Prof Steve Hanke: M4 is the most under underappreciated indicator

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Erik: Joining me next on the program is Professor Steve Hanke from Johns Hopkins University.

Steve, thanks so much for joining us on the program. We've got you on at a time in markets where the equity market is starting to hiccup. A lot of people are questioning whether or not the central bank liquidity funded bull market might be coming to an end. I think it would be productive to get your perspective, not just immediately on the current situation, but going back to how we got here.

So, going back to the last crisis, from your perspective, what were the driving factors? How has it affected monetary policy? And what has actually been driving this massive bull market of the last 10 years?

Steve: Well, thank you, Erik, for that introduction.

If you go back to the crisis, shall we say in 2008, and the start of the Great Recession in 2009, I think it's important to note that the Fed has a propensity to blow bubbles and pop bubbles. So money is important. Money dominates.

And if you look at money, it's always wise to look at broad money, the broadest measure of money, which actually is M4. And the best measure of it is what's called the Divisia M4. It's produced by the Center for Financial Stability in New York, not the Fed. The Fed has lousy numbers.

If you look at the Center for Financial Stability, Professor Bill Barnett is the guru on the Divisia measure, so he knows how to measure the money supply. It's always important to measure the right thing.

And the right thing is broad money and the right measure is Divisia M4. And right now, if we jump to today, the Center for Financial Stability has released its monthly growth rate for Divisia M4 and it has slowed down year-over-year. It's running on at 4.2%, so that's a fairly slow, moderate to slow number. It's declining.

Getting into the current stock market, yeah, they are already taking liquidity out of the system. You don't look at interest rates, you look at broad money. And broad money is going down.

The reason you look at broad money is you have to have a model for national income determination. And the best model for national income determination is one in which money dominates. It's a monetarist model.

So if you look at the growth rate in broad money you can anticipate what the nominal growth rate will be in the economy. That's the real growth rate plus inflation.

Right now, if we have the Divisia M4 growing at 4.2% and the economy growing at about 4%, that implies that there has almost got to be no inflation in the system if real growth continues at the hot pace that it is right now.

So that's one aspect. Liquidity is coming out of the US system.

But what's overwhelming the market is that the earnings and free cash flow is just dominating the scene. I mean, we have President Trump making all kinds of remarks that are not really very market-friendly – should, in normal times, shake up a market pretty badly. A lot of this protectionist rhetoric and interventionist rhetoric would shake the market. But it hasn't really shaken it too much at all because earnings, earnings, earnings. Free cash flow. That's the current scene.

But going back, Erik, to the start of the crisis, the Fed blows bubbles and then it pops bubbles. We had this happen and Greenspan came in January of 1987. He arrived, and what happened? The stock market crashed.

So the Fed steps on the accelerator and we had a bubble. That is a bubble in aggregate demand in the United States. Aggregate demand went way above its trend rate, which is about 4.8% – that's the trend rate in nominal aggregate demand. But it got up to almost 8% in that little bubble.

The Fed got worried, inflation started churning up and so they put on the brakes. And, boom, we had actually a mild recession in 1990–1991. The main reason that Clinton won and Bush lost was that recession we got into that was Fed induced.

Things went along. And then we have the Asian financial crisis, 1998. We had the Russian ruble, 1998. We got the Brazilian real goes down in 1998, early 1999.

The Fed steps on it again and they create a bubble. The bubble was popped, as you recall, in 2001. And we had a big dip in nominal aggregate demand.

Then we had Ben Bernanke, who was a governor at the Fed, gave a speech in December of 2003, I believe (going back in the old memory bank, Erik). And that speech emphasized that the big thing that we had to be fighting was deflation. Deflation.

And Bernanke sold Chairman Greenspan on this idea. So they put the Fed funds rate down at that time. It was in July of 2004 and they put it down to 1%. And that resulted in a bubble.

Then by the summer of 2008, food prices were going up. Commodity prices were going up. And inflation actually hit 5.6% in July of 2008. The Fed put the brakes on again and everything slowed down.

By September, you've got the Lehman collapse, which we can talk about later. And we're starting the great recession then, after Lehman.

The important part of Lehman is (number one) the Fed said that they couldn't bail Lehman out and give it a little liquidity loan because they were insolvent. Well, they were solvent, or probably solvent, or close to being solvent. This was just a political decision at the time.

