Demetri Kofinas:	00:00	Today's episode of Hidden Forces is made possible by listeners like you. For more information about this week's episode or for easy access to related programming, visit our website at hiddenforces.io and subscribe to our free email list. If you listen to the show on your Apple podcast app, remember, you can give us a review. Each review helps more people find the show and join our amazing community. And with that, please enjoy this week's episode.
Demetri Kofinas:	00:48	What's up, everybody. My guest on this episode of Hidden Forces is Bill Nelson, chief economist, and executive vice president at the Bank Policy Institute. Dr. Nelson has spent most of his career working at the Federal Reserve with a brief stint at the Bank for International Settlements, and actually helped design and manage several of the Feds emergency liquidity facilities during the 2008 crisis. So, he's an expert at the plumbing of the monetary system and how monetary policy is effectuated at the ground level. And this is important because despite all the ways in which the Fed has sought to increase transparency and further communication with the public over the years, monetary policy remains baffling to most people. And even those of us who think we understand it oftentimes are only scratching the surface. One of the things that I've wanted to understand better in which we discuss in this episode is how monetary policy has changed operationally since the 2008 crisis.
Demetri Kofinas:	01:53	How a combination of regulations introduced by Basel III and Dodd-Frank, as well as emergency actions taken by the Fed during the financial crisis, explain some of what we are seeing in markets today. We also discuss inflation, inflation expectations, credible threats to the Fed's independence given just how far it's gone, both in expanding its balance sheet, but also in purchasing corporate bonds and corporate bond ETFs, and what it would take for the Fed to bring out the bazooka and what that bazooka as Bill Nelson refers to it would look like. Would it include equities?
Demetri Kofinas:	02:31	And if so, how would Fed officials justify that? And what type of language should we be focused on? What types of signs should we be looking for that might give us a hint that we're about to enter a new phase of policy action? For our premium subscribers, make sure to check out this week's rundown because it really covers so much of what we talk about today in more detail. And there are tons of relevant links in the document if you feel like going down some rabbit holes after this conversation.
Demetri Kofinas:	03:01	So, without any further ado, please enjoy this week's episode with my guest Bill Nelson.
Demetri Kofinas:	03:13	Bill Nelson, welcome to Hidden Forces.
Bill Nelson:	03:16	Thank you. Glad to be here to be here Demetri.
Demetri Kofinas:	03:18	How are you doing?
Bill Nelson:	03:19	I'm doing well.
Demetri Kofinas:	03:20	So did you watch the, I imagine you watched the FOMC Press Conference that just ended.

Bill Nelson:	03:25	I did, yes.
Demetri Kofinas:	03:28	Yes, so we're recording this on Wednesday, September 16th. What did you think about it?
Bill Nelson:	03:34	Well, I thought it was good that the Fed adopted stronger forward guidance making it clear to everyone, their commitment to keep rates low until inflation was up to 2% and on the way above 2%. And I think that's not only a good position for them to adopt, to stimulate the economy, but it also helps make clear to everyone what they meant with their new framework language that they announced a few weeks ago.
Demetri Kofinas:	04:00	So, we'll get into all of those details and more before we do for those of our listeners who may not be familiar with you or your career, could you give them a sense of your background and your expertise?
Bill Nelson:	04:11	Sure, happy to. So, I'm the chief economist at the Bank Policy Institute, which is trade group for the, basically the 50 largest banks in the United States. It's a very research focused trade group. You seek to get better public policy and promote it through research and analysis and data driven publications. I've been with this group for about three years. And before that I was at the Federal Reserve Board in Washington, DC. I was at the Fed for 23 years. All of it in the division of monetary affairs. I ended as a deputy director. In that role at the Fed, I was responsible for working on monetary policy issues, like the setting of interest rates and the drafting of communications, but with a specialty in the Feds lending to banks and other financial institutions and oversaw in fact, the board's side of the lending decisions during the last financial crisis.
Bill Nelson:	05:07	I also wore another hat after the financial crisis. There was a decision at the Fed that they needed to bring research folks into the supervisory process. And I was the representative from the monetary affairs. And so in that role, I sat on a number of the oversight committees for supervising and designing regulations, both at the board in DC, and also often in Switzerland at Basel and working on international regulations. So it was with that expertise that brought me over to the Bank Policy Institute, where as the chief economist, I oversee a small group of economists and we engage in pretty similar stuff that I was doing at the board. Publications research, peer reviewed, type of research, but also relatively quick analysis of things changes that the board has proposed or is considering or other things as they come up.
Demetri Kofinas:	06:00	Yes, you're one of the best people I've ever heard when it comes to analyzing and explaining the Fed plumbing, so to speak. And I wonder how big is the misunderstanding? How big is the gulf of understanding between financial journalists and other people who are opining on Fed policy and how it actually works? Do you know what I mean? Especially, after all of the changes since 2008, because it's really not the same Fed and because the mechanics of policy and the qualitative intermediation of the banking system has changed substantially since the crisis.
Bill Nelson:	06:40	Right, that's right. I'd say that there's a range of expertise just as with everyone. It's a very complicated thing and so different people have different levels of

