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-- Professor Kaoru Yamaguchi, Ph.D --

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This briefing, held in the Cannon House Office Building, presented the findings of fundamental economic research undertaken by Professor Kaoru Yamaguchi.

Professor Yamaguchi explained that the debt crisis hitting Congress and America is really a problem caused by misunderstandings about the nature of money.

Present policies fail to address this, and Professor Yamaguchi showed how they can only lead to an ongoing worsening of the present situation.

To avoid this, Professor Yamaguchi analyzed the provisions of legislation written by Congressman Dennis Kucinich.

Professor Yamaguchi's analysis shows that Congressman Kucinich's legislation solves the problems in the news today; debt, deficits, the recession and unemployment.

A transcript of the proceedings of the briefing follows:

TRANSCRIPT

Congressman Dennis Kucinich (OH-10):

Thank you for being here. Sorry for the delay. As you might imagine, there are many things going on simultaneously here. None quite as important as this, but I had to check in on a couple of committee meetings before I could be sure to establish a period of time to be here with our distinguished guests.

This briefing is quite timely, and every one of you who is present will have an opportunity to explore a comprehensive way, through our guests here, an alternative to where America is right now. You know at this very moment the country is seemingly on the verge of default, in a debt crisis of monumental proportions. But throughout this there's a significant question which is being missed, and that is: is this trip necessary?

Does this really have to happen? Is there another way that we should go about the business of being able to finance our system and meet the needs of the people, and promote the general welfare of America, provide for the common defense, and all the other things that we do in America, without having to go broke?

Why is it that we have a debt-based economic system? What are the implications for the people of this country, and for the world? All over the world you see countries going down, hobbled by massive amounts of debt. Subject to the imprecations of the IMF and the World Bank. Subject to punishing structural adjustments, which are changing the way of life for hundreds of millions of people around the globe. And yet, very few people are asking, why do we have a debt-based economic system? Is there an alternative? Is that alternative viable? And is it viable within the context of the economic system we have here in the United States?

Well we are fortunate today to have a gentleman here, a distinguished professor, who will lead us in a discussion of an alternative model. One which is doable.

Before I introduce him I want to make a preliminary introduction: Stephen Zarlenga was the author of this book ***The Lost Science of Money: The Mythology of Money - The Story of Power*** which is a landmark book about the history of money and is a derivative text for those who are interested in monetary policy. Stephen Zarlenga is here at my left. Steve is the person who introduced me and my wife to this issue of monetary policy, and he has spent a lifetime of work in this area and I want to ask you to join me in welcoming Stephen Zarlenga

Stephen Zarlenga (Director, American Monetary Institute):

Thanks so much Dennis.

Congressman Kucinich:

Thanks Stephen.

For quite some time Stephen has been telling me you have to hear Professor Yamaguchi. He is a voice whose message has the potential to transform the world. And I'm glad to be here to help make [this] possible, with the co-operation of you members whose staffs are represented here and the organizations that are represented here.

Professor Kaoru Yamaguchi, heads the Green MBA program at the prestigious Doshisha Business School of Doshisha University in Kyoto, Japan. Professor Yamaguchi has previously held posts at California State University, University of San Francisco, the University of Hawaii, and Osaka Sangyo University. He was a visiting research member at the MIT Sloan School of Management and Haas School of Business, UC Berkeley, where he earned his Doctorate in Economics. He is a fellow of the World Futures Studies Federation and a member of the International System Dynamics Society, as well as the previous President of its Economics Chapter. Among the courses that Professor Yamaguchi teaches at Doshisha is Business System Dynamics, and System Dynamics is an approach to understanding the behavior of complex systems over time.

Professor Yamaguchi has developed a very sophisticated macroeconomic model based on the method of Accounting System Dynamics. Using this, he has found that the present way the economy runs is heading to a dead-end – o r if I could take the liberty of calling [it] a *debt*-end. This lead him to see what would happen by

implementing the provisions in legislation which I'm about to reintroduce into Congress, and that legislation is called the NEED Act, which is an acronym for National Emergency Employment Defense Act.

And what Professor Yamaguchi found was implementing this legislation enables Congress to pay off the national debt, as it comes due, and provides the funding to rebuild America's crumbling infrastructure, creating millions of good jobs in the process - not a small matter - 14 million American unemployed, another 12 million underemployed, this unemployment is a national disaster right now.

Professor Yamaguchi is here to show us how we can change our model and move from disaster to prosperity. He'll show us how we can solve our debt crisis and our unemployment crisis, and do this without running a deficit, without running into a double-dip recession, do this without inflation, which has always been the fear of economists. Professor Yamaguchi is going to show us why the legislation that will be reintroduced in Congress can help fix our problems.

I also would like to introduce Michael Clark. Michael is here from the United Nations and he deals with various economic matters. He is part of UNCTAD at the UN, and he is a very important person in terms of this monetary policy discussion, so Michael thank you also for being here.

And I ask you all to join me in welcoming Professor Kaoru Yamaguchi for his presentation. Professor.

Professor Kaoru Yamaguchi (Program Director, Doshisha Business School):

Thank you Congressman, I will try to do my best to meet your expectations.

Let me start with my cordial thanks to Congressman Dennis Kucinich and the Director of the American Monetary Institute, Stephen Zarlenga, and the Congressman's staff for providing me with such a very exciting opportunity. This is my first time to have this kind of talk at an American Congressional building.

My talk is about my latest research findings, which I presented yesterday at the 29th International System Dynamics conference which is going on right now in Washington D.C. There are more than 400 researchers from 50 countries, so I'm very pleased to present brand new research findings today.

This research started with my paper which I presented at last year's System Dynamics conference in Seoul. The title [was] ***On the Liquidation of Government***

Debt under A Debt-Free Money System - Modeling the American Monetary Act and the conclusion [was] that liquidation of the nation debt is possible without recession and inflation.

But that conclusion was obtained by using a simple macroeconomic model. This macroeconomic model did not include labor market and foreign sector, so I was a bit nervous whether this could be a more general conclusion. So I worked hard to develop this model to the open macroeconomy. This is the domestic economy, and this is the foreign sector.

