Demetri Kofinas:	00:00:00	What's up everybody? The intro to this week's episode was recorded while I was on vacation in Greece, from a studio in Athens. I recorded the intro before I got my guest's audio from his side of the conversation. This episode was done remotely, and we had some issues with the sound. My editor worked on it over the course of last week, so we weren't able to release it, but I think it shouldn't be an issue. I'm kind of OCD with the quality of the audio on Hidden Forces, as I am with all the quality at Hidden Forces. We were super lucky to have the Head of the Monetary and Economic Department at the BIS on the program for an hour and a half. I don't want to belabor this anymore. I'm going to give you guys a full detailed explanation for why I wanted to release this early originally, and how prescient that the episode is, in the intro that you're about to hear. And also, everyone, if there were ever an episode for you to subscribe to the Super Nerd tier on our Patreon page, this is the one.
Demetri Kofinas:	00:01:02	The rundown for this episode is super valuable. I put a lot of time into it. Put a lot of links, a lot of citations. And besides the fact that I spent the weekend reading my guest's papers and work, I've spent the better half of my life reading the type of material that we talk about in this episode. So, if you want access to that, if you want access to the transcript of this week's episode, and if you want access to the overtime where we discuss the BIS 2019 report, you can head over to patreon.com/hiddenforces, and get access to all of those. I don't want to delay you any longer. With that, please enjoy this week's episode.
Demetri Kofinas:	00:02:04	What's up everybody? The conversation you're about to hear was recorded on Monday, August 19th, a few days before the annual Jackson Hole Economic Symposium. It wasn't my intention to release this audio until next week. I've actually been on vacation in Greece, so I'm recording this intro from a studio in Athens. But, the contents of Chairman Powell's speech on August 23rd, as well as a Twitter thread published by former Treasury secretary, Larry Summers, the day before, where he talked about the black hole problem of secular stagnation, or Japanification, really motivated me to get this out early. Because I felt like this conversation was super prescient given what Powell and Summers talked about, and how they broke down the history of monetary policy in these different eras, and focusing on the lessons learned from the stagflationary period of the 1970s and the great moderation of the 1990s to now, this current period, and trying to really understand what type of economic environment are we in.

Demetri Kofinas:	00:03:18	What's driving the slow growth? Are rates low because central banks are keeping them low? Or are they low because of the enormous buildup of private sector debt? And have central banks basically gone from being stewards of the expansion of the financial system to now being managers of the de-leveraging, the de-leveraging of three decades of credit-fueled economic expansion where financial cycles and asset booms have increasingly become the main drivers of the business cycle and where central banks could well be stuck in a debt trap where they can only raise rates so far before they tip the economy back into deflation, which is what I mean when I talk about the managing the de-leveraging.
Demetri Kofinas:	00:04:05	And this, of course, leads to a conversation about inflation and where central banks got these models of targeting the neutral rate, and how this relates to price levels and unemployment, and just a super interesting discussion about how central banks see the world, the origins of the models they use to perceive it, how these models evolved, how they were updated and informed by each of these successive eras that Powell mentions in his speech, how by focusing on inflation and seeing that inflation was low, central banks may have kept interest rates below the natural rate for years, increasing financial instability during a period where everything seemed more or less perfect.
Demetri Kofinas:	00:04:48	This was the Goldilocks economy, not too hot, not too cold, but just right. And yet, my contention is that perhaps the price stability of the Great Moderation led, a la Minsky, to financial instability through a buildup of leverage in the financial system, which led to the great financial crisis from which we are still recovering and whose de-leveraging process, I contend, central banks may now be actively managing, and that this is the dominant paradigm of today's global economy. And that is important as demographics and trade and politics are, that these are not the forces of economic gravity that central banks have been fighting against, and which are making it increasingly difficult to bring interest rates back to anything we would consider to be historically normal.
Demetri Kofinas:	00:05:42	So this is what I speak about with my guest, the Head of the Monetary and Economic Department at the Bank for International Settlements, Claudio Borio, who has been at the BIS since 1987, and whose contributions to the academic debate in this field are immense. I spent the entire weekend before this recording, reading paper after paper that he's written going back to 2002. His work really resonated with me. It's very empirical, and although I was very direct with my questions, he was very measured in his responses. And so, I

think the conversation really provides for some interesting insights into some of the topics I mentioned earlier.

Demetri Kofinas: 00:06:26 And I think again, it's quite prescient, given the news surrounding Jackson Hole, and I think, if you want a deeper perspective, and if you want more context in order to understand what's happening in the global economy today, and what some of the recent financial market volatility might be reflecting, I highly suggest you listen carefully to this episode. Read between the lines. Read Powell's speech. I link to it, as well as to Summers' Tweets in this week's rundown. And also, spend some time on the BIS website and start going through some of these papers. The 2002 paper I mentioned is titled Asset Prices Financial and Monetary Stability. There's also a great chapter in the BIS quarterly review from December 2018 titled The Financial Cycle and Recession Risk. And of course, I've read the 2019 Annual Report, and we discuss some of those insights in our overtime, and I've extracted and highlighted portions of it in this week's rundown.

Demetri Kofinas: 00:07:29 And so, without further ado, here is my conversation with head of the monetary and economic department at the Bank for International Settlements, the central bank of central banks, Claudio Borio.

Demetri Kofinas: 00:07:47 Dr. Claudio Borio, welcome to Hidden Forces.

Claudio Borio: 00:07:51 Thank you for having me.

Demetri Kofinas: 00:07:52 It's great having you on. I was telling you that there's a risk that this conversation will evolve or devolve into a geek fest. So, I'm going to do my best to try and rein us in and not get too wonky. That's my objective here in this conversation. I also told you how much I read of your work, way more than I expected, and I just kept going, because I ended up having ... It was just super interesting to me. We're going to try to, I think, in this conversation, begin with your framework for understanding the economy and perhaps challenging some of the conventional frameworks, and then we can perhaps try to move forward and apply some of these into the economy as it is today.