expertise and people learn as they are on the beat. And the one thing that's happened over the last decade, in some sense, is that understanding the Fed's operations has become simpler because at this point pretty much the Fed just pumps the liquidity out and the interest rate that they pay on that funding that they provide or the liquidity that they provide determines the market rate. Used to be somewhat more complicated than that.

Demetri Kofinas: 07:13

Yea, so we're going to get into those details as we'd move through this conversation. I'm trying to think about the best way to sort of initiate it because one of the questions that comes to mind without getting too specific is that the Fed's taken an increasingly large role in the economy over the last decade in particular. And part of that just stems from the fact that it hasn't seemed to really satisfy its objectives, or at least that's my interpretation. And it talks a lot about inflation. This is one of those consistent, probably the single biggest thing that the Fed seems to focus on. And I do want to ask you why it hasn't really been able to generate the type of consumer and producer price inflation that it's been targeting though, I mean it's definitely generated high levels of asset price inflation, at least I think so.

Demetri Kofinas: 08:09

Although interestingly enough, and I do want to ask you about this chairman Powell during the press conference today, he said something that stuck out to me which he said that the relationship between in his opinion, and in the opinion I assume of the board, that the relationship between asset prices and financial stability is 'not a particularly tight one' in his opinion. So maybe he would disagree with that fact and the asset price inflation is typically thought of in like in terms of financial stability, but what is in your view, the objective of the federal reserve?

Bill Nelson: 08:43

So, the federal reserve has basically two objectives that were given to it by Congress that is to say in terms of execution of monetary policy. So one is to achieve stable prices and the other is to achieve full employment. There's actually a third objective for stable long-term rates that's typically ignored. So, the Fed conducts policy to try to keep employment as low as possible while at the same time, keeping inflation low and stable. Now sometimes, historically those two objectives have been in conflict because if you cause unemployment to be too low, inflation goes up, but that's a problem the Fed has not had the luxury of having, of being able to worry about for quite some time, because really even in the midst of the financial crisis and of the 2007 to 2009, and up till today, the Fed has been airing on the low side in terms of inflation.

Bill Nelson: 09:40

So, then they can say, take a step back. The Fed has announced that its target for inflation is 2%. So, you might say, well, why 2% not zero If the objective is stable prices? And that's because they've reached the conclusion and I completely agree that an inflation target of zero would be so low, that it would be difficult for the Fed to achieve its unemployment objective at the same time. That Having that space there allows them to lower interest rates down to below inflation and stimulate the economy. So the Fed is seeking to target 2% inflation, but really for the past decade, it's been running below that sometimes significantly below that sometimes a bit. And that's been a big reason for why they announced the change in the framework that they did just a few weeks ago.