So this is a complete macro model which can deal with domestic economic behavior as well as foreign economic behavior. So that is why the title is ***Workings of A Public Money System of Open Macroeconomies - Modeling the American Monetary Act Completed.***

Let me start then with books that influenced my research. This is a book you may know or you may not know. That book shocked me a lot because I didn't know that the Federal Reserve System is not a governmental organization.

Until I read this book. The second book [was] already introduced by the Congressman. This book opened my eyes to look into the nature of money from a totally different perspective, which is not taught at the regular mainstream economics classrooms.

So let me start with a definition of money. This is very important, to have a clear understanding [of] what money is. So, this book [The Lost Science of Money book] told me that money exists not by nature but by law. This is a definition defined by Aristotle, a great Greek philosopher. So this definition cleared up all of my, in a sense, muddle about money.

So here is a traditional textbook definition of money: money should have a function of a medium of exchange; unit of account; and store of value. So textbooks say anything which carries those features *could* be money. So that's what we are taught in economics. That's totally the reverse way for money. Money has to be first of all decided by law. That means money has to be a fiat money, or legal tender. So once we have money of a legal tender, then it should have those functions. That's the logical way to think about money.

And here's a System Dynamics way to describe how money circulates. So you may not be familiar with this diagram, but it's very simple. Just think of this box as a bathtub. And this [arrow] is water flowing into this bathtub, and this [arrow] is water

flowing out of this bathtub. So that's how we describe the dynamics behavior, using the System Dynamics icons. So in this definition, when the money moves, the commodity moves in the opposite direction. This is how we describe the transactions of money using the System Dynamics method.

So now I'd like to clarify that there are only two types of money, only two types of money. One type is public money, and public money has many media to convey its role. That means public money [can] be non-metal commodities such as shell, cloth; and non-precious coin such as copper, silver, gold; and paper notes, which are the sovereign notes and government notes; and recently digits, the electronic substitute, could also be public money.

So interestingly enough, money is written in Japanese with two characters like this - well this is the same in Chinese - so this means shell, this means silk. So this is how we describe money in Japanese. So we understand money as a tangible commodity like this.

For example, as an example of public money we have metal coins and the Continental Currency bills of credit.

This is the fact I learned from his [Stephen Zarlenga's] book [The Lost Science of Money]. Then Greenbacks. So, also there is one chapter all about Greenbacks, so I have no reason to explain that myself - so you can read this book [The Lost Science of Money].

So please allow me to tell you one episode in relation with Greenbacks. It may take a couple of minutes, but please allow me.

So when I was studying in the University of California, Berkeley, on campus, I was told by someone - one day - he said - you look like Mister [President] Lincoln. I was surprised. Some time later, I was in San Francisco, around the Civic Center area, I was approached by another person, and I was told the same thing. So it happened twice! So I was very surprised, and I rushed back - when I got to my home - I just rushed in front of the mirror with a five dollar bill.

Then some years later I visited New York for a job interview. And I was staying at a hotel and I jumped into the elevator of the hotel, then suddenly the person in the elevator told me "Hello Mister Lincoln" - so instantaneously, I replied "Thank you Sir, but I don't want to be assassinated" - but that's it, without any thought, it came out. But at that time I didn't know that Mister [President] Lincoln really issued Greenbacks, I was so ignorant about American history. Even though I'm a Doctor of

Economics, I still didn't know that fact. But after that, President Lincoln has been always around me, and he became my mentor, a teacher. So that's why I'm [now] so interested about the role of Greenbacks, which were created by Mister [President] Lincoln.

If he lived longer, I guess he may look like me. He has no picture of old age.

So the Greenbacks were used around the Civil War in the United States. But around the same period in Japan, we were having a civil war in Japan. In those days, the Japanese government issued new paper money. It [was] called Gold notes - it was called Dajyokan-satsu - so this is a picture.

So what [can] we learn from those two things, those two events around the period of the brink of a national crisis - a national emergency. So what we can learn is government saved the country by issuing the public money. So that's the [lesson] we should learn from those events.

But the money we are using [now] is not a public money, it's called debt money. Well what is debt money. So this is a textbook definition of debt money: so money consists of currency outstanding, that means coins and bank notes. Those are the monies which can be tangible - we can feel it. The other money is bank deposits, or just credit.

So here this is the Japanese data of the current money supply. We call it M1. M1 is the most [accessible,] closest money we can use. So there are three types of money: coins - this is the public one - coins have only less than 1 percent, and bank notes - this is printed by the Bank of Japan - is circulating - that's only around 17 percent, so the remaining 82 percent is just deposits, or credit-money. That means, that's only digital numbers in computers.

So that means if all Japanese [people] go to [their] bank and try to withdraw money, it's impossible, because there is no money, only 16 percent [is] in circulation. Among the 16 percent, maybe half of [it] will be in Japanese people's pockets - that's why we call it pocket money.

Alright, so this is the [present] nature of money. Then who is going to create those debt monies. The bank notes [are] created by the central bank. The central bank turned out to be not a governmental organization. And the other bank deposit credit-money is created by commercial banks, through the fractional reserve banking system. So, in this way, 99 percent of monies are created by banks. That's how

banks have strong power. So this is the nature of the debt money, under which we are trying to conduct our economic activities.

So originally money should be 100 percent money, but now, because of the [fractional reserve system, it's not].

Congressman Kucinich:

Excuse me Professor, could you go back, just go back. Could you go over one more time, how is it that the bank notes - are you saying that 82.3 trillion [yen] bank notes created - that is all created money - that's what you're saying.

Professor Yamaguchi:

Yes, all created.

Congressman Kucinich:

And you're saying that the deposits are created, created by commercial banks.

Professor Yamaguchi:

Yes, that's right.

Congressman Kucinich:

The 410 trillion dollars, or yen rather

Professor Yamaguchi:

That's right.

Congressman Kucinich:

That's all created.

Professor Yamaguchi:

Yes.

Congressman Kucinich:

That has nothing to do with people putting money in the bank, putting their money in the bank.

Professor Yamaguchi:

Well, first of all they put money in the bank, and those monies will be reserved at the Bank of Japan. By using that reserve as a base, the bank[s] can create 410 trillions.

Congressman Kucinich:

Okay, so could you explain that though, before we jump over to the next one.

Professor Yamaguchi:

Yes.

Congressman Kucinich:

Would you explain that a little more.