They had already bailed out Bear Stearns. Stearns had good collateral and they loaned them money at a penalty rate. They could have done the same thing for Lehman, but they didn't. They let Lehman go under. That created a very big panic in the market, once Lehman went down and wasn't extended a liquidity loan.

At the same time, bankers became the bad guys and banks became the bad institutions. And we had the Dodd-Frank legislation pass. And about the same time, Basel III was coming into the picture. Basel III requires banks to have more capital.

Both of those things put a big squeeze on what I call bank money. The total money supply, this M4 thing that I was talking about, includes two components: state money (that's produced by the Fed) and bank money (that's produced by banks).

At the time Lehman went down, the Fed was operating pretty much normally. They were producing about 10% of the total money supply. 90% was produced by banks. Banks are the elephant in the room.

Once the regulation of banks became very severe, with Dodd-Frank and the Basel III capital requirements, the bank money supply actually declined. It actually was going down. It wasn't just decelerating. It actually was going down. We had a huge credit crunch upon us.

The decision then was to correct one mistake that the government made, which is this squeeze on the banks. The government decided that they had to do QE, quantitative easing, with the Federal Reserve. If they hadn't done quantitative easing to mitigate the credit squeeze in the banking sector, we would have had a tremendous recession.

But many people became all confused by this. They started looking at the Fed. They saw the huge expansion in the Fed's balance sheet. They said we're going to have hyperinflation and all kinds of terrible things are going to happen. Lots of inflation.

But they were not realizing that the Fed is peanuts in the money supply game. They were only producing about 10%, even after all of the quantitative easing. Even today, the Fed only accounts for about 16% of total broad money supply, M4. So banks are the big thing.

At any rate, this tight monetary situation we've been in, really, since Lehman went down is, ironically, pro-cyclical. We go into a slump and what does the government do? It introduces a lot of policies that, on balance, in aggregate, tighten the money supply.

That's what you shouldn't be doing. If you're going to run a counter-cyclical policy, you'd want to loosen up when the economy starts slumping. No, we tightened up.

And that's the whole name of the game in this very long great recession that we've had – excessive bank regulation, excessive tight money. In fact, tight money in total, even though the Fed itself was rather loose in terms of state money.

So that's basically where we are, or a summary of the thing. Many people got off-base and got it all wrong. Now, as I say, I still think the overall monetary picture in the United States is on the tightish side. And I say that for two reasons, really.

One is the money supply itself was only growing at 4.2% year-over-year. That's the quantity theory. That's Milton Friedman. That's monetarism.

But if you look at supply side economics and people like Bob Mundell, Mundell correctly looks at prices too. And the key price, the most important price in the world, is the dollar/euro exchange rate.

Right now if you look at that, it's indicating that we're below 1.20 on the rate. We're below 1.20. And 1.20 to 1.40 is kind of my comfort zone. Being below 1.20 means that the dollar is very strong against the euro.

The second price that's very important to look at is the price of gold. And my comfort zone for gold is about $1,200 per ounce to $1,400 per ounce. We've been down a little bit below $1,200; now we're a little bit above $1,200. That low gold price indicates strong dollar, low commodity prices, low gold prices, low inflation.

So it all points towards tightness. As I say, the earnings and free cash flow are so massive they're just overwhelming this kind of tightness that we have in the monetary sector. And that's the US scene, the US market.

If we look at Europe, the European Central Bank is pretty tight. Money is pretty tight.

And if we look at – the big engine for growth in the world economy, of course, is China. China contributes has been has been contributing about half of the annual increment to world growth. It comes from China.

And China's trend rate of growth in monetary supply, broad money, M3, it's been about 16% or 17% per year for quite some time. Now it's only running at about 6.5%. So it's slowed down. Money growth in China has slowed way down. And I anticipate they'll have a lot of trouble meeting their target rate of growth of 6.1% in China.

That's very significant, especially for the commodity markets, because China consumes a lot of commodities. It's the tail that wags the dog on many of these markets, China.

So that's it in a nutshell, Erik. It overextended the gracious welcome that you gave me, but that's kind of the summary picture at 30,000 feet.

Erik: You've expressed the view that really what's important is M4 money supply growth, not base money growth, which is what quantitative easing directly enables. And you've said it's not really growing all that fast.

A lot of other people have expressed the view that what right now has become the longest running bull market in stocks in all of recorded history, a lot of people think it's been fueled by quantitative easing.