Demetri Kofinas:	10:25	Why do you think it's been running below 2%?
Bill Nelson:	10:28	So, that's, it's a great question. I'm not really an economist with an expertise that lends itself to that area. I mean, everyone has been very surprised at how low the unemployment rate has been able to go while still not generating inflation. So you could think some of the reason was that the rate of unemployment consistent with stable inflation was actually just lower than what everyone expected. And it took time to get down to those levels, but having achieved low levels running into the coronavirus crisis, three and a half percent, which is quite low by historical standards, it seemed that the cost, but finally getting down to a level where inflation was going to start to creep up, but then the coronavirus hit. And so unemployment has, it risen catastrophically since then. There are other factors that are discussed by people, the increasing competition around the world. I honestly, that's just not my expertise. So I probably shouldn't weigh in on that one
Demetri Kofinas:	11:28	Well because Greenspan has the famous explanation in the '90s, which dealt with both technology, the deflationary forces of technology and globalization, but the globalization component may arguably be changing. And I think that's one source possibly of potential inflation, certainly in terms of the prices of goods that rely on intricate supply chains. I'm wonder if you have a comment on that or maybe you don't. I wonder also to what degree it's because consumer and producer prices are driven by a broader percentage of the demography and that broader percentage doesn't have as much purchasing power as those who are buying assets. And that could explain some of the discrepancy between asset prices and CPI and PPI. And then also the fact that the Fed isn't actually purchasing those goods, they're purchasing assets. And again, which inflates those prices somewhat. Do you have any comment on that? Do you have any thoughts about that at all?
Bill Nelson:	12:31	I'm sure I'll offer some thoughts on a couple of the things that you said there. First I'm pretty old school in terms of how I think about the inflation process. Generally, I think the Phillips curve has continued to do pretty well when the unemployment rate goes down, inflation goes up. We found that the rate of unemployment consistent with stable inflation is lower than we'd expected, but after taking that into account, it still seems like that relationship holds up pretty well. So I don't really need to go much further, at least from my thinking then when the economy is running hot and resource margins, get tight prices go up. And when the reverse is true prices and inflation slows down. So from what I've seen, that actually still works pretty well. As far as asset prices are concerned. So it's a standard consequence of just how assets are valued, that when interest rates go down, the value of assets goes up and that's because asset prices are equal to the present value of all the future cash flows that you're expecting.
Bill Nelson:	13:33	And if interest rates are low now, it means those future cash flows are more valuable. So when interest rates fall, stock prices go up, bond prices go up, house prices go up, all the things that are investments that depend upon a stream of value going into the future. I think the big question that's under debate. There's no real debate that asset prices go up when interest rates go down, that's pretty straightforward. The finance, the question is whether or not in some sense, they go up too much. Whether when the Fed lowers interest

rates, you get asset price bubbles, do you get prices that go up above fundamentals? And there's a range of views on that subject and from reasonable thoughtful people, some are of the view that there is a concern about asset price bubbles that needs to be taken into account and weighed when the Fed considers keeping inflation interest rates low for a long time.

Bill Nelson: 14:28 On my part, I simply don't see much evidence that that's the case. I think asset prices go up. That's an important way that the Fed stimulates the economy. When your stocks are worth more, you spend more, but I don't really see a defendant of link in terms of asset price bubbles. And moreover, I'm much more concerned about the social of unemployment than I am about any potential unproven risks from low rates causing asset price bubbles. Unemployment is a, it's a lost to society and it's a catastrophic loss for the individuals and families that are experiencing the unemployment. And that's always been my primary focus and thinking about what policy is desirable.

Bill Nelson: 15:11 And in that regard, if the unemployment rate is high, that's my, would be my focus and I'm sure it's the FOMC's focuses or most of their. So they're going to keep rates low in order to stimulate the economy and get unemployment down. And that it's hard to see that concerns about asset prices will stop them from doing that. And I thought Jay Powell made a good point today that we've seen low rates for a decade, and there really hasn't been much evidence that there were asset price bubbles, significant ones over that period of time.

Demetri Kofinas: 15:43 So I have a few thoughts there. One goes back to your point about the Phillips curve. And I would actually make the argument that, that relationship hasn't been as predictive or tight as we were taught it would be in school when I was studying economics. As you said, unemployment has been very low, this is as how it's measured and inflation hasn't really ticked up. One, so I'm curious what you have to say about that, what you think about that. Another one is what real evidence is there to suggest that inflation would somehow improve real economic growth. Because if you look in the period of the 1960s, nominal growth rates were higher than they were in the '70s, nominal not even real and inflation was higher in the '70s. That's another question. And then when it comes to unemployment, I have just a very clear macro question on that.

Demetri Kofinas: 16:40 And I think my approach to unemployment, or the way I view this is that, and I have an Austrian view of this, but then also a practical view of it as well, which is high levels of unemployment create political instability. You can't have persistently high levels for too long, but it really does matter where and how people are employed. And although the market is not the best way to allocate capital for everything i.e. there are moonshots, there are things that, and there are whether it's preparing to fight a war or let's say sending astronauts to space, if that's an important mission or seeding the early technologies that gave us Silicon chips in the internet, there are places for government spending. But there's an important role for the market to efficiently allocate capital. And so there are periods of naturally higher levels of unemployment. And so I wonder really how effective is that as a gauge for policy? So I don't know if you can remember all three of those or if I have to repeat them, but take them as you will.