Demetri Kofinas: 00:08:32 But, maybe I can ask you off the top, what's been the focus of your research? What are you primarily focused on today?

Claudio Borio: 00:08:39 Well, if you take a long-term perspective, I would say that the primary focus of my research has been to try and understand what the relationship between finance and the financial system, the monetary aspects of the financial system, of course the monetary system, the relationship between that and the real economy, which is something I would say that since the 1990s, at least until recently, faded very much into the background of the economics profession.

Demetri Kofinas: 00:09:13 So how has central bank, not policy, but the models that central bankers use and they apply in order to make decisions about how to act in the economy, how have those evolved since at least the second World War, could you maybe give us some sense of that? Because I think that's relevant to our conversation today.

Claudio Borio: 00:09:32 Well, since the second World War, that goes a long way back, but I would say that after the second World War, and for a long time, there was a sense that monetary policy didn't have much impact on the economy, and people are focusing more on the impact of fiscal policy. That, we should also remember, was the world in which the financial system, in general, was highly repressed, and as a result of that, some of the aspects that we have been focusing on for the last, I would say, 10 years or so, were not really that important.

Claudio Borio: 00:10:13 In any case, you had a financial system that was heavily repressed. Financial factors were not playing a big role. For quite some time, because of the reconstructions needed after the war, the pent-up demand, pent-up investments, economies did very well. They grew fast. And there wasn't much inflation. Then, we got to the late '60s, '70s, the big problem for the world economy was high inflation, which by the way, historically, I know we may come back to this, very high inflation in peace time is the exception as opposed to the rule.

Claudio Borio: 00:10:51 And then at that point, you had the very big debate between the monetarists and the Keynesians, where the Keynesians would say, "Well, monetary policy doesn't really have a very inspecific role," whereas the monetarists would say, "Well, monetary policy is the key in order to bring inflation down."

Demetri Kofinas: 00:11:10 So they were looking at cost push and demand pull, the Keynesians versus the monetarists, people like Friedman, who said that, "Inflation is everywhere and always a monetary phenomenon."

Claudio Borio: 00:11:18 Exactly. Exactly. And that was a big debate. I would say that in the end, it was the monetarists that won, at least when it came also to policy making.

Claudio Borio:	00:11:27	Now, a key tenet of the monetarists was that by controlling the money supply, we would be able to control inflation. Now, in the end, what happened was that central banks managed to control inflation, but the managed supply didn't play as big a role as the monetarists would have liked. And to cut a long story short, that basically led, over time, to a monetary policy framework in which rather than trying to control inflation through some kind of intermediate target like monetary targets, you started controlling inflation ... inflation targeting frameworks, simply by saying, "I'm going to aim to get inflation, and I will the interest rate to whatever extent that's necessary to do that." That gained quite a lot of traction during the 1990s.
Claudio Borio:	00:12:21	Now, in the background of all that, there was the view that as long as inflation was slow and stable, the rest of the economy would take care of itself so that the economy had strong self-equilibrating properties. Now, what the great financial crisis has shown is that that assumption was not quite right. In fact, we had inflation that was slow and stable all the way up to the crisis. And during that phase, what economists called the Great Moderation, financial imbalances were building up, as a result of changes in policy frameworks that we can discuss, and then that ended up in the financial crisis. Now, after that, there has been quite a lot of soul searching about what the role of monetary policy is, what the role of other policies is supposed to be, including supervisory policy and the like, and we're still dealing with those issues. They are still very much with us.
Claudio Borio:	00:13:22	What I would say is the key aspect that the great financial crisis highlighted is that the system does not have a self-equilibrating properties that people believed it had, and that a key reason for that is what happens on the financial side. By the way, this is a lesson that, had you actually looked at history going before the post-war period, even going as far back as the gold standard, is something that would have been apparent to anyone looking at the data and looking at the experience of those days.
Demetri Kofinas:	00:13:57	In other words, the post-World War II period was the anomaly. Let me ask you something else, because this is super interesting to me. I think these stagflationary period of the 1970s is more important and less remembered than most any other period in recent memory. I think one example of that is the impact it had on policy makers focus, maniacal focus, if you really think about it, on inflation targeting. What you're describing, I think, is that throughout the period of the '90s and the early 2000s, the central banks were focused on inflation. Low inflation meant, for them, financial stability. And in fact, what you're suggesting, and through your work, as well, is that the low inflation, which

led central bankers to keeping interest rates low because they were worried about deflation or they thought, for example, that they could keep the rates low, was actually a mistake. That, in other words, it led to a buildup of financial imbalances in the economy. Can you elaborate on that a little bit?

Claudio Borio: 00:14:52 Yeah. First of all, I would not say that is a mistake.

Demetri Kofinas: 00:14:56 It could have been a mistake, perhaps.

Claudio Borio: 00:14:57 Let me sort of back up. I mentioned the changes in policy regimes, and I think that that's important. The way I tend to think about the evolution of the dynamics of the global economy, the economy in general, is that the early or mid 1980s were a watershed because you had big changes in policy regimes on the monetary side and the financial side, and later on I would say, particularly in the '90s, on the real side of the economy. That changed profoundly the dynamics of business cycles and their relationship with inflation.

Claudio Borio: 00:15:41 Let me sort of elaborate a little bit on that. On the financial side, and this goes back to what I was saying before, the big change was financial liberalization, which meant that some of the mechanisms that basically lead the financial side of the economy to amplify as opposed to dampen economic activity had much more room to play themselves out. The key mechanism there is the interaction between liquidity constraints or ability to finance itself with asset prices and risk perceptions.

