money printing (if needed) seem to be required to achieve those macroeconomic goals we all want – including the new goal of never-negative inflation and never-negative interest rates. So are the new instruments of managing the levels of the repo rate and of the reserve remuneration rate. Additional instruments will doubtless be needed in the future.

[2] The issues surrounding the *dynamics* of quantities of the form **P x Q** (e.g., changes in GDP or in sectoral expenditures such as healthcare costs) as a function of curve shifts are mathematically demanding. The principal analytical result is that, if the **S** curve continuously shifts out faster than the **D** curve over time, then **P x Q** (e.g., GDP) takes the form of a *parabola* with GDP rising rapidly at first, then flattening out, and then declining. The required proofs can be found in Appendix B of the author's book *American Gridlock,* J. Wiley and Sons, 2012. They are very counter-intuitive.

Part 4: The Flaw in the Modern Monetary Theory

- Some Words of Caution -

In an earlier appraisal of MMT, we pointed out that many of the propositions of this theory are not new at all. More generally, the subject of "money" has always been complex, sowing confusions of every kind. For this reason, there is little that has not been tried in implementing monetary policy throughout history. In particular, arguments about the costs, benefits, and meaning of "money printing" are age old.

Q. How Does the MMT relate to all this? What is your appraisal of this theory?

A. Where MMT goes badly astray is in its preposterous analysis of inflation. We read that inflation is caused by "class conflict," and that by preventing greedy businessmen from raising prices so as to fatten profits, inflation can be kept under control. Elsewhere we read that the vast new expansion of government spending that progressives are proposing need not be inflationary. Why? "Because we have just witnessed a decade when inflation remained flat despite huge increases in government borrowing and in the explosion of the monetary base."

Statements of this kind signify the great risks of today's era of "evidence based theory" that draws upon "big data." In the philosophy of science, this is known as "measurement without theory." We have already discussed why, given the circumstance of the Great Recession, neither large deficits nor an explosion of the monetary base *should* have precipitated inflation. But in most other circumstances, they *would* have.

Whether developments such as **x, y**, and **z** raise or lower inflation depends solely on one factor: the net impact of **x, y,** and **z** on the location of the supply and demand curves for products and services on Main Street. Period. This point is never mentioned anywhere in the MMT literature, to the extent of our knowledge.

Q. What else do these new theorists say about inflation?

A. If price controls on businesses do not work, we are told by David Wray and his MMT colleagues that inflation can be controlled by raising taxes on both businesses and the rich. This assertion is neither right nor wrong because it has no meaning at all.

Q. Then who is buying into this new line of reasoning?

A. The progressive left. Their programs are intrinsically inflationary, so they hide behind MMT to suppress this reality. Regardless, it is worthwhile explaining *why* these populist policies are inflationary. Suppose that government now picks up the tab for school tuition, pays for Medicare for All, and throws in a few hundred million free lunches as well. If this happens, then you and I

have a lot more money left over to *spend* on new cars, new boats, new swimming pools, and restaurants.

Consider the implications of all this for the demand curve for goods and services. By definition it will shift way *outward* because of **(i)** huge new government outlays, and **(ii)** soaring private expenditures by you and me. This clearly raises equilibrium **(S = D)** prices.

But matters are worse. MMT theorists believe in taxing businesses at every turn possible. This will reduce the incentive for firms to invest, and will shift the supply curve *backward*.

Q. Any final thoughts?

Several Red Flags

A. Yes. There are some red flags to be aware of in what we have proposed in this essay. In particular, it is unknown to what extent a central bank can expand its balance sheet without running into trouble. For example, for how long can the Treasury have the Fed print money in exchange for zero coupon "perpetual" notes? On the surface, the answer might be "forever." After all, such IOUs could be discarded every so often – simply written off. After all, doing so hurts no one since this is merely government debt owed to itself.

But surely there is a limit here as to what can happen – even if inflation is well managed. This is one of many issues that we do not understand at present.

Whatever the fate of such questions, this essay has underscored a point we have made over the past decade: expected inflation is perhaps the most important variable in economics. In particular, it largely drives *both* short and long term interest rates. In the first case, the course of inflation drives Fed policy. In the second case, inflation drives long-term rates by causing investors to demand higher/lower "inflation premia" as inflation rises and falls. [Other factors can matter too, such as a flight to quality bonds in a panic, but inflation is the principal driver of both rates over time.]

Inflation is also now important for a new reason: *disinflation* poses the risks of negative interest rates, rates that are very problematic for the economy.

> *Despite its great importance, both central bank economists and market commentators have abjectly failed to offer any explanation of the behavior of inflation in the past twenty years, much less to predict what its course will be in the future. Analysts simply observe its course, passively, and proceed to assess future interest rates.*
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> *But if you wish to forecast short and long-term interest rates in a compelling manner, you need to first explain the behavior of inflation. Methodologically, only by being*

*able to **explain** the course of inflation in the past can analysts make credible predictions of its future behavior – and thus the future behavior of interest rates.*

Postscript*:* Readers who might wish an excellent critique of the MMP should get hold of a new paper "A Skeptic's Guide to Modern Monetary Theory" by Harvard University Professor Gregory Mankiw. This paper was presented at the American Economic Association Meet*ing, January 2020. The scope of his paper is much narrower than the scope of the present essay.*

H. Woody Brock

Gloucester, Massachusetts,

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