Bill Nelson:	17:48	I don't think I remember all three of them. In terms of defending the Phillips curve, I can just say that I recently saw some evidence provided by a colleague who's a very senior, who had been a very senior official in the Fed and I think was citing work by Janet Yellen, the former chair of the Fed, which showed where you would expect inflation to be based on a properly adjusted Phillips curve. And unfortunately, I don't know what those adjustments were and where it's been and the correspondence was tight, you know? And in particular, I would say over the last few years, inflation has been moving up slowly. It's just collapsed when the unemployment rate went up, but of course that's completely consistent with the Phillips curve. So your second question was, does growth tend to be high, you were skeptical that growth was high when inflation was high.
Demetri Kofinas:	18:36	That inflation could directly, what evidence there was to suggest that inflation would improve real economic growth.
Bill Nelson:	18:43	Right. Yes, so I don't think that it does. The way the relationship that goes is that if the economy is running hot, particularly if resource utilization, so industrial manufacturing utilization rates, but particularly unemployment rates are tight that tends to cause inflation to increase. So it's not that the inflation is good for the economy so much as it is that when the economy is doing well, that that will push inflation up. Now they're in the Goldilocks economy is the economy that's growing at the rate of the expansion of its capacity to produce. The unemployment rate is at its natural level. Inflation is at a low level, but it's not moving up or down. So in some sense that's what you have to hope for in the end. And you can't really achieve anything other than that over the long-term.
Demetri Kofinas:	19:35	So then to go back to my third question and kind of tie it back in about unemployment, is that why the Fed wants to see higher levels of inflation because they're focused on unemployment? And if that's the case, then why did they still want to hit that target when unemployment was so low? Was it to your point about wanting to get high enough so that they actually have the policy tools to get under it in a real sense?
Bill Nelson:	19:59	So that's a great question. So the reason why the Fed wants to get the inflation rate up and consistently persist at 2% is because, and this gets a little complicated, and I apologize for that. The interest rate that determines economic activity is not the regular interest rates that get quoted and that you see in the newspaper, it's the real interest rate. It's the interest rate, the nominal interest rate, the regular interest rate minus the expected rate of inflation. If you're getting 10% on your money, but your money is falling by value in 10% because of 10% inflation, that's not any return, that's a zero return. So it's the real interest rate that matters to stimulate the economy. Now, if the inflation rate is very low, that means that there isn't much room, so nominal interest rates, regular interest rates, can't go below zero. They can go a little bit below zero, but basically they can't go below zero.
Demetri Kofinas:	20:59	It's not also very hard to do given the fact that we're now in a floor system does not even make it more complicated.

Bill Nelson:	21:05	I don't think it makes it harder to put interest rates below zero. It's just hard to do because for a variety of reasons, but importantly, because cash earned zero. So it's hard to push rates below what you can just get by holding cash. There are some other reasons it causes some complications in how markets function, but the basic rule is that you can't push rates below zero. And since real interest rates are those nominal interest rates minus inflation. If inflation is really low, that means you can't push rate to very far down. You can't push real interest rates very far down because once you get to zero, all you've got left is minus the inflation rate, the lower that inflation rate is the less room you have to lower real rates. And that's important because that means that there is always a risk of a deflationary spiral.
Bill Nelson:	21:58	So what does that mean? If interest rates are at zero and the inflation rate falls, what that mean is that real interest rates have gone up. Remember real interest rates are nominal rates minus inflation. So if inflation goes down, real rates go up. So here you are, you're the central bank interest rates are at zero, you're trying to stimulate the economy, but inflation is falling. That means real rates are going up. That means you're actually removing the stimulus you're tightening policy inadvertently. That's going to cause the economy to slow and inflation to fall further.
Bill Nelson:	22:29	Ultimately you could get into a deflation where prices are actually falling and that's a deflationary spiral, and that's a very scary situation to be in. And one which the Fed barely dodged or in '07, '09 and the week recovery afterwards and I'm certain is the focus of their concern now. And that's an important reason why they moved their inflation target from spot 2% to 2% on average. What they're trying to communicate by making that change, change they made a few weeks ago is if inflation is running below two, then we expect to run it above two for a while. And that's because they hope that that will cause people's expected inflation rates to remain fairly well anchored at 2% and not come down.
Demetri Kofinas:	23:14	So, I mean that makes sense. I wonder though to what degree the Fed's focused on inflation is also about managing the debt burden, the public and private debt burden in the United States. So not just by lowering interest rates, but at some point you can only take interest rates so low and make debt payments as manageable as possible. At some point, if you're caught in the liquidity trap, or if you're in a place where you've hit 'peak credit', not an official term, it's just something either I came up with or I heard somewhere, you need to begin to eat into that nominal debt level through inflation. So how much of the focus on inflation is really about trying to find, to muddle through, to get us through a multi-decade de-leveraging that doesn't require a debt Jubilee or a hard bankruptcy?
Bill Nelson:	24:10	So I'd say none. I mean, the Fed is absolutely not in the business of helping the federal government out with debt.
Demetri Kofinas:	24:18	Or the private sector, really primarily the private sector.
Bill Nelson:	24:21	So the way that policy is conducted within the federal reserve is the staff prepares a forecast of how the economy would perform under different interest