Professor Yamaguchi:

Okay. Suppose you bring a deposit of 100 dollars into [a] bank, and in Japan, Japanese banks are required to reserve only 1 percent, that's 1 dollar, with the Bank of Japan. That means 99 dollars will be made as loans. So in other words, if I'm a banker and I receive 100 dollars in cash, then I put 100 dollars into the Bank of Japan's reserve account. Then I can create 100 times loans, because our law requires that we only have to keep 1 percent deposit with the central bank.

Congressman Kucinich:

And each loan you create is booked on the accounting as an asset.

Professor Yamaguchi:

Yes, that's the bank loan asset.

Congressman Kucinich:

Right. So that's how they get to that number. You're saying the factor is a hundred times.

Professor Yamaguchi:

Yes, a hundred times. Usually we can divide by the required reserve. In the United States it's maybe 10 percent.

Congressman Kucinich:

This is a core principle and I just don't want to jump over it. Do people follow what he's saying.

Professor Yamaguchi:

So that means if I have a 100-dollar deposit, then I reserve 100 dollars with the Bank of Japan, and I can create 100 times as big a loan as possible.

Congressman Kucinich:

Create - out of nothing.

Professor Yamaguchi:

Yes, create. As long as some people come to borrow from me. If say they want to borrow from me, then I can just write down up to a maximum of 10,000 [dollars].

Congressman Kucinich:

This is a key concept. The first time I heard of this it's hard to wrap your head around. That banks actually can create money. You know, they take a deposit and then they figure out what the factor is, in this case you said it's a factor of 99. You go in and deposit a dollar, or let's say a hundred dollars, and they can then leverage that hundred [dollars] by a factor of 99.

Professor Yamaguchi:

That's right.

Congressman Kucinich:

And then, it's an accounting ledger, but they really book it as an asset.

Professor Yamaguchi:

That's right.

Congressman Kucinich:

And so you have the commercial banks that do that, and of course the Federal Reserve is involved in that too.

Professor Yamaguchi:

That's right. So the commercial bank can make loans up to that regulation, but only when someone comes to borrow. If there is no one who wants to borrow, then there will be no money created. But if there is more demand and I have only 100 dollars, then I cannot make more loans. So what I want is to increase my reserves. That is called quantitative easing. If the Bank of Japan increased my 100 dollars to 200 dollars, I can make 200 times more money [from the original 100 dollars].

But even though the Fed created more reserves under quantitative easing, if commercial banks cannot find the [borrowers] to lend [to], then the money supply is not increased. For instance, according to the latest data, after the Lehman shock, Federal Reserve assets increased from 1 trillion to 2 trillion, but the money supply didn't increase. Only the reserves increased. Because of the recession, nobody wanted to borrow money, or banks want to withdraw money from the unsecured producers. That's the main reason.

So that's why, instead of [100% public money] we have this [debt] money and deposits. And this is money that is criticized by Irving Fisher, who is a great American monetary economist. He said: "**Instability of demand deposits, tied to bank loans, is the cause of recessions,**" or financial instability.

That means, once we have only this [100% public] money, there is no way [for it] to shrink, money is always there.

But when we have only these [debt money] numbers, it can inflate, it can shrink. That means we'll have another credit crunch. [A] credit crunch only happens when money is created [as debt money].

So that's why our idea is that when we have only 100% [public] money, there is no way to have a credit crunch. So that's already pointed out in the 1930s by an American monetary economist.

So, in this way, there are two types on money: public money and debt money.

And historically, this debt money started with goldsmith certificates, and it turned out to be the bank notes. So it comes from the public or government money situation. Then sovereign money was also converted into debt money. So in this way, there is historically a struggle between public money and debt money.

And this is how your [American Monetary Institute] pamphlet [*Presenting the American Monetary Act*] summarized it: “**This Battle to Control the Money Power has raged for millennia over the same dividing line: will the money system be *privately* controlled by the few, to favor the few; or will it be *publicly* controlled by government, potentially for the common good.**”

So if we look at [The Lost Science of Money book], I learned the American history of money. So there has been a very, very, very bloody struggle between who controls money, so I was very shocked to read this book. There is no other book that explains this battle of control of money, [since] under American colonial days.

So now it's clear that we are running under a debt money system.

And the next question: Is our debt money system working well? Then for good reason it is not working well, unfortunately, because we had a financial crisis in 1929 and again we had a crash in 2008. And now we are headed for a new crisis, a so-called debt crisis.

Now we can definitely discuss how serious this crisis is. So here is a map where there is more debt just accumulated. All OECD countries, America, Canada, the other of the 33 OECD countries have a debt/GDP ratio. This is the index which is used to show how serious our debt is. This is debt divided by GDP.

So to be specific, this is our current situation of debt/GDP ratio. Japan has the highest, almost 200 [percent]. Then Greece. Now Greece is struggling from a debt crisis. Then Iceland, Italy, Belgium, Ireland, and the United States used to be around 50 to 60 percent, but recently, suddenly it's jumping to close to 100 percent. Then France, Portugal. And there are several candidate countries which may suffer a debt crisis like, after Greece, some will say maybe Italy, then Spain, Portugal.

So the way to answer why are suddenly so many developed countries having this kind of debt crisis. So there is actually something wrong with our system. This is how we have to analyze it. This is a System Dynamics thought: if something is wrong, there should be something wrong with the system structure.

So this is how we are suffering a debt crisis in Japan. It's almost 800 trillion [yen]. So that means each person has to pay 56,000 dollars in their lifetime. It's almost impossible. So that's why, even though we are hit by earthquake and tsunami and nuclear meltdown, we want to save people, but the government said we have no money. And the Minister of Finance also said it's better to get money by taxing more. But the government doesn't want to accumulate debt, so this is a kind of dilemma: we need more money, but there is no way we can this way.

So let me point out this kind of debt crisis started after 1971 when President Nixon announced suddenly that no longer [would] American dollars [be] converted to gold. That's called the Nixon shock. So after that, the gold-dollar standard finished. Now we have only a dollar-standard. So that means government and the central bank has a free hand for printing money. That has to be the root cause of the debt accumulation which happened.