It sounds like, by your logic, maybe you would disagree with that. And, perhaps, also think that quantitative tightening is premature at this point if we haven't seen enough private banking broad money growth.

Is that accurate? And what do you think the result will be?

Steve: I think that's accurate. And I think that the danger that lurks out there is quantitative tightening. The money supply is decelerating a little bit now and it hasn't been over-hot, as I indicated. So it's starting to decelerate.

This is a tricky operation – a very tricky operation – unwinding this huge balance sheet that the Fed has built up. But remember we're talking now about only 16% of the money supply is made up by the Fed. So there are things that they can do.

Right now, the commercial banks, for example, have massive excess reserve. And they have that because they're getting paid interest on it by the Fed. So the Fed does actually have a tool that they could unleash commercial banks if they stopped paying interest on the excess reserves, or reduce the rate at which they pay.

So right now we have to watch very carefully what's going on. But, of course, as I try to emphasize, you have to know what you're watching for, what's important. And it's not what everybody is watching.

Everybody is watching the Fed funds rate. And interest rates are a very poor guide to monetary policy. They really don't tell us very much. You've got to look at the balance sheet of the Federal Reserve and figure out how that is changing and monitor it, diagnose it. And that accounts for, again, a small portion of broad money.

So what you have to really be analyzing, what most people don't analyze or think about even, and that's commercial banks. Commercial banks produce bank money. Right now 86% of the total broad money supply is produced by banks. So you have to watch and see what's going on with banks and what policies are affecting banks.

Now, one reason, Erik, that people don't watch this very carefully is that policies that affect commercial banks don't change very rapidly, usually. Usually. What happened after Lehman, we had Dodd-Frank. That was a massive change. That was the law, not even a regulation. They're still coming up with the regulations. Those are still changing.

Bank supervision was changed. And bank capital requirements were changed. We had massive change affecting banks and affecting the biggest part of the money supply. And people aren't used to monitoring that kind of thing. They don't understand it. Because it never – it usually doesn't change very much.

Erik: So where we stand now is that the Fed is still paying interest on excess reserves. The incentive for the commercial banking system to create more M4 money supply is not really there. With quantitative tightening, there is potentially an incentive as yields get higher for the banks to start buying up some of the Treasury securities that the Fed will be selling.

And that means that what otherwise could have gone into reserves to capitalize more lending isn't going to happen. So it seems like we've kind of got a setup here with quantitative tightening that could bring this bull market to an end.

Would you agree with that? Do you think that quantitative tightening is the reason that we're seeing right now this big hiccup in equity markets that some people think could be the top of the bull market? And do you think that we're headed into a bear market from here?

Steve: I think the biggest risk we face is quantitative tightening right now, that they'll get their feet tangled up unwinding the Fed balance sheet and they'll make mistakes. That is the biggest risk.

As I say, it's hard to call a bear market, even with mistakes and quantitative tightening, because the earnings are so great. So it's very hard to say. I'm not in the "sky is falling" camp at all.

But I'm talking about New York. There are a lot of bear markets around. Look at the emerging markets right now. A lot of them are in bear market territory. You look at commodities, and commodities since January – one of the big hawk commodities, it's gone down about 55-60%, is lithium. Remember? That was a big deal. And, basically, lithium has shed about half of its value or a little more since the first of the year.

Then you look at another commodity. Which one has gone up? Skyrocketed? It is palladium. And gold. I mentioned gold. Lithium and palladium are two kind of exotic things. I follow the commodities and we are involved in these commodity markets, so those are a bit on the exotic side.

But just look at gold. What is gold telling us? Gold is telling us that the dollar is obviously very strong and that inflation isn't in the near-term horizon. Things are slowing down. Things are on the slowish side. So that's the quantitative tightening kind of risk.

If you look at the money supply growth, it's slowing. If you look at the dollar year-over rate, the dollar is very high, suggesting tightness. If you look at the gold market, the price is sluggish, suggesting tightness on the part of the US.

But not necessarily other markets. They might even be in worse shape, and they are, the emerging markets.

Erik: You've written quite a bit on foreign exchange markets. And, specifically, you have suggested that stabilizing the dollar/euro exchange rate would go a long way to help financial markets generally.

What's the rationale there? What's the logic? Tell us the story.

Steve: Well, the story is one of stability. If, as according to Bob Mundell, the dollar/euro rate is the most important price in the world – which it is; I agree Bob on that – then if it's the anchor for everything and the nexus for everything going on in the international markets, it's better to have it stabilized than volatile.