rate paths. And now the FOMC participants have their own views on those things as well. But the staff's view is fairly influential. That outlook is primarily influenced by how lower interest rates influence economic activity. And then that economic activity, how that influences the unemployment rate and the Fed has models that they look at that say, okay, if you're trying to achieve steady low inflation and low unemployment, what are the best paths to achieve that? And that's basically in a nutshell how they do it.

Bill Nelson:	25:03	Now, there's a lot of judgment involved and every FOMC participant has their own view of how things work, but there's really isn't any sense of correcting debt overhang or other things like that in that, within that model there just isn't. I mean, there is concern when interest burden, I mean, there is also concerned about financial stability and financial soundness within the Fed. And it's true that when interest rates get too high, that adds to the debt burden of households and businesses, but those considerations I've never in my decade there or my over two decades there, I don't recall an instance when those considerations factored into the conduct of monetary policy.
Demetri Kofinas:	25:47	Do you think that the sluggish growth rates that we've seen in the U.S. in Europe and of course in Japan are not entirely due to demographic or other factors, but actually have something to do or a large part to do with the very large outstanding liabilities in the economy, the debt burden in other words.
Bill Nelson:	26:10	Right. So I don't really know just to clarify Demetri I'm a, largely a financial economist, monetary policy economist, not so much a macroeconomics, what causes trend growth, what cause inflation sort of guy, so.
Demetri Kofinas:	26:25	Okay, we don't have to, I will. Just to be clear, I know less than you do so, but perhaps given your professional situation, there may be greater consequences to opining in areas that you're not qualified to speak, but that's fine. If you don't feel comfortable answering that question.
Bill Nelson:	26:42	I just don't like to opine in areas where I'm not really an expert and I just, I haven't studied the decline in productivity growth. It's a very important phenomenon. It actually has contributed to the reduction in interest rates and the risks of a deflationary spiral that we were just discussing.
Demetri Kofinas:	27:00	Well, the reason I mention is because it seems to me that the Fed's accommodative policy and that actually gets to something that Fed governor Brainard said earlier this month, which was that monetary policy was going to shift from, or that it would be important to shift monetary policy from stabilization to accommodation. And the Fed to say that Fed policy has been accommodative to me is an understatement. I think it's been highly encouraging and I'm concerned, I mean, I'm very concerned about what that's already done to the economy and by the way, because there are a lot of people that really like to stick it to the Fed and to central bank, so I want to make clear that that's, and my listeners know that's not what I'm doing here. I think this is a multifactorial wicked problem that we're in. And I think that the outstanding debt is a big part of that.