Claudio Borio: 00:16:19 When the economy was highly regulated, the financial side was highly regulated, these mechanisms were effectively pent up. They couldn't actually take place. So, the basic point here is very, very simple. It has been documented by a lot of research, and it's very intuitive. It's the fact that if you have an expansion of a credit, an expansion of financing, that allows you to spend not only on real assets or in current consumption and current investment, but also on other assets, equities and, in particular, real estate. That tends to raise asset prices. That, in turn, tend to ease financial constraints. And as asset prices increase, and credit increases, also perceptions of risk tend to change. People think that the economy is on a sustainable high growth path. At some point, these very strong increases in credit, and asset prices, particularly property prices, lead to the buildup of these financial imbalances that at some point have to unwind. So that's one thing that changed on the financial side.

Demetri Kofinas:	00:17:29	Before you continue, Dr. Borio, let me try and summarize that just so I understand where you are. What you're talking about is the financial liberalization of the global economy after the end of Bretton Woods and the deregulation of the 1980s opened up the pathways for credit to begin to build up in the financial system, so that financial cycles began to become bigger drivers of the business cycle than they used to be before, and you began to have secular growth in credit and debt globally.
Claudio Borio:	00:17:58	Correct. Correct. The second thing that happened, and this leads to the inflation point that you mentioned earlier, is that inflation became low and stable, and central banks adopted frameworks whereby they had no incentive to raise interest rates as long as inflation was low and stable, because that was the key compass in their policies. Moreover, at the same time, and this goes back to what I said earlier, they started downplaying the role of monetary, and therefore also credit aggregates, which tend to be closely associated with what happened.
Demetri Kofinas:	00:18:37	Can you explain that for our audience, the distinction between the credit aggregates and the inflation number? Like, for example, the feds stopped measuring M3 I believe in the early 2000s.
Claudio Borio:	00:18:47	Yeah, that's right. I mean, first of all, I mean, credit and money are not even the same thing. But, the basic point is that, as I mentioned earlier, the relationship between money and inflation broke down particularly in the early '80s, and so on. As a result of that, central banks started paying less attention to that because if they wanted to keep inflation low, if you like, looking at what was happening to monetary aggregates was more than it was effectively a destruction. Now, there were differences in terms of how far countries went and when they moved the way that they moved, but effectively that was a general trend.
Demetri Kofinas:	00:19:24	In other words, they were able to grow monetary aggregates without increase in consumer price inflation, for example, but asset price inflation would grow.
Claudio Borio:	00:19:31	Exactly. And that was clearly something that happened during this phase.
Claudio Borio:	00:19:36	So, you've had a liberalization. You had changes in the monetary policy regimes. And the third leg, if you like here, the third element, which we have paid particular attention in our work, which we have stressed, is the globalization of the real

		economy. By that, I mean primarily greater trade integration, greater integration of the global economy, and in particular, the entry of former Communist countries, the entry of China, the liberalization in emerging market economies, into the global trading system. And these were countries where costs were considerably lower than they were in advanced economies, countries that at the same time, didn't allow exchange rates to completely offset those costs, which meant that this put, if you like, persistent downward pressure on inflation.
Claudio Borio:	00:20:31	So, what you had was a situation in which you had these structural forces that were pushing inflation down, and at the same time, by the way, they would also increase the rate of growth in the global economy because they worked like a string of positive productivity shots. And therefore, they also meant that people expected permanent high growth and therefore that was a fertile ground for the buildup of financial imbalances, quite apart from what was happening on the financial side. Now, as a result, these inflationary pressures meant that you have even less of a reason to raise interest rates that you had before, because what you had was low and stable inflation, if anything, disinflationary pressures, while at the same time you had this buildup of financial imbalances that took place in many countries around the world.
Claudio Borio:	00:21:25	Now, let me sort of summarize that very, very quickly. In some recent work, we see that there is a clear break in the mid 1980s in terms of the characteristics of the business cycle. Until then, what you had was that inflation would go up, monetary policy would tighten, and not much would happen to credit aggregates, because remember, the economies were highly repressed. That was the typical recession that you would have until the early or mid 1980s. Since then, the types of recessions that we have seen, the main recessions that we have seen, those that have been more costly, have been quite different. We see that nothing much happens to the inflation, nothing much happens to therefore monetary policy. But, we do see a big expansion in credit and also asset prices, turning into a contraction.
Claudio Borio:	00:22:21	So, the way that we have characterized this is to say that we have shifted, or at least I have characterized it, is that we have shifted from what you might call inflation-induced recessions to financial-cycle induced recessions, with financial cycles being these expansions and contractions in credit and asset prices.
Demetri Kofinas:	00:22:43	Well, is it fair to say that debt has become a bigger driver of growth in the economy, both in the US and globally, since the

mid 1980s, and that this has put, in a sense, downward pressure on interest rates because raising rates too much would cause a recession because the economy is increasingly dependent on debt in order to finance growth?

Claudio Borio: 00:23:05 I think that's a possibility. That's a possibility. It is what, in some of the work we have done, we referred to us as a debt trap. Clearly a situation in which debt continues to increase and real interest rates continue, and nominal and real interest rates continue to fall, can generate a situation in which raising interest rates ... It would be harder for the economy to sustain, to absorb higher interest rates. Yes, that's indeed a possibility. We don't exactly know whether that is the case, but it's a distinct possibility.

Demetri Kofinas: 00:23:40 Let's go back to this point about deflation. You made a great point, which is that certain very large macro forces, one of which was globalization, another one of which was the information revolution and technology increased productivity worldwide that drove down inflation. And because central banks had these model that looked at inflation as the primary signal for economic health, seeing a persistent drop in inflation or disinflation, was not necessarily alarming, but concerning to central bankers. So, their concern was not to raise rates, their focus was, "Let's keep rates low enough because what we see here is inflation." And they were completely ignoring the buildup of risks in the financial system, which goes back to this point about the buildup of credit and of the dependency also of debt and the long-term impact that that had on the sustainability of growth, which is to your point about monetary aggregates and their significance. Is that correct?