And to do that, you would have to basically stabilize the monetary policy in the United States, in Europe, to have it coordinated. So what would happen if you had a range of 1.20 to 1.40 at the rate – When the dollar got weak – By the way, it was very weak before the Lehman collapse. It was over 1.55.

So the dollar was very weak against the euro right before all hell broke loose. And we had commodity prices were going up. All the congressional testimony in the summer of 2008 was about commodity prices. Food prices were going through the roof. Inflation in the United States, its CPI was 5.6% on an annual basis in July of 2008.

At that rate, at 1,55, you're way outside the 1.40 range. And what would happen, you would have an agreement between – it would be the US Treasury because the Treasury is the one responsible for the dollar, not the Fed – between the US Treasury and the European Central Bank.

In that case, with the weak dollar, the European Central Bank would buy dollars. They would intervene to buy the dollar. And by doing that, obviously they're going to strengthen the dollar because of the intervention.

But what are they going to buy the dollars with? By emitting more euros. So, in that case, you would have a relative loosening of monetary policy in Europe. The euro would get a little bit weaker, the dollar would get a little bit stronger because of direct intervention. And you'd get back in the zone.

And if the dollar was very strong, like it is right now, what you would have is a situation where the dollar was strong, the euro was weak. And the Fed would buy the euro and strengthen the euro relative to the dollar. And that would happen because, by buying the euro, the Fed would buy it with – they would have to emit more dollars. They would have to expand the money supply. So the Fed would become a little looser.

Right now, today, if you had this kind of rule, the Fed would be intervening. They would be buying weak euros. They would be emitting more dollars, loosening up the Fed's monetary policy relative to the European Central Bank. And you'd get back in the above-1.20. Now we're below 1.20.

So the idea is stability. You'd have a corridor of 1.20 to 1.40. And since everything is – international financial markets are basically geared off of this exchange rate. "Everything" might be an exaggeration, but a lot of things are geared off of it.

That's why Mundell can say it's the most important price in the world. You'd have stability. You wouldn't have a lot of volatility going on. You wouldn't even have as much volatility in the emerging markets, you see. Because this stability with the dollar/euro rate would tend to reduce the carry trade, kind of thing.

By the way, the carry trade, that was one real problem with the quantitative easing. The quantitative easing, you put US interest rates down to almost nothing and everyone's looking for yield. So they're chasing yield. They're chasing yield all over the world.

They're taking all kinds of risks that normally they wouldn't be taking. And they're leveraging up. They're getting a little more yield, they're chasing it, trying to find it, and they're leveraging up. So they're taking a lot more risk and they're much more vulnerable, the investors.

Then, if you would have stability and you hadn't had quantitative easing, and you wouldn't have had the need for quantitative easing, meaning you would have bailed out a solvent Lehman Brothers, number one. So that's point number one.

If you would have done this, you wouldn't have had all these excruciatingly painful bank regulations come in with Dodd-Frank that created a massive pro-cyclical policy that in fact had to be offset by quantitative easing or we would have been really in the tank.

But the quantitative easing came with lots of costs. It mitigated the business cycle problems associated with bank regulation, but it created may price signal distortions. And the biggest one and the easiest one to think about is chasing yield, and leveraging up, and taking way too much risk. And that's what we're paying the price for now.

I mean, you've got the Argentine peso, you've got the Turkish lira, you've got the Indonesian rupiah, you've got the Indian rupee at all-time lows. All of these currencies and markets have been disrupted. Bubbles popping. Because ultimately there was quantitative easing. And the quantitative easing, due to yield chasing, got people in these markets in the first place.

Erik: You mentioned the Argentine peso. That brings another topic to mind. I know you are an expert on the topic of hyperinflation. I'd really like to touch on this one because, frankly, I find a lot of people in finance use this term very loosely. I think a lot of them don't really understand its actual definition.

I have people all the time telling me, now we're going to have hyperinflation like the hyperinflation we had in the United States in the 1970s. And it just makes me think, boy, they're reading a different text book than I am.

So why don't we start with just a definition? What, exactly, does the phrase "hyperinflation" mean?

Steve: Technically, the convention in the economic profession, the scientific community, is that hyperinflation is reached after the monthly inflation rate exceeds 50% per month for 30 consecutive days.