Here is the debt crisis situation in the United States. So the same thing; after 1971 it started to accumulate. And now it hit 14.3 trillion [dollars]. And the debt limit runs out next week. What do you do?

Well, the Congressman might have some idea what to do.

But whatever they [the rest of Congress] come up with, it won't help.

See, suppose now we raise the ceiling. So if the debt ceiling is raised, this prediction is based on my simple calculations. So, the United States continues to accumulate [debt] at the annual rate of 9 percent. That means every 8 years, debt doubles - doubling time 8 years, then 16, then 24 years. Every 8 years the debt doubles. So in this way, if the debt ceiling is raised next week, and next year the American debt will be 15 trillion [dollars]. So if that growth rate continues, in 8 years, that means in 2020, debt becomes 30 trillion [dollars]. So how can we run this debt?

So here's another way to look at it: debt ratio in the year 2020 could be 130 percent. At that time, debt could be 32 trillion [dollars], but American GDP only 21 trillion [dollars]; if the current situation continues.

So in System Dynamics, exponential growth can never last forever. It has to crash somewhere - I don't know in which way. So this is the logical way of thinking: it has to crash somewhere.

So, there are only 3 possibilities, to end up with this debt crash. I call these default, meltdown, and hyper-inflation.

If I have time I can explain this. But we can easily follow; this is a very simple causal diagram: this is a cause, effect, then effect becomes cause, and cause also creates a debt. So in this way, cause and effect move in the same direction with the blue lines.

So that means whenever we have a deficit we have to borrow money, that adds to the debt, that also increases debt interest payments. That adds to the [blue] lines.

So in this way, this is a kind of exponential growth of debt. Eventually, government cannot pay any more. That means a default. Okay, that's one possibility.

But meanwhile, when government tries to keep raising [debt], that means they have to sell securities. To sell securities, they have to raise interest rates. In Greece now the interest rate is 20-something percent. But, by increasing interest rates, of course the government security and stock price goes down. So, when the stock price goes down, many banks and investment institutions, which have government securities and bonds, may be forced bankrupt. That happens. Then government have to bail [them] out, or the government have to prepare another stimulus package. So that's also forcing the increase in government expenditure. That again increases [the debt] crisis. So this is another accrual - it's worsened the debt.

So meanwhile, if they cannot bail out, then we have to give up like Lehman Brothers. Then that triggers a financial meltdown.

So, to prevent this increase in interest rates, the only thing we can do is put more money [into the economy], as the Fed is trying to do. So that money supply, eventually, triggers hyper-inflation.

Do you know what happened after the Lehman shock. The Fed's assets used to be 1 trillion [dollars]. But next year it became 2 trillion [dollars]. Now it's become 4 trillion [dollars]. So the Fed keeps printing a lot of money. So eventually, as I said, that money does not increase the money supply yet. But now, it may increase [the] money supply eventually. So if that happens, we will be entering hyper-inflation.

So there are only three possibilities. There are no others. Economically-speaking, that's the only result we are heading for. That's clear. Any questions?

So that means we have to reduce debt, to avoid default, or meltdown, or hyper-inflation. We have to stop debt accumulation.

Under the current situation, how can we reduce debt. So that's the simulation under the current situation. So I used a model. So this is a kind of idealistic world, but we won't worry about this. So equilibria means potential GDP has to equal real GDP. That means potential GDP is the maximum capacity to produce. If our current level of output is not equal to the capacity, then we can increase [it] more. That means some production capacities are sitting idle. So that's a recession state. So we have to avoid that.

So this is an idealistic situation. But behind this ideal situation, still my model for debt would appear to grow.

This is the main failure of the current macroeconomics. Macroeconomics deals with the fiscal policies and monetary policies. But they cannot deal with the debt accumulation behind that policy. So my model can capture the debt accumulation.

So to avoid this debt accumulation, maybe we have to maintain the debt around this series. How can [we] do that. So, the solution is very simple. We spend less or tax more. There is no other way. We have to cut spending, so now the Congress, I understand the Congresspeople are dealing with cuts to Medicare, instead of military expenditures, or they are asking [for] the taxes [to] increase. So either way, that's the only way we can reduce debt.

And in my model I assumed the middle way, we [use] 10% of government revenue to pay back the debt. So successfully we can reduce the debt. It's very good, very good. That's what many people have in mind - now - spend less and tax more and we can control debt. Talk to many Congresspeople, they have that in mind.

But they don't understand, if this policy is taken, what will happen. Ask them what will happen.

My model says, when we implement that policy, we trigger recessions - *recessions*. That means this is the potential GDP, this is the real GDP - a huge amount of recession will be created. So, [then] more deficit.

Congressman Kucinich:

I'd like to stop right there.

So you're saying that given the options which are before Congress right now, which involve either spending less or taxing more, you're saying that based on your study of this particular system, the end result would be another recession.

Professor Yamaguchi:

That's right, that's right. And my model is generic. That means many assumptions are taken from the standard textbooks. That means all economists agree with my assumptions. Then my model is not specific, so then I can attain this result.

Congressman Kucinich:

And in that next slide - right there - you're saying that in how many years, with this track that we're on, are we looking.

Professor Yamaguchi:

Well, according to this model, it never gets to equilibrium any more. In this case, more than 10 years. So in Japan it's happened for the recession for - we used to say lost decade, but now we have lost two decades. So the recession continues 20 years. But government cannot stimulate because of the accumulating debt.

So that is really a dead-end. No policy is available under current systems. It's a very serious situation. Yes.

An audience member:

It seems like an optimistic assumption that after the recession you go back to your potential growth path. In a recession we can also have the so-called hysteresis effects whereby [we] would destroy potential output itself, and thereby lead the economy into a permanently worse path.

Professor Yamaguchi:

That's right. No such theory is put in my model. That's a good point. Recession may also destroy the capacity again, yes. That's a good point, yes. That's worse than the [modeled] situation. That's right, yes - I can easily - that's a good point, yes.

Okay, this is a simulation - the numbers are not so important - this is a baseline. The 13 times GDP gap is the gap between potential GDP and GDP - it increased 13

times. And unemployment rate jumps 9 times. So this number is also a simulation - compared with the baseline - [of] how the recession will be serious, how unemployment will be serious. We can tell from this simulation.