Demetri Kofinas:	27:50	And I think that's partly what the Japanese are dealing with. And I think that's why rates are so low. I think people look at the low interest rates and they think, well, the Fed should just raise them because they're punishing savers. But I think if anything, more accommodative policies in the past and also credit generated by the banking system, et cetera, et cetera, and just multi cycle expansions are really why we have such low interest rates today. And that actually gets us to another question, which is what I'd love to ask you. And again, I don't know if you feel comfortable answering it, but really is this inevitable where we are today because of the fact that we have the type of monetary system that we have, or that any monetary system eventually creates this level of outstanding, this debt and that you had pharaohs who would create debt Jubilees to deal with it.
Demetri Kofinas:	28:41	So back to the point about accommodation, something that you wrote about in one of your blast emails, you commented on a question that was posed to chairman Powell I think in the last FOMC meeting, which had to do with buying equities. And I forget the name of the reporter who asked the question, but she referenced the section 13(3), and chairman Powell was really uncomfortable with answering that question. And it seemed to me the way that I interpreted his answer, which was pretty much that he was wanting to say, well, we don't want to buy equities, but we'll buy them if we have to. So I guess that takes us back to a few things that I mentioned earlier about asset price inflation, everything else, but maybe I could just ask you directly here, do you think that the Fed is going to buy equities?
Bill Nelson:	29:29	So I don't think that the Fed has or considers itself to have the legal authority to buy equities. The Fed basically has lending powers provided by the Federal Reserve Act. Now, so there've some things that the Fed has done this time around that have been surprising expanding the view of what the Fed considers itself to do. So in particular, the Fed has been purchasing corporate bonds through a special purpose vehicle. That's capitalized by treasury. So treasury provides the capital using CARES Act funding. The Fed lends to the special purpose vehicle and the special purpose vehicle purchases the bonds. But the distinguishing characteristic is that the bonds are a note. They're a promise for funds in the future. And the Feds legal authority to engage in emergency lending allows it to discount notes. There is no way that inequity is a note.
Bill Nelson:	30:22	So I don't think that the Fed will purchase equity. I don't think that the Fed has the legal authority to do so, but at the same time, my guess looking at the communications that are available to the public are that the Feds pretty concerned about the level of equities. And there is some market chatter that people are thinking the Fed will buy equities and if equities were to fall. So I think that the Fed has very studiously avoided saying, we're not going to buy equities in order to just stay out of it. I mean, I think that when they are concerned stock prices are going to fall, when they fall they don't want to be standing there with a knife basically.
Demetri Kofinas:	30:59	Well, the SPC buys corporate bond ETFs. So isn't that technically considered a note.

Bill Nelson: 31:07 Yes, it buys ETFs that are backed by corporate bonds. And that pushes the limits of my understanding quite a bit. But one possibility is so in the past crisis, the Fed bought asset backed commercial paper in preference to regular commercial paper in part, because it preferred to have the asset that had the collateral, even though they're actually riskier generally. Because that left the Fed feeling more comfortable. And that was, I was there designing these things, feeling like its lending was collateralized. So it's possible that in thinking about the legal rationalization for purchasing ETFs, the Fed was taking comfort in the fact that these things were collateralized by corporate bonds and in their language announcing their plans, they indicated they would only buy once where the value of the bonds wasn't much below the value of the ETF.

Bill Nelson: 31:58 And to put those purchases in context, in mid-March the financial system froze up for a number of reasons. Part of it was so there were massive sales of treasury securities by people around the globe and by hedge funds for different reasons. And those sales of treasury securities overwhelmed the capacity of broker dealers to act as market makers. And that left the world's most liquid market nearly at the brink of closing up. In addition, there were a lot of outflows from mutual funds that invest in corporate bonds, and that really took the bid out of the market entirely. So spreads on those bonds had started to rise up. It's very difficult for the Fed to respond to corporate bond prices falling generally. ETFs have the advantage of just by targeting those ETFs, the Fed was able to support a wide range of corporate bonds that are backed by the ETFs.

Demetri Kofinas: 32:54 So I guess two questions. How tight is that relationship between the secondary facility, basically buying bonds in the secondary market to support general prices versus making the loans directly to the institutions? How much does that help the corporate bond market? How much does it help the institutions get access to credit rather corporations? And two, how much of this is the result of the fact that corporations increasingly have been using the bond market over the last 10, 12 years, and how much of this is a result of regulatory changes at some of these institutions, as well as changes to the Fed balance sheet, to reserves and to how the Fed conducts monetary policy.

Bill Nelson: 33:37 So, okay with respect to the first question, how close is the link between the Feds purchases and the bond performance? I mean, ideally what you'd like to do, and what I'm sure will be done is looking bond by bond at the ones that the Fed purchase and the ones that the Fed didn't and consider the differences. But really the effect I think is a bit more psychological. And moreover, the Fed has indicated its intention to purchase bonds widely across the spectrum. And I would think that the Fed's announcement of all of the different credit facilities that it rapidly opened, many of them ones that it had used in the past crisis, but the bond buying facility, a new one, for example, those were instrumental in changing financial market conditions in mid-March. Now, I would argue another a very important thing that was different in March and during these recent events relative to the past financial crisis, is that in the past financial crisis, that was a crisis that took place largely on the books of financial institutions.