If we look at that right now, today, the only country that's hyper-inflating is Venezuela. Today's inflation rate – I measure this every day with high-frequency data – it's 50,574 percent today, as we speak. And the monthly rate of inflation is 63%.

How I get that is I look at the change in the black market exchange rate, the free market exchange rate, and apply purchasing power parity theory to the change in the exchange rate. And that can be transformed into an implied inflation rate for the overall economy, counting everything is in the basket. I mean that's all goods, all services, all assets included.

That's where we're at with Venezuela.

There have been 58 hyperinflations in world history. The largest one was in Hungary in 1946. In July of 1946, prices were doubling every 15 hours.

The second highest one was rather recently, actually, in Zimbabwe. It was in November of 2008, and then the daily rate of inflation was 98%. Prices were doubling every 24.7 hours. I know I'm the only one who actually accurately measured the Zimbabwe hyperinflation in 2008.

Another one I measured accurately was Yugoslavia in January of 1994. Then the monthly inflation rate, Erik, was 313 million percent.

These are very high rates of inflation. It's hard to get your head around kind of numbers.

The one in Venezuela now is kind of modest. It puts Venezuela in at the 23rd rank out of the 58 hyperinflations that have been recorded in world history. If you want to see that, Nick Krus and I wrote the chapter in the *Routledge Handbook of Major Events in Economic History*. We wrote the chapter on hyperinflation. You can find all these cases, details and so forth.

It might be modest, the Venezuelan inflation, but it has lasted quite a while, actually. It's lasted almost two years. And there are only eight hyperinflations that have lasted longer than Venezuela's. Its rate of inflation, by hyperinflation standards, is modest. But it's longevity is quite long. Most hyperinflations, almost all of them, have lasted less than a year. And many of them have lasted – 22 out of the 58 lasted less than two months.

Erik: With that definition in place – hyperinflation as a rate of consumer price increase of more than 50% per month – needless to say, that makes a lot of large inflations, like even the 2000 Argentine inflation not qualify. That was about 80% per year.

Obviously this is a different phenomenon than just high inflation like we had in the United States in the 1970s. So when we have a hyperinflation, what is going on? What conceptually is the driving force that causes those extraordinarily high rates of price inflation.

Steve: They all start – you have to go back to Milton Friedman. Now, Milton Friedman always had a line that the cause of inflation is always and everywhere a monetary phenomenon. What Milton said is correct.

But the question that you're getting at, Erik, is, yeah, but what starts the money supply going up so fast? There always a fiscal – the sources is a fiscal problem. The government spends money but, for one reason or another, they don't have any sources that finance it except the central bank.

If you think about Venezuela, to make it concrete, the government – it's a socialist government, it's spending a lot of money. And what are the sources of revenue?

One source of revenue is PDVSA, the state-owned oil company. But the state-owned oil company is running negative cash flows. So that's not a source of income. That's a drain, actually.

The second thing is the bond market. You can issue bonds to finance the government. But the international bond market in Venezuela is cut off. They can't put out any international bonds. And the domestic bond market is totally plugged up because the banks are up to their eyeballs in domestic debt denominated in bolivars.

Taxes. With taxes you run into a problem – it's something called the Tansy effect – when you have hyperinflation. Because the taxes are assessed – let's say you have a tax and it's assessed on January 1 and you're required to pay it in April or July or some later date.

Well, by the time you get around to paying it, the real value of the thing has withered away to almost nothing. So the government basically gets nothing because they have to wait for you to pay. But in the meantime the payments have been inflated away.

So what does the government do? The government goes to the central bank and they order the central bank to buy bonds issued by the state. The bank turns on the proverbial printing press. And that's how you get hyperinflation.

In Yugoslavia, just to give you a sense of what was going on, in 1994, when the hyperinflation peaked out at 313 million percent a month, about 97% of all government expenditures in Yugoslavia were being financed by the central bank.

So to stop a hyperinflation you've got to get rid of the central bank. It's easy to do if you dollarize the economy and get rid of the central bank. Or, as we did in Montenegro in 1999, we actually threw out the Yugoslav dinar and replaced it with the Deutsche mark. And inflation, of course, stopped immediately.

And once you get rid of the central bank, you have a hard budget constraint in the system. The hard budget constraint is that the government can't go to the central bank and borrow money. So that's the easiest way to solve hyperinflations.

What goes on in the street, by the way, is not official dollarization but spontaneous dollarization. People substitute some foreign currency for the lousy money that's being emitted by the central banks.