Claudio Borio: 00:24:34 Well, I would say that central banks are fully aware that if inflation is driven by supply side factors is less costly than if inflation was driven by weakness in aggregate demand. Sometimes however, distinguishing the two is quite difficult, particularly in real time. What I would say, more generally, is that if you look at the historical records, periods of falling prices have not necessarily coincided with periods of very weak aggregate demand, very slow growth in output and so on. I mean, we have done some work, which was basically a confirming work done by other academics and before.

Claudio Borio: 00:25:17 So, this idea that low inflation, and sometimes even falling goods prices, is necessarily very harmful for the real economy, is something that is not borne by the data in the past. So, when we think of possible costs associated with very low inflation and the possible costs associated with even falling prices for some time, we need to bear that in mind.

Demetri Kofinas: 00:25:44 Where did that theory come from? Where did it originate from? Was it from the 1929 crash and the Depression of the 1930s? Is that where we got this concern that deflation is always and everywhere, a bad thing?

Claudio Borio: 00:25:56 No, I would say that it's something that goes back even before that. I mean, there are different strands in the economics profession, some strands that emphasize the cost of falling prices, some strands that play that down. I think ultimately this is an empirical question. The work that I and others have done suggests that it is a question that has not received the attention that it deserves.

Claudio Borio: 00:26:22 Now, from, I would say, a psychological perspective, clearly what happened during the Great Depression is something that has been quite important and has been driving very much of the thinking that we have seen in the post-war period. From that perspective, I would say that the Great Depression was more an exception than the rule. And if you look at across countries, even during the Great Depression, you will see that the dispersion in the behavior of prices is not as large as the dispersion in the behavior of output, therefore the loss says how much output fell at those countries, and the relationship between the falling output across countries and the fall in asset prices across countries, is tighter.

Claudio Borio: 00:27:13 So, probably what people have underestimated is the relationship, or the combination of high debt levels with falling asset prices, as being a key driver across countries of what happened during the Great Depression. Clearly, falling prices for goods and services played an important role, but I think that the role played by asset prices has probably not received the attention that it deserves.

Demetri Kofinas: 00:27:44 You're saying still that's the case? Or, it was up until the crisis-

Claudio Borio: 00:27:48 I think that it's still the case.

Demetri Kofinas: 00:27:50 That's interesting. Let's stay a little bit on this. You mentioned this ultimately an empirical question. There is a great period that is often cited and Milton Friedman and Anna Schwartz documented it well in their book, A Monetary History of the United States, which is the postbellum period, the period after the end of the Civil War, 30 years, roughly between 1865 and

1895 or thereabouts. For 30 years, for three decades, real GDP grew at roughly, I believe, 4% a year, and prices throughout that period fell at roughly 2% a year. So, we had 30 years of deflation. One is, I'd love for you to maybe tell our audience a little bit about that period, but also, I'd love to consider for a moment, and this might bring us into a conversation about the neutral rate and maybe you could give our audience a definition of what that is. I'd like to consider theorizing what would have happened if we had today's central banks with today's models, or let's say, pre-2008 models, being applied to that environment, to that economic environment during that time. What would have happened? And of course, then we didn't have central banks. We had the National Banking Act, but we didn't have even a fed at that time. Those are my two questions. We could take them, maybe first with the period, you could describe it for our listeners.

Claudio Borio: 00:29:05

Well, first of all, the relationship between falling prices of goods and services and GDP, as I mentioned, this is not just something that we have seen in the United States. It's something that one can see more generally, and that is that the relationship is rather weak. We should remember that until the gold standard, until roughly 1896, if I remember correctly, prices were falling gently. And after that, they started rising gently and through the first World War. Of course, there was quite a bit of volatility because the price index and the role of commodities and food in the price index was higher than it is today. The role of services was less important and so on.

Claudio Borio: 00:29:49

But that is the key fact to bear in mind. And during those years, you saw output going up, output coming down, and so on, and sometimes growing fast, sometimes growing more slowly. But that's what I mean by the relationship not being that close. Now, why should that be the case? That's a very interesting question, but presumably, presumably, the answer is that if inflation is driven by improvements on what economists call the supply side, such as technology, such as competition, such as globalization as I was mentioning early, you can think of that ... You can think of that as an outward shift in the production possibility of an economy.

Claudio Borio: 00:30:33

Now, if that is what is driving lower prices, then clearly, it's likely to be the case that you're going to see growth associated with falling price of goods and services. If, on the other hand, the primary reason why you have falling prices is that you have a big shortfall of aggregate demand in the economy, then of course, what you will be seeing there is weakness in economic activity and falling prices of goods and services. And I think this is the key aspect to bear in mind.

Claudio Borio:	00:31:05	So, what we saw in the United States during the period that you've correctly highlighted, is something that was not just a characteristic of the United States, but was something that was much broader across the world.
Demetri Kofinas:	00:31:19	So, your point is it matters what's causing the disinflation. You can't simply look at the inflationary number. You have to dissect it and understand what is driving that. Is it a lack of demand? Or is it that there are productivity gains in the economy that are driving down prices?
Claudio Borio:	00:31:35	Productivity and other types of gain in the economy that are basically driving prices down. For example, you were mentioning before, technology and the impact of technology on the economy and on prices, technology in terms of reducing the cost of production, technology in terms of allowing some winners, if you like, some companies that are ahead of the pack, to reduce prices. Like, think of the Amazons of this world. And in the process, to put pressure on other firms to reduce their prices, as well. So, you can have aspects that work on the labor market, and you have aspects that work more on the goods markets. Yes, that's definitely the case.
Claudio Borio:	00:32:15	Let me just give you an example, a very concrete example, and that's the case of the country where we're living, which is Switzerland. Now, Switzerland saw falling prices for a few years in a row, but it didn't see weakening growth. Actually, the growth performance was quite good. Now, at the same time, because interest rates have, or at least in part because interest rates have been as low as they have been, what we have seen is a buildup of problems on the financial side. We've had very strong credit growth. We have had very strong increases in property prices, which of course have been a source of concern, both for the supervisory authorities and also for the central bank.
Claudio Borio:	00:33:00	Now, imagine this thought experiment. Imagine that you have strong disinflationary pressures as a result of positive supply side developments. Imagine that because of that, monetary policy is held ... is very, very easy. Imagine that you don't have sufficient safeguards on the prudential regulatory side to try and restrain the buildup of credit and property prices. Then at some point, what might happen is that the financial word we call the financial cycle expansion turns from an expansion into a contraction, and that of course will be a strong drag in

aggregate demand. On top of that, if policy has been very, very easy, it means that the room for maneuver would not be as high as it would otherwise be.