Bill Nelson: 34:38 There was concern about the area's asset back securities and their evaluations, and that quickly turned to a run in the financial system, largely in the shadow banking system. I spent a lot of my time in the last 10 years in the Fed, trying to get lender of last resort services to that shadow banking system and then cleaning up the aftermath. But this crisis is quite different. So coming into this crisis, banks have double the capital that they did at the last crisis. They have four times the amount of liquidity, and this wasn't a crisis about troubles in financial assets. This was a crisis about the macro economy. This was the macro economic effects, largely of everyone staying home for three months, we thought at the beginning and the cessation of economic activity that ensued. And somehow, that that has very severe consequences.

Bill Nelson: 35:27 That's an extraordinarily bad economic shock. And, I think that the, if the banking system was instrumental in responding to that in the few weeks of the financial crisis, banks lent $700 billion. Over that period of time, the Fed had lent I think $160 billion, and the Fed's lending has largely retraced because this just isn't really a financial crisis, there was some severe turmoil in mid-March, but markets improved and usage of the Fed's facility have fallen. So I think that what the Fed did was instrumental in changing the market psychology. Moreover, the issuance in the corporate bond market was extraordinary. I don't have the statistics to compare it to regular periods, but there was very heavy issuance in the corporate bond market after the Fed intervened, the Fed's interventions were very small, but corporations non-financial corporations, financial corporations were able to borrow a lot of money in the corporate bond market.

Bill Nelson: 36:26 That's another big difference from the last crisis because in that crisis, funding markets were largely locked up. In this crisis people were able to raise quite a bit of money in the bond market. Now the Fed's motivation for what it's doing, what it did in March and has been doing. And what it's done before has been largely to keep credit flowing to non-financial businesses, including small businesses and to households, even what the Fed is doing is helping a financial institution. It's got its' eye on the folks that get credit from that institution. And then in this instance, I'd say it was a big success that they were able to keep credit flowing to those that borrow in the corporate bond market. That's the U.S. has a financial market centric credit intermediation system compared to other the rest of the world where things are largely bank centric.

Bill Nelson: 37:17 The financial markets are tremendously important, much more important than banks way that, that households and businesses get credit. will not much more, but roughly equal to banks in terms of a way to get credit. So keeping credit flowing in the corporate bond market was very important. Now to get to your third question, there has been concerned about the terms of corporate bonds, the credit quality of corporate bonds going into the crisis. There was heavy investment in those bonds by mutual funds and other bond investors. And there were a lot of sales by those funds when the turmoil hit, as investors pulled out and tried to change their investments into cash, that meant that there had to be liquidation of those corporate bonds. And I'm sure that was an important contributor to why spreads widened to sharply as they did, although they quickly came back down.

Demetri Kofinas: 38:06 So, I mean, is it fair to say that the corporate bond market is more important today to America's economy and to America's largest corporations than it was 10 years ago?

Bill Nelson:	38:18	I'm really not sure because while my guess would be that corporate bond funding as a percentage of nonfinancial corporations liabilities is higher. I doubt that the asset backed securities market has recovered fully. It was completely hammered in the '07, '09 crisis and there's still no market to speak of and say private mortgage backed securities. I don't know, I would say it's about a 50/50. Yes but that's because I don't have the data. It's not like the data's hard to get. It's just not something that I've looked at.
Demetri Kofinas:	38:49	Right, sure. So then maybe let's-
Bill Nelson:	38:51	I'd say it's very important, but it was very important 10 years ago too.
Demetri Kofinas:	38:54	Yes.
Bill Nelson:	38:54	Especially prior to the crisis.
Demetri Kofinas:	38:56	Sure. So then maybe it would make sense to focus on some of the more specific areas where you can help educate our listeners. I mean, maybe drill in a little bit more on this point about regulation. I mean, one of the, and I heard a really great conversation that you had with David Beckworth on his podcast back in September or October. Well, that was when the repo crisis happened in 2019.
Bill Nelson:	39:25	Right.
Demetri Kofinas:	39:26	And you were on the show around that time and you really did a great job of explaining how this could have happened because I think a lot of people saw that crisis and they just thought, well, we must be in the midst of a banking crisis. And I thought it was a really interesting example of how regulations have unintended consequences. And I think the Basel regulations and Dodd-Frank are good examples of this because they were meant to safeguard the economy from another banking crisis. But of course, no two crises of the same, and no two monetary systems are the same. And so maybe you could catch our listeners up on where we are today in terms of how the Fed conducts monetary policy, how it's changed since the crisis. We actually did one episode on this with George Selgin, where we discussed it, but where are we at this moment? How does the Fed think of monetary policy and how is it conducted today and how have regulations impacted it?
Bill Nelson:	40:25	So prior to the '07 to '09 financial crisis, and for 50 years or more before that, the way the Fed conducted monetary policy was that basically it set the rate at which it lent, and it could didn't have the authority to pay money on the money that was deposited with it, which are called reserves. But mostly what it did was it announced a target for the federal funds rate, which is the rate at which banks lend to each other on shore, on secured overnight. And it adjusted the amount of reserve balances that it created, that which are deposits of banks at the Fed. Something that the Fed has complete control over by the adjusting the size of its own balance sheet. It calibrated those reserves just so that interest rates tended to stay near its target for the federal funds rate.
Bill Nelson:	41:18	So it kept reserves just scarce enough banks generally wanted to economize on their holdings because as I mentioned, they didn't pay interest back then. So it