And this is wage rate. Wage rate also drops dramatically. Accordingly, the money supply also lowers, and we have serious recessions. Price goes down. [Deflation.]

So, then I'll just briefly summarize, by looking at the [political] case. So this recession and unemployment surely, surely triggers social turmoil and disorder. So the government may not be able to control that situation. We don't know how serious this recession could be if the government tries to cut the budget to reduce debt. So it's very serious. We have to be very careful, to introduce this policy - don't look at only debt itself. So we have to think about the *effect* of that policy to the economy.

Not only that, you see that policy triggers a recession in the foreign countries. This is the GDP gap of foreign countries. And this is the unemployment for foreign countries. So that means one country's policy of reducing the debt triggers *global* recessions - based upon a simple model, but the model is very powerful, we have to capture the main features of the behavior.

So, in this way, it's no longer a domestic issue. It's become a global issue. If Japan imposes that policy, it may trigger a global recession. If the United States [does] the same thing, it triggers a global recession. So we have to think about the impact of those policies. So that's what I learned from running this simulation.

So, this is the conclusion:

To reduce budget deficits, we have to lower - we have to cut expenditure of tax revenue, but that will induce a recession, and under a recession tax revenue also drops, so that's another feedback point.

See, [with] my macro model, whenever one variable changes, *all* other variables change. My model [has] more than 900 variables. One change of parameter changes *all* other parameters. We are *all* inter-related. That can only be shown by creating a System Dynamics model, like I created.

So, that means this system triggers a tax reduction. So that means now government is forced to increase [the deficit] more. That means, this policy will be counter-acted by opposite policy.

So look at this another way. The recession triggers a bail out, that will also cause [government] expenditures, that also tries to increase the budget deficit.

So there is no way - the policy to solve the debt crisis *worsens* the crisis.

So that's the message from this System Dynamics simulation model.

So, therefore I conclude that the current macroeconomic system is a dead-end.

There is no way to solve this one, if we are a rational economist and we trust this simulation model structure - so there is no other way. So if someone points out a very optimistic viewpoint, we can easily point out the bad effect behind that optimistic viewpoint.

Okay, so that is why, under the growing economy, money [supply] has to be increased. So until the 1930s we used to have a gold standard, but that failed because the amount of gold is limited. So the money supply based upon gold cannot be increased. So it failed. Then, after World War Two, we introduced the so-called [gold-dollar] standard. That was forced to fail because the dollar is still linked to gold. Now we are having this dollar standard crisis. That means so far we have a free hand to increase money, but that increases debt. And to reduce debt, the money supply has to be reduced.

That's why money cannot be increased under the current situation. So a growing economy needs more money, but money cannot be increased. So that's the serious limitation we are facing under the current situation right now.

From now, we have to talk about the alternative.

So the alternative solution is a fascinating solution. I - first of all - I couldn't believe it myself. I was suspicious. So I read this, in the 1930s we had recessions, and what we learned from recession.

We learned the Banking Act of 1933 - it's called the Glass-Steagall Act. That means, one of the reasons of the Great Depression [was] the integration of depository banks and investment banks. So this Act tried to separate traditional banking activities from investment activities. And that worked very nicely, until 1999. It was repealed. So that means now we are trying to put in more regulation - we are trying to go back to this spirit a little bit. But that's one lesson.

The second lesson is the Chicago Plan. Henry Simons and Paul Douglas and Irving Fisher, those great economists proposed a so-called Chicago Plan, and Stephen told me that more than 100 economists signed up with the Chicago Plan. The idea [was] that we should eliminate the very unstable credit-created money. That's basically it. But that lesson has never been implemented, so far.

So it's very good to remember this history. It was presented in the 1930s by American economists. But maybe politicians failed to implement. I don't know who is to blame. But anyway, this is what happened.

So this is Irving Fisher's very simple, very nice book written in 1936. Let me read very quickly: **"As I have stated elsewhere, I have come to believe that the plan, properly worked out and applied, is incomparably the best proposal ever offered for speedily and permanently solving the problem of depressions; for it would remove the chief cause of both booms and depressions, namely the instability of demand deposits, tied as they are now, to bank loans."** So Fisher really pointed it out.

But this spirit is now taken over by the American Monetary Act. So what's the position of the American Monetary Act. It's very simple:

This is how money is created under the current debt money system, right. So, the condition 1 has to be changed to this one: government has to issue money. That means nationalization of the central bank. That's the first one.

So, the second one, credit creation is paid by commercial banks, that has to be abolished. That means 100 percent fractional reserve has to be attained. So that's the second condition.

The third condition was missing from the Chicago Plan, Stephen told me. The third condition: a growing economy needs to put money into circulation. So that means - now I was watching TV last night, many people were talking about a balanced budget - most stupid policy.

Balanced budget never works, because a growing economy needs money to be constantly put into circulation. And that has to be done by this one [a public money system].

So, once government has the power to issue money, so they can put money, according to the growth rate, to the places where money is needed; for construction, education, whatever, *directly*.

But if money is created like this one [a debt money system], banks never make loans to [public] construction, [public] education, because they don't have a high return. They never make money available to them.

But only under this [public money] system, money can be made available to those who need it. So that's a very powerful and important factor.

So again, the balanced budget *never* works - never works - it *worsens* the recession. So if the balanced budget is now passed in the Congress, that totally destroys the American economy. And I promise I can tell you.

Congressman Kucinich:

If I may, Professor, I want to point out that the principles of the American Monetary Act which Stephen Zarlenga brought to me a few years ago are the principles that are reflected, and as Professor Yamaguchi has shown in the column there on the right, are also what is embodied in the Bill that we are reintroducing to the Congress.

The one thing I want to make a point of, before you continue, is when we talk about nationalization of the central bank, as soon as people see the word nationalization some people freak out. But let me just explain something.

That in the Constitution of the United States, the power to coin money, which it didn't mean just mint, but the power to make money, is a power reserved to the Congress, under the Constitution.

The 1913 Federal Reserve Act changed that, in creating this central bank. So what we're really doing, with the first point that Professor Yamaguchi cites, is giving government the ability - instead of having to borrow money from banks - to have government reclaim the power which is in our Constitution, which would be to invest and put money into circulation, by putting in this case the Fed - the Federal Reserve - under the Treasury. And that's what the first provision would be, in the model which Professor Yamaguchi puts here, under the title of the American Monetary Act, which is now a Bill we've introduced in the previous Congress, which is called the NEED Act, and it will be reintroduced soon. Thank you Professor.