Claudio Borio: 00:33:53 So, on the one hand, you're going to have weak economic activity. That could actually put downward pressure on prices, so good disinflation would turn into bad disinflation because we would have a switch from positive supply side forces to negative demand side forces. In a context in which the room for maneuver for monetary policy would not be as great as-

Demetri Kofinas: 00:34:18 Can I ask you something there to see if I'm following you completely? You're saying that good disinflation, in other words, the fall of cost of input costs driving the price of consumer goods and other services down, being misunderstood by central banks as bad disinflation, dropped interest rates during the period which led to buildup of financial instability, a growth in credit, which led to secular deflationary forces that would later arrive, and that would be what you called bad disinflation. Did I get that correctly?

Claudio Borio: 00:34:50 Well, I think you're pushing it very, very far. What I would say is that in the context of those three forces that I mentioned, financial liberalization, the establishment of this monetary policy regime focused on near-term inflation, by the way, financial liberalization, I should stress, without sufficient strengthening of the prudential safeguards, remember that the idea at the time was that the financial system would be largely self-equilibrating, and on top of that, the globalization of the real side of the economy, these three forces that are, in and of themselves, taken in isolation good forces for a global economy. Not just in isolation, but taken in combination, those forces changed the nature of the risks that policy makers were facing in a way that was not fully taken into account in policy. I'm not just talking about monetary policy. I'm also talking about prudential policy.

Demetri Kofinas: 00:35:54 I guess what I'm trying to get at, or maybe what I'm expressing, is that there's been a view that central banks are holding rates low, but I wonder if, instead, it is closer ... What's really happening is that central bank policy, in conjunction with other forces as we described here, but if interest rates having fallen below the natural rate over the last few decades, maybe not every year, but on average let's say, were actually a driver of credit growth that is now causing downward pressure on interest rates. In other words, I'm really trying to focus in on this issue of credit and debt because it seems to me that this is the fundamental problem, and perhaps I'm overstepping, but it

		seems to me that this is the fundamental driver of the low-growth environment that we are living in today, even more so than, let's say, structural demographics or other issues. How important is this buildup of credit and the reliance on debt financing for growth that we've seen over the last few decades?
Claudio Borio:	00:36:53	Let me stand back and basically say I think that there is, when it comes to sustainable, and let me stress sustainable growth in domestic economy, in the global economy, I think that there is no substitute for getting the structural side of the economy right, putting in place policies that are pro-growth, in terms of the competitiveness of goods markets, in terms of the competitiveness of labor markets, in terms of the ability to absorb technology, in terms of generating an environment that is conducive to investment and the like. What we have seen over the last, I would say, decade or so in particular, is that those types of policies, despite all the things that I mentioned earlier, those type of policies have not been receiving the attention that they deserve. This is basically what we mentioned, highlight, in the annual report this year, and what we have highlighted in the annual report in previous years.
Demetri Kofinas:	00:37:58	Is that what you mean in the report when you talk about macro prudential policies?
Claudio Borio:	00:38:02	Well, now we're getting a little bit technical, but macro prudential policies is basically financial supervisory policy, banking supervision and regulation. The focus is not so much on individual institutions on a standalone basis, but considers the system as a whole, calibrates instruments with respect to what happens in the system as a whole, and in particular, takes into account these financial expansions and contractions that I mentioned earlier. Okay?
Demetri Kofinas:	00:38:31	Mm-hmm (affirmative).
Claudio Borio:	00:38:31	That's what we mean by macro prudential policies. We can come back to that later. But, the main point I want to make here, which is sort of consistent with some of the things that you are saying, is that yes, the world economy has relied not so much on supply side policies, but on debt in order to grow. And every time that the economy was slowing, you had a big push to increase the debt of the economy, be that private debt or be that public debt, and that the relationship between those two depends on the circumstances.
Claudio Borio:	00:39:05	So, yes, the world economy has been directly or indirectly, whether that was deliberate or not, I think that was largely not

deliberate, has had to rely too much on debt in order to grow. And longer term, I think that the bigger risk for the global economy is precisely the fact that we have quite a lot of debt, be that public or private, and that will depend on the countries that one is talking about, too much debt around. We should recall that debt was, for the reasons that we mentioned, at the heart of the global financial crisis.

Claudio Borio: 00:39:45 And now, if we looked around the world, the ratio of global debt to GDP is higher than it was before the crisis. That doesn't mean that we are in for a crisis. That's not what I'm trying to say.

Demetri Kofinas: 00:39:58 Sure. Sure.

Claudio Borio: 00:39:58 What I am trying to say is that this proved very, very hard for the global economy to move away from the debt-fueled growth model that seems to have been, at least evidence indicates, has been operating for so long.

Demetri Kofinas: 00:40:15 So this is super interesting to me, and I want to stay on it a little bit because it's kind of like a who-done-it question. Again, it goes back to your point about the ... After the end of Bretton Woods and the deregulation of the '80s, as well as the experience of the stagflation and the focus of central bankers on inflation as the measure of economic health, it seems to me that these forces have brought us to this place we are today where some people, like Richard Koo and others, have called it a liquidity trap. Is it fair to say that central banks are caught in a liquidity trap where they can't raise interest rates too much because the debt has grown so out of control since the early '80s? On account of the things that we discussed, is that fair?