In Venezuela, if somebody gets a bolivar they have two things they can do. They can either buy some commodity immediately with it before it withers away in their hand. Or they can go to the black market and buy US dollars. They get rid of the local currency as fast as they can.

So the velocity of the turnover of the money is fantastic in a hyperinflation. Anyone that keeps a bolivar for more than 24 hours is just a fool. I mean, no one would do that. So you buy commodity, you buy dollar.

That's what's going on.

Erik: Now, it's thankfully settled down a bit in the last couple of years, but for a while we had all kinds of fringe bloggers and other people getting everybody worried about how the US dollar was going to experience hyperinflation.

I think the logic went something like: look at Weimar, Germany, and there have been other places around the world where governments spent beyond their means. Certainly, the US government has spent beyond its means. It's been forced to resort to quantitative easing, which, by any reasonable evaluation, is an extreme measure. So surely we're about to have a US dollar hyperinflation.

Please explain for our listeners why there are some holes in that line of logic, to say the very least.

Steve: Well, the biggest hole in that is that the dollar is the world currency. Most people don't realize this. If you go back 2,500 years, there always has been one dominant international currency. Always. And the average life of those dominant currencies is about 300 years.

What knocks them off the top of mountain is usually some monetary mistake. The issuer or the sovereign makes some mistake. Or the sovereign is knocked out in a war. So either some monetary mistake that – it's almost always associated with a war, by the way.

Remember World War I? Sterling was on top of the mountain. And World War I came along. The Brits had to borrow a lot of money and they got into some silly monetary policies. Sterling took a pounding.

And the opportunity arose for what? For the dollar to enter as a challenger. And eventually it took out sterling as the number one currency.

Today, people don't realize the dollar is just completely dominant in all international activities. We know oil is priced in dollars. We know all agricultural commodities are priced in dollars. All basic materials are priced in dollars. Most people don't realize that a lot of manufacturers that are exported from, for example, Japan – about 65% of all the exports from Japan are actually priced and invoiced in dollars, not yen.

So the dollar – international reserves of central banks, you name it – the dollar just completely dominates. Now, of course, eventually the dollar could be challenged. I think if these international sanctions and international tariff games continue, those are the kinds of stupidities that can ultimately make a currency vulnerable. And the way they are throwing these international sanctions around, these international financial sanctions.

They have a huge unit at the US Treasury who dreams up these things that they impose almost every day on somebody new. This is a potential threat to the dollar's dominance.

But right now the dollar is dominant. The reason this can go on and on and on and on, and the reason we have run a large trade deficit since 1975 – with no problems, by the way. It's not a problem. Trump is worried about it, but it's not a problem.

The reason why we have an exorbitant privilege is we're issuing the world's currency, the dominant currency. And that means that the borrowing costs in dollars is very low. So we can borrow and finance our trade deficits at very low cost to the advantage of the United States consumer.

So the picture is “the sky is falling.” You have a lot of really, honestly, monetary cranks running around saying that things are going to go bad and go south immediately. And they’ll go very bad. The Chicken Little problem.

It’s not going to happen. I mean, it’s not something you worry about, or should be worried about. This is just not going to happen, period, in the foreseeable future.

That isn’t to say that the dollar might become more vulnerable over time. I think the big vulnerability will be protectionism and these – really, they are military sanctions. These are acts of war, these financial sanctions that are put on people and countries. I’m completely against these as well as these trade restrictions of all kinds. Because they are interfering with free and voluntary exchanges between sellers and buyers.

Erik: Well, certainly Russia and others have been cautioning that US policy is threating the reserve currency status of the dollar. So it will be interesting to see what the next several years bring.

We’re unfortunately out of time. Steve, I can’t think you enough for a fantastic interview. Before we let you go, where can our listeners who would like to follow your work find out more about you?

Steve: Well, there are two places.

If you go to the Cato Institute website (www.cato.org), you will find – go to Hanke, you will find my little sub-website there. And there is also another sub-website on the Cato site, the Troubled Currencies Project, which I direct. So that’s one place.

The other place is at Johns Hopkins University Institute for Applied Economics Global Health and the Study of Business Enterprise. I direct that and we have a big website with many working papers, many of my papers. Some of my books are actually in pdf format on that website.

Erik: Well, I can’t thank you enough for a fantastic interview. Patrick Ceresna and I will be back as MacroVoices continues right here at macrovoices.com.