Professor Yamaguchi:

Maybe I should change the word to integration and use this - instead, integration of the Fed with the Treasury.

Stephen Zarlenga:

We use the word incorporation, not to scare Americans.

Professor Yamaguchi:

I will change the wording.

So, we can't help to get technical, but it's not so hard, you need not worry about it. This is how we can create the first condition, that is, government issued money. So this is a balance sheet of government; assets side, liabilities and equity.

So [presently] whenever there is a cash flow deficit, that money has to be borrowed. But whenever government issues securities and borrows money, that amount of money goes into the liability account, the liability account.

But now, if government has a right to issue money, that money becomes *equity*. So instead of liability, money goes to equity. That's a big difference, big difference. And it doesn't hurt anyone. It just changes one part of the system. And we call it the leverage point. That means, if you try to restructure the whole economic system, probably it's almost impossible. But changing just one point, and it changes all structures. That's the idea of System Dynamics. In this case, from debt circulating to equity [circulating].

And the second condition is, now we want to raise 100 percent reserve reservation. So I've done three simulations. Whenever this Act is implemented, whether we should raise 100 percent reserve reservation within the year, in 5 years or in 10 years - it's just my academic curiosity. So I've done three simulations. But it doesn't matter so much.

So this is the central bank's accounting. So now the central bank is no longer resisting, and we call it a Public Money Administration. And in the Act you call it a Public Monetary Authority. But I prefer administration because I'm a Professor of business administration, and administration sounds more friendly than authority - that's to me personally. Yes.

An audience member:

Don't you need to qualify this for national governments. I mean to say balanced budget never works, local governments are required to balance budgets as well as

States, so you're really only talking about national sovereign government. So, there are a lot of publics, so I don't know if public is adequately specific.

Professor Yamaguchi:

Yes, that's why I carefully put that, only for national government.

An audience member, continued:

I think you better look at that slide because again you're talking about national sovereign governments. Balanced budgets don't work because they issue money. So you need to restrict it to national sovereign governments. And I think that to say balanced budgets don't work, again, in the framework of national sovereign governments. Because there's a lot of room for saying that means, well, States can - don't have to balance their budgets.

Congressman Kucinich:

Okay, the point is well taken.

Professor Yamaguchi:

So, let me move quickly, so this is the central bank's assets and liabilities and equity. So when we impose 100 percent reserve, obviously the bank reserves jump to this line. And the counterpart asset would be the government issuing money-asset, so it's also increasing. Accordingly, the currency outstanding increases a little bit. But at the same time the discount loans decline because now the central bank no longer makes loans to the commercial banks. Simultaneously, the government securities will be liquidated. So gradually the central bank's holdings on government securities will reduce.

But the money supply itself never goes beyond the previous baseline. So that means, even though the currency outstanding is increasing, [the] money supply is never increasing.

So that's why there will be no inflation.

So this simulation totally convinced me. Without running this simulation I [was] not so sure. But now the simulation, it has convinced me.

So now we'll quickly show how this comes about. Only when we've implemented two conditions, now the debt - this has been accumulated in the implementation period - now debt is seen to decline very gradually - it's very nice.

And now, see - this is the line for the implementation - now there will be no GDP gap.

Also there will be no recessions - it's *fine* - no recessions.

And the GDP gap - this is the GDP gap caused by the *current* system - but now GDP gap becomes below the equilibrium level. Unemployment also drops.

So it doesn't effect recessions and unemployment - it's fantastic!

No one will be hurt from this structural change.

And wage rates go up, that means workers will be happier.

And the money supply is not increasing.

And there is no inflation, see - no inflation.

So that's a *fantastic* solution!

And then, also, it doesn't also trigger a recession in foreign countries. Foreign countries are not affected *at all*.

So the only question is, why don't we implement this policy.

But still there is a lot of resistance. The main argument is, no way, if we give the power to the government to control the issue of the money, there should be inflation.

We are told many many times, in Japan also, there are some people who suggested the government printing policy, but the Bank of Japan *very strongly* fights against that policy, saying that, if you accept inflation that's okay, but. So they said.

But then the question is, can we trust government. Maybe not. Because there is in the United States a political business cycle. Just the year of elections, money is put into circulation and the economy is stimulated. So we know that. We call it a political business cycle. So it's hard to avoid. But that's okay.

Then, can we trust a privately-owned central bank. Because that the choice, between government or central bank. And, the history of economic crises proves it - no way!

So the question is, so what can we trust? So that's my question, you have to answer it. But this is my answer: Government policies based on System Dynamics models.

That means, once we have this policy, now money supply - the information of money supply - now has to be disclosed. And everybody has to learn simulations, whether the government is doing good business or they are lying. That means this is very crucial. So all the information which is now closed under the Federal Reserve System has to be disclosed under this new system. That's how then, it should work.

So even though we have this ideal situation, we may still have a recession, as we find, I intentionally created a recession. But we don't need - no longer the monetary policy, no longer need fiscal policy. The only policy we can use to overcome recession is just create - to put more money in circulation - very simple policy.

Watch how it - it's very simple, just put more money in. When we are in a recession, like now in the United States, so, government prints money, puts it into circulation.

That solves *all* problems. If someone has an almighty power. [meant as a joke]

So, in this way, whenever we have a recession, put more money into circulation.

But sometimes we may mismanage, we may put more money than necessary. For instance, instead of 5 we put in 15. So obviously, this could increase the money supply, and this could increase inflation. That's very bad, so we have to avoid this. Then how we can avoid this is by sucking money from circulation by imposing tax. So a very simple policy. It will work out to overcome the inflation. Even so, there could be more inflation than we expected. So that's a time when we have to do a structural change. That means the head of the monetary administration has to step down, to take responsibility. So it has to be stated legally. Then no political issue. Whenever inflation, say it goes beyond, say 7 or 8 percent, no choice but to step down. That has to be legalized, to stabilize this system. Okay.

An audience member:

Professor Yamaguchi, just so I get it clear, when you were going before about liquidating the securities, that means paying off the national debt. And when you said that the discount rate goes down, that effectively means that the benchmark interest rates in the economy [go down], is that right?