Claudio Borio: 00:40:59 I think that's taking it too far. We don't know whether we are in a debt trap or not. And clearly, what we can say is, of course, that a higher debt levels, all else equal, would imply less room for maneuver. And what we can also say is that, of course, if interest rates are very, very low, and if balance sheets are very large, the margin of effectiveness of monetary policy and the room for maneuver is not as high as it was in the past.

Claudio Borio: 00:41:31 Going back to, I would say, just the post-crisis experience because I think that's very important to bear in mind, what happened then? I mean, we have to recognize that central banks and the actions that central banks took during the crisis were the key reason why the problems didn't get out of hand. That stabilized the economy. That avoided another Great Depression. Regardless of whether you think, or whatever causes of the Great Depression could have been, clearly the fact that this financial system was imploding partly under the weight of debt, partly under some of the ... the fact that the financial system didn't have enough capital built in, was the major threat to the economy. Point number one.

Claudio Borio: 00:42:18 Point number two, we should also bear in mind that the key reason why we are where we are in terms of growth, and so on, is because central banks have supported the economic recovery of the global economy. At the same time, what is clear is that the recovery from the great financial crisis has been imbalanced because we have relied too much on monetary policy, and in particular, we have relied too little on structural policies. And if we want to move away from the debt-fueled model that, de facto, we seem to have in the world, we need to move away from a situation in which growth ends up being so dependent on monetary policy.

Demetri Kofinas: 00:43:04 Well, what seems really interesting, and I want to pose this question to you, it seems to me that we went from a period where monetary policy was primarily focused on achieving the optimal growth rates while keeping prices stable, to now being a tool of managing the de-leveraging. What I mean is that it seems to me that, as I remember it also anecdotally during the '90s in particular, the focus really was, you mentioned, the Great Moderation, this idea that central banks had really nailed it and the interest rate was a tool of achieving optimal growth. The conversation now around interest rates since the crisis, and maybe a little even before that, but certainly since the crisis, has been really about -- it's felt like the conversation: is how do we keep rates low enough that we don't spiral back into deflation. It seems that that is the narrative that's being discussed in Western economies, and perhaps, that was already the narrative that developed in Japan, for example. And to what extent, perhaps, are we following in the footsteps of Japan, does that resonate? Or is that incorrect? How would you respond to that?

Claudio Borio: 00:44:09 I would basically say that since the financial crisis, there is a clear recognition, a clear recognition within the central banking community, that this economy is not self-equilibrating, that stable inflation doesn't mean that may not have problems building up on the financial side. But the problems of the financial side are quite insidious. They take a long time to build up. Once these financial expansions finish and the imbalances unwind, they can create serious problems for the real economy.

Claudio Borio:	00:44:47	All of this is an important step forward. What is at stake is the question of how much you should deal with this problem by the mix of monetary policy and what I mentioned earlier, prudential policies, because there is also a recognition that very low interest rates for very long tend to generate risk taking and can, of course, induce a further buildup of debt, which goes back to the imbalance recovery that I was mentioning earlier.
Claudio Borio:	00:45:15	So the key question, the key policy question is what is the best mix of policies that you need to have in order to try and make sure that you have growth that is sustainable, and that is a combination of structural policies, monetary policies, regulation supervision of financial institutions, of the financial system. So, what is the right combination? What we have been arguing in our publications is that monetary policy cannot be regarded as the engine for sustainable growth, that in order for that to occur, going back to what I said earlier, you do need structural policies. And there is a big role to be played by a regulation supervision of the financial system.
Claudio Borio:	00:46:01	Secondly, you need all these policies to work together, and you also need fiscal policy that is sustainable longer term. So, that is what we, and I'm sorry if I used some technical terms, that is what we mean by a macro financial stability framework. Sustainable growth with price and financial stability requires a balanced mix between all of these policies. And the one that I would stress as the key policy to make sure that you have sustainable non-inflationary growth is structural policies. Unfortunately, since 2011, rather than stepping those policies up, countries around the world have actually reduced efforts in that direction. And I think that a key reason there is that there never seems to be a good time to carry out structural policies. You know, when the economy is doing well, people say, "Well, why should we do anything?" When the economy is doing badly, that, of course, is a bad time to [crosstalk 00:47:06] structural reforms.
Demetri Kofinas:	00:47:06	To engage in austerity and other regulatory measures.
Claudio Borio:	00:47:08	But sometimes that's the only time when you will do it because you have your back against the wall.
Demetri Kofinas:	00:47:13	So this is really great. I'd like to separate these two because I'd sort of generally label what you just were describing as regulation, for general listeners. Is that fair to describe it in that way?
Claudio Borio:	00:47:24	Yeah. If we are talking about regulation, it depends which bit.

Demetri Kofinas: 00:47:26 Of the financial system.

Claudio Borio: 00:47:27 Maybe you can be a little bit more precise. What will you cover under the heading of regulation?

Demetri Kofinas: 00:47:32 Well, I guess what I'm getting at is that the Bretton Woods period of fixed exchange rates, after we went off of Bretton Woods, the regulatory frameworks that Western economies had in place weren't really appropriate, I would say, and perhaps you can comment on this. They weren't appropriate for the type of financial system that developed out of that. And so, we had the deregulation in the US beginning, I think, with the Monetary Control Act under Carter, and then through the '80s with Reagan. But we didn't have, let's say, a re-regulation. We didn't introduce new regulations to try and ... that would be more appropriate for a free-floating exchange rate fiat global monetary system. Is that right?

Claudio Borio: 00:48:10 Well, I would say that maybe rephrase what you said, is that the key challenge that financial regulators have is to ensure that the financial systems is a source of strength as opposed to weakness for the economy.

Demetri Kofinas: 00:48:26 Sure.

Claudio Borio: 00:48:27 Now, the type of regulation that you had in the post-war period is more like financial repression. It did not have as its specific objective to ensure the stability in the financial system, and you had many other objectives including credit collocation, keeping the cost of funding low and so on so forth. I mean, that varies from country to country. But, it was a form of financial repression. Now, the problem with financial repression of that kind is that it's not, in fact, conducive to good allocation of resources and the like, and that led to the financial liberalization that we later saw. It was one reason why we had the financial liberalization that we saw.

Claudio Borio: 00:49:07 Now, because the system had been repressed for so long, it meant that prudential regulation, which is precisely designed to ensure that the financial system is strong ... I'm thinking, for example, of capital requirements, for minimum capital requirements for banks and so on so forth, had actually taken very much ... was in the back burner, was in the background. So, it took quite some time for that is what I call prudential regulation, regulation with a financial stability objective explicitly in mind, to be put in place. And that was a key reason why the system failed to perform well during the contraction of these financial expansions that I was mentioning earlier ...

bigger financial expansions and contractions, and a financial system that was not really able to absorb them. Because prudential regulation had been left a little bit on the side, people had not focused on it as much as they should have. And in some cases, even when measures were taken, the fact that those measures were not sufficient of the awareness of that was not there. It's not just regulation versus no regulation. It's more a question of the type of regulation that one is thinking about.

Demetri Kofinas: 00:50:26 So that's one side of the equation, and I feel like that's a well-understood and well-articulated view, and it's often shared here in the US. I want to suggest, or make a more controversial suggestion. You may disagree with it, so I'd love to hear your view on it. It has to do with the interest rate side of this equation. One, of course, is the regulatory side, and the other one is central bank policy. Right? Specifically, interest rate policy. And I spent some time researching this, the history of monetary policy, not as an academic, but as a sort of pseudo-academic. The Paul Volcker period, his administration, from '79 to I think it was '87, I found that extremely educational, particularly in 1979, his Saturday night special, when Volcker, instead of focusing on interest rates, pinned the money supply and allowed interest rates to fluctuate. Basically, he introduced volatility in the price of credit.

Demetri Kofinas: 00:51:23 And I found that extremely interesting as a historical experience because I think, and this is sort of a way of asking, have we created, through central bank policy, a misperception of risk to the downside because market participants feel too comfortable with their ability to A, to expect central bank intervention and keeping rates low, but also the lack of volatility in interest rates, the fact that market participants feel a certain sense of ease around the availability of credit? Maybe I need to articulate it better. Does that make sense as a question?

Claudio Borio: 00:52:00 I think that central banks are fully aware that's something that they need to avoid. It's precisely the sense that they will always be there to deal with any market jitters, if you like, or any market disruptions that take place. I think the key compass in this context is the extent to which those disruptions, those changes, have an impact on the real economy and an impact on inflation. So, depending on their specific mandate, all of them, there are maybe different weights on output relative to inflation, but inflation is a key objective with central banks.

Claudio Borio: 00:52:42 What they want to make sure is that whenever they react to financial market developments, they react to them because of their impact on economic activity, because of their impact on inflation. Now, that of course, sometimes if very difficult to work out, and therefore, sometimes it's hard to tell whether a central bank is responding to financial markets because financial markets have changed, or we feel like over and above the impact of financial markets on the real economy and on inflation. And that may misleadingly generate the impression within, among financial market participants, that the central bank is responding purely to financial market developments because of the financial market developments, regardless of their impact on the real economy and inflation. And this perception is something that the central banks know can be a problem, and they try to the best of their ability, to avoid.

Demetri Kofinas: 00:53:39 What I'm actually saying, I think is a bit more controversial than that. I talk about it in terms of interest rate volatility. I often say interest rate volatility, to me, seems to be inversely correlated with financial stability, in the same way that, let's say, electoral volatility is inversely correlated to political stability. In other words, a country like Saudi Arabia has low electoral volatility and high political instability, whereas, let's say, a country like Italy has high electoral volatility and low political instability, or high political stability, if I got my words mixed up.

Demetri Kofinas: 00:54:15 What I'm trying to suggest here is that the low volatility of interest rates is a source of financial instability in the way that it-

Claudio Borio: 00:54:25 I would not go as far as that. You should recall that the reason why Volcker allows such high volatility in interest rates was not because he was trying to get interest rates to be volatile, per se. I mean, he was trying to allow interest rates to go as high as they needed to go in order to bring inflation down.

Demetri Kofinas: 00:54:46 But wasn't it also about creating accountability in credit markets? I mean, obviously it was the fact that they weren't able to raise their way into a disinflationary environment, so they had to try something else, but the fact that they pinned the money supply, and interest rates began to fluctuate, it broke markets' ability to use expectations to beat inflation, in other words.

Claudio Borio: 00:55:07 I'm not sure whether I would characterize it like that. I characterize this saying, you needed a compass to help you understand how far interest rates would need to go up. The compass, if you like, the benchmark that was used at the time was a monetary aggregate, and that's basically what happened. I think that the volatility of interest rates, per se, was more an outcome, as a byproduct of this, as opposed to something that was an objective in itself. But at least that's my interpretation. What you had to do was to break inflation's back, and in order to do that, you have to allow interest rates to go up quite a lot, given the inflationary mentality of the day.

Demetri Kofinas: 00:55:53 All right, I may ask you one more question. I'm almost confident you'll disagree with me, but I want to throw it out there. It's a question I asked the former vice chairman of the fed, Alan Blinder, on my old television show. It is essentially this, why do central banks need to set interest rates? I understand the reason for the monetary backstop. I understand the need to provide liquidity during periods of seasonal illiquidity. I understand those. And this brings us to a question about the natural rate again. Why is it that the central banks, the contention is, that are better at targeting the optimal rate, as opposed to credit markets? What is the argument there for the need for a central authority to set interest rates, to set the price of credit?