Professor Yamaguchi:

Yes.

An audience member, continued:

So the debt can be paid off, and the interest rates will go down, and the money supply will increase, but it won't increase on the same trajectory as it would under a debt money system, so there wouldn't be inflation.

Professor Yamaguchi:

No, no inflation.

An audience member, continued:

Yeah, that's right.

Professor Yamaguchi:

In this case, money is made available without interest rate, because government can provide money to whichever industries which need it. In Japan, after World War Two, the Bank of Japan introduced so-called window guidance. So the central bank put money into the main key industries to stimulate the economy. So that's the kind of industrial policy, which the American government adopted in 1980. So we can introduce some kind of direct control of money.

Okay, here's the conclusion:

So from a viewpoint of system design, a public money system of open macroeconomies is worth being implemented to avoid government debt, financial crisis, and environmental destruction - I didn't cover this one, but I can put some footnotes.

Then fortunately this was very surprising news for me, so last December, Congressman Kucinich introduced this NEED Act. I was so encouraged by it. And simultaneously, in Britain, a similar movement is going on. And we are thinking to start a new movement in Japan, when I go back to Japan. So that means the United States, UK and Japan are having the same movement to obtain the new economic system. So that's what we are thinking. Okay, that's the conclusion of my talk.
[Loud applause]

Congressman Kucinich:

Professor Yamaguchi - please - we are in your debt for your presence here today and I would like to now open up the floor broadly for questions to Professor Yamaguchi.

An audience member:

Yeah, so, thanks for the presentation. I just think there has to be just some fundamental things introduced into the discussion about Monetarism. And I was glad that you brought up some of the history because, I think, as has been demonstrated by this privately run system there's a lot of criminality, and a lot of the people that run the financial system, you know, have the morality of people like Dominique Strauss-Kahn, and so I think it's important right now that people get the sense of what did happen actually when the monetary system crashed in the 20th Century, that there was an intent to impose really fascist government ...

Congressman Kucinich:

Do you have a question?

An audience member, continued:

Yeah, yeah, I do. It's actually addressed to you. I'm just wondering ...

Congressman Kucinich:

You: meaning *me*?

An audience member, continued:

Yeah. As a Representative, it seems to me that we immediately need to get Glass-Steagall passed immediately, and I'm wondering what you're doing ...

Congressman Kucinich:

Well, Representative Kaptur has a Bill to bring Glass-Steagall back and I've signed on to it. I voted against the repeal of Glass-Steagall when Gramm-Leach-Bliley came in years ago, and that unfortunately opened the door to a lot of the problems we ended up with the collapse so. Next, yes, the lady.

An audience member:

I have a question on the Glass-Steagall. It seems like you have a very good idea on it and I would say why don't we go with it but I think a factor that we have to consider is opposition is coming especially from [the] Wall Street faction, and when I say Wall Street I do include the Presidency because they mobilized against Glass-Steagall very definitely last year and we know that, so how do you go about crashing your enemy because I think right now ...

Congressman Kucinich:

How do you go about *what*?

An audience member, continued:

What the President did in this Libya war, it's very possible that he was just desperate to have another bail out - QE3. He's so desperate right now. Lyndon LaRouche said it's possible for him to pull some kind of dictatorship in this country. Now you're facing that threat ...

Congressman Kucinich:

What's the question?

An audience member, continued:

So, my question is, what do you think about crashing the enemy, from your standpoint Professor, but also for you Congressman, why not, why haven't you actually put that impeachment on a discussion table?

Congressman Kucinich:

Okay, let me address that first. We're talking about changing the monetary system here. We're talking about structural changes, a new macroeconomic model. There are various issues that attend right now that can point to the symptoms of an economic model that doesn't work. Some of those symptoms are political. But it's really about the model. It's not about the individuals. Really, it's about the model. But really, we're talking about system-change here. So with the system-change you give space for individuals who can function in resonance with that new system. Would you agree with that [Professor]?

Professor Yamaguchi:

Yes.

Congressman Kucinich:

Okay. Next question.

An audience member:

Just a general question. There's a model called modern monetary theory that's out there, Warren Mosler and some other people. Is this a version of modern monetary theory? What's the difference? You know, because that is criticized ...

Congressman Kucinich:

Mister Zarlenga, the person who wrote this text [*The Lost Science of Money: The Mythology of Money - The Story of Power*] could probably best answer that.

Stephen Zarlenga:

Thank you.

If you're talking about the group out - there are several groups - if you're talking about the group out of Kansas City, no. This is not a version of that at all because they do not get to the point of understanding that money is not necessarily a debt. They've confused our present system, in which money is always a debt, with a requirement, and they can't think in terms of: we can change this system. We can make the rules. And that's what Aristotle tells us. It's a legal - it's a question of the law. And we're talking about examining the history, and then coming up with: here's what you have to do to change the present system. And part of it is: money is not necessarily a debt. If money is always, always, always a debt, you always have interest payments, you're always going to be in trouble.

An audience member, continued:

Okay. Just, as a person learning this history, I think it would be useful to just state that this is not MMT.

Congressman Kucinich:

That it's not what?

An audience member, continued:

It's not modern monetary theory. I think that you need to say something like: this is *not* modern monetary theory, because it's hard for ...

Congressman Kucinich:

I think I heard you. Again, this is important for all who would present this. To be able to distinguish the macroeconomic model which Mister Zarlenga has been advocating, and which Professor Yamaguchi speaks of, from what is *commonly* known as - quote - modern - unquote - monetary theory. I think that's very helpful that you make that point.

Anyone else. Yes, Mister Clark.

Michael Clark (UNCTAD, United Nations):

Professor Yamaguchi, thank you very much for taking this whole discussion in a very promising direction, to really get a grasp of how this relates to contemporary economics without being caught up in the orthodox thinking about it. I wonder if you could walk us through a question that comes up all the time, and that is: how much money, in very broad terms, as a percentage of GDP or a percentage of existing debt, could the government comfortably print for a period of time - is this a one-time sort of windfall that we get by the conversion of the system - seigniorage reform - and then once we get that part of it out, on an ongoing basis, what happens.

Professor Yamaguchi:

Well, when I run the simulations the amount of money needed is similar, very close to the amount of GDP. That means the velocity of money is close to 1. But it may change because my model is based on the transactions - theory transactions - so it [might] have to be, in a sense, found by groping. When the government put money [in], little by little, then see whether it's causing inflation. That's the only way, because we have no experience of that in the new system. So we have to [be careful], but my simulations say, maybe the amount of GDP could be a good start, as a trial.

Stephen Zarlenga:

Can I make one [suggestion]. Michael, we will learn by Aristotle's method, which is: learn by doing, basically.

Congressman Kucinich:

Well, it's interesting to invoke Aristotle and his predecessors in what where currently Greece is, is fighting a structural adjustment - a punishing structural adjustment - by the IMF which is really based on the old system, where they don't really have the power to get out of it. They're locked in. And not just Greece, but in a way, in terms of what I've seen, right now the American people are being asked to accept reductions in Medicare, Medicaid and Social Security, which actually would be structural adjustments by another name, without even going through an IMF-type process, in the name of trying to go address the debt issues here, because of the kind of monetary system that we have. And so that's why your presence here and Mister Zarlenga's lifetime of work has been so relevant to *this* moment. Look, we have a few people with media connections who have been here - that's wonderful. But the truth of the matter is, while this incredible debate is raging, having a worldwide impact over what to do about the debt ceiling and the debt crisis, quietly in this room in the Cannon building is planted the seed which can have the ability to change everything. And that's why your presence here is so important.

The gentleman right there.

Audience member:

Yeah, I want to make a very brief statement and then a question.

Ultimately, when we're talking about debt we're really talking about income distribution because this debt is owed to somebody, and that somebody is not on another planet, but here. So if we abstract from the debt that the U.S. owes to foreigners, it's owed internally to other people. And so the way I would think of the American Monetary Act is that these people are owed this debt ultimately because of the system that we have, where we are forced to borrow from them. And what the American Monetary Act says, we are forcing them to borrow from us. And thereby, to offset this debt that has accumulated over time.

Congressman Kucinich:

Forcing them to what?

An audience member, continued:

We are forcing those people to borrow from us instead, in order to get to 100 percent reserve backing, and that offsets some of the government debt. So it's basically reversing something that has accumulated over time because of the system that we have.

But what I wanted to say is, you have framed this whole debate in terms of government debt, but there's also the whole issue of private debt. And I don't know whether this was in your model, because you had to go fast, but it would also be addressed by it.

Professor Yamaguchi:

I know the basic income argument is very similar to what you [say]. That means all people should have a basic amount of income. So in relation to this, let me point out, because now the American government is trying to reduce Medicare support. But when [Japan] lost the war, during World War Two, the United States gave us a very nice constitution. Article 9 is no war, but Article [25] says government should have an obligation to maintain the cultured and wholesome living: **[All people shall have the right to maintain the minimum standards of wholesome and cultured living. 2) In all spheres of life, the State shall use its endeavors for the promotion and extension of social welfare and security, and of public health.]** Wholesome means healthy and cultured living. That's the obligation of the government that the Constitution orders to keep. But now, if you cut Medicare, that means you force that constitution to the Japanese, but you yourself are breaking the spirit of a very nice part of the constitution. Government should have an obligation to help those people with medical support. So that's why I still don't understand why that has to be reduced to overcome this debt crisis.

Congressman Kucinich:

We have time for one more question. Anyone else apart from the gentlemen? Then you get the last one, thank you for your consistent participation.

An audience member:

How would this affect the reserve currency status of the dollar worldwide, where the volume of dollars exceeds [domestic use] because it's used as a world reserve currency.

Professor Yamaguchi:

My model doesn't cover that part but I can answer with my own imagination, but that's not precisely how. So because half of the dollars outstanding is held by non-Americans, when you try to replace it with new government-issued money, how can we replace it. So I think, my intuitive understanding is, we can replace any dollars, whether it's inside America or overseas, with new money. So eventually they may

have more purchasing power, so they may start buying American goods, eventually. That will stimulate the American economy.

Congressman Kucinich:

It would seem to me that any measures that would strengthen the internal financial stability of the United States would have to have an appreciable effect on the standing of the U.S. dollar as a reserve currency. It would seem that way. Michael, do you have a comment on that.

Michael Clark:

Yes. I was avoiding the global picture because it takes us out of the U.S. [domestic] issues, which are very important right now.

But, since it's been raised, this concept of debt money has slowly been taking over the world as well, and extending the dollar logic to [other] currencies.

So Professor Yamaguchi mentioned a couple of times the way that the Japanese government used its power over money creation to channel money to develop, for development.

But what we've seen in most of the world today, we have big arguments over foreign aid, what we've done is to use our aid to wipe out the national monetary creation systems, which were key to financing development in the glory days. It's not foreign aid that's key to financing development, it's a small part. And the countries that did best relied least on foreign assistance, those that rely most don't. But today we've wiped out development banking in most of the developing world, and we've wiped out the capacity - even the thought - of generating liquidity domestically to generate development, and we've pushed the idea of bringing in foreign banking, to bring modern banking practices and innovation. Then what we've brought is this same system, and so it further cripples development efforts, because they cherry-pick the money out, and if the only supply of money - which is a big problem in Latin America - is dollars, so they have to dollarize.

Professor Yamaguchi:

Okay, let me just point out, to answer your question. See, Japan now lends money to the United States, 100 trillion yen, in terms of government securities. But if Japan has 100 trillion yen in real cash, then Japan can spend that money to recover from the

disaster of the earthquake. But that creates lots of demand to the American economy, so that means replacing with public money works, in that sense as well.

Congressman Kucinich:

Unfortunately, we have run out of time. Professor Yamaguchi, if you can be available to talk to some people individually for a few minutes I would appreciate that. And if Jamie and Yoni from the office would assist the Professor and Mister Zarlenga in anything.

I want to thank Michael Clark, Stephen Zarlenga, and Professor Yamaguchi.

I just want to say that this is one of a series of briefings that this office will continue to sponsor on this issue of monetary policy. Make sure you've signed up with our office for future contact. So I want to thank you all for being here. A very important presentation. Thank you very much. I hope you get a copy of that presentation by the way.