Claudio Borio: 00:56:32 I would basically suggest to you that it would be very, very hard for markets, in and of themselves, technically, to set the price of credit these days. And in fact, central banks have been a key to setting that interest rate for many, many ... going back to their creation. And even when they were not there, there were institutions that performed very much almost the function of, for many years, the functions in central banks and setting interest rates. Setting interest rates, it ends up being, in the absence of central banks, too, and this is my personal view by the way. I think it's mentioned in the paper that I said about my credit trust in central banking and so on. There is a strong conventional element in it.

Claudio Borio: 00:57:17 What central banks do is ... The reason why central banks are setting interest rates is precisely because they have a clear objective in terms of the longer-term economic performance of the economy, and they try to move it in the correct direction. Unless you have an institution that does that, there is no reason why the interest rate would even move in the right direction.

Claudio Borio: 00:57:41 So, I think that we need a mechanism to set interest rates, and we need a mechanism to set interest rates in accordance with the needs for the economy. And whether we like it or not, we cannot shy away from that. I would put it to you that having central banks doing this, compared with any other system, is an improvement.

Demetri Kofinas:	00:58:03	This is great, and I want to make one more suggestion, and then we can perhaps move forward to a few other points before we get into a larger discussion about the current economy. But this brings us back to the postbellum period, and something I was suggesting, which was what would have happened during that period if we had a federal reserve?
Claudio Borio:	00:58:18	Which period, sorry?
Demetri Kofinas:	00:58:19	The postbellum period, the 30 years of disinflation, of 2% disinflation, averaged annually, with 4% growth, when we were building out the railroads, and we had really the meat of the industrial revolution, a very productive time in America. Back then, of course, we didn't have a central bank so credit was set by the market-
Claudio Borio:	00:58:37	Well, I mean, I wouldn't say that it was set by the market. Remember, I mean, it was set by other central banks.
Demetri Kofinas:	00:58:44	You're saying foreign central banks, you're saying?
Claudio Borio:	00:58:46	Right. I mean, because [crosstalk 00:58:48]-
Demetri Kofinas:	00:58:48	Like the UK, the Bank of England?
Claudio Borio:	00:58:50	... relationships between the interest rates that are set, particularly in the UK and other countries, and interest rates that are set in the periphery of the world, whether you have a central bank or not. And I think that was a key factor. So, it's not that you didn't have central banks. You already had central banks, de facto, setting interest rates globally.
Demetri Kofinas:	00:59:09	No, that's a fair point. That's a very good point. Okay, so I mean, that was really great. I wanted to get to that point. I want to move onto the current economic environment, which is basically your annual BIS report that came out June 29th of this year. Before we do that, I have one more question that's related to a very popular theory that's taken hold here in the US. A lot of the more progressive candidates on the Democratic side are kind of echoing some of the sentiments, and that is modern monetary theory. I don't know to what extent you're familiar with the theory, and I don't know to what extent you want to comment on it, but it seems to me that the work that you've done in terms of particularly your point about inflation being not a particularly good signal for determining interest rate policy, for modern monetary theorists, their idea is that the central bank and the Treasury should merge, essentially. There

shouldn't be two separate entities. But the major point is that the government is not constrained when it comes to spending. It should be able to spend as much as it likes. And that the only constraint on spending is inflation.

Demetri Kofinas: 01:00:12 I wonder how would you respond to that sort of a theory that we want to target full employment, we should spend as much as possible, and the only constraint on that is when we see inflation rising.

Claudio Borio: 01:00:22 Well, as I mentioned earlier, I mean, inflation is an important gauge for what is going on in the economy, and I think it is important to try and to make sure that inflation remains low and stable and within certain bounds. That's absolutely critical because what we do want over time is an economy which is growing at a steady pace, is growing as high pace as the structure of the real economy, its real growth potential is. But we want it with price stability, because we know that without price stability, you have real big problems in the real economy. So that is something that we want to preserve.

Claudio Borio: 01:01:02 At the same time, it is, indeed, true that we should not expect that if we have price stability everything else is going to be okay. You do have to pay a lot of attention to what happens on the financial side, in particular, the way the financial side interacts with the real economy, in terms of the allocation of resources, in terms to the possibility of having serious financial strains, in terms of the possibility of the economy to deal with big, high debt levels that may be generated. And therefore, just using inflation as the gauge for the whole of your policy frameworks would be a mistake.

Demetri Kofinas: 01:01:42 Well, Dr. Borio, I really appreciate you being on the program. We're going to go into the overtime now. There are a number of things I want to talk to you about on the overtime, including, and most of this comes from your report, the state of the banking sector, emerging market economies, collateralized loan obligations, leveraged loans, basically debt in the corporate sector, and some of the forces you also describe in the BIS annual report. These are things I want to talk to you about in the overtime. For regular listeners, you know the drill. If you're new to the program, head over to hiddenforces.io/subscribe, or patreon.com/hiddenforces, where you can subscribe to our audio file, autodidact, or super nerd tiers for access to this week's overtime, as well as a transcript to my conversation with Dr. Borio, as well as this week's rundown, which is full of detailed information related to this week's episode including hyperlinks and citations to papers that Dr. Borio has written, in which I relied upon for this conversation.

Demetri Kofinas: 01:02:44 Dr. Borio, thank you so much and stick around. We'll talk on the other end of this one.

Claudio Borio: 01:02:49 It was a pleasure. Thank you.

Demetri Kofinas: 01:02:51 Today's episode of Hidden Forces was recorded at Creative Media Design studio in New York City. For more information about this week's episode, or if you want easy access to related programing, visit our website at hiddenforces.io, and subscribe to our free email list. If you want access to overtime segments, episode transcripts, and show rundowns full of links and detailed information related to each and every episode, check out our premium subscription available through the Hidden Forces website or through our Patreon page at patreon.com/hiddenforces. Today's episode was produced by me and edited by Stylianos Nicolaou. For more episodes, you can check out our website at hiddenforces.io. Join the conversation at Facebook, Twitter, and Instagram, @hiddenforcespod, or send me an email at dk@hiddenforces.io. As always, thanks for listening. We'll see you next week.