kept reserves just scarce enough so that banks wanted to hold the amount that was provided at that target interest rate. And it wasn't actually very hard. It sounds like a knife edge balancing, but it wasn't. There was a lot of averaging that went into it every morning I and my colleagues would talk to the New York Fed about where the reserves should be placed in order to achieve that. We did so, if anything, I think folks were criticized for achieving having too greater control of interest rates. There was a concern that it was too dampening of financial stability concerns. So, but in the crisis, that situation changed quite a bit. And particularly coming out of the crisis when the Fed engaged in QE programs to buy longer-term assets, to push down longer-term rates.

Bill Nelson: 42:08 When they expanded their balance sheets and these were largely actions, these were actions that were driven because of what the Fed wanted to do with the asset side of the balance sheet that had the consequence of driving up, thanks deposits at the Fed because that's what happens when you increase your assets, you have to increase your liabilities, balance sheets must balance. The Feds liabilities are basically cash and deposits at the Fed. Those deposits at the Fed had to move up. So effectively banks deposits at the Fed were funding QE. Now with deposits massively over surprised then banks, they weren't keeping them scarce anymore. And normally interest rates would have immediately fallen to zero. And now for a long time, the Fed was trying to keep interest rates at zero, but in 2008, the Fed was granted the authority by Congress to pay interest on the money that banks deposit with it.

Bill Nelson: 43:00 And that enables it to raise the general level of interest rates without achieving scarcity and reserves. That's what's called a floor based system. So basically the Fed over supplies reserves by creating a big balance sheet and the bank has those reserves and they deposited it at the Fed and they earn the interest on reserve rate. The rate that the Fed pays on those reserves.

Demetri Kofinas: 43:22 They pay them not to lend in other words.

Bill Nelson: 43:24 Well, I wouldn't say that. I think the evidence is pretty weak, that providing reserve balances restricts lending. Now it can, in some circumstances and I can discuss that. And those circumstances are actually really relevant right now, but you know, banks get the deposits, they hold those things on. They hold some as reserves. The way monetary policy works is that banks have to hold those reserves voluntarily. So interest rates on assets loans, other things have to adjust so that banks voluntarily hold those reserves because the banking system as a whole has to hold those reserves.

Bill Nelson: 43:56 But banks' lending decisions are primarily made because they're trying to earn a return on the loans and the interest rates on the loans are what they are. And the bank's cost of equity is what it is. And unless those extra reserves push down banks, the capital ratios, which is a, let me bring that up separately. I don't think that there's a lot of evidence that they actually restrict credit, maybe they do. And that's a worry now. And the reason why it's a worry now is that the asset purchases that the Fed did coming out of the last crisis when the recovery was relatively weak, those things are tiny to what the Fed is doing now. The Fed purchased a trillion dollars of treasury securities within three weeks in order to ease the pressures and treasury markets in March.

Bill Nelson:	44:42	And it's purchased a lot more since then, at least 2 trillion, I think more, and it's purchasing securities at a rate of $120 billion a month I think. Jay Powell just mentioned that during the height of the Fed's purchases in the last crisis, they were purchasing them at $85 billion a month. So the Fed's balance sheet is expanding rapidly. One of the effects of that is that this issue that I cared a lot about and do care a lot about how the Fed conducts policy, I was very eager for the Fed to return to the way it used to do it, because I think it had a much lighter touch on the financial system was much less involved in the financial system. Unfortunately, that discussion is now totally moot because the level of reserve balances is so high and going higher, that the Fed isn't returning to a scarcity, monetary policy regime, if ever for a decade. So I think the more important issues now and the Fed has good monetary control with those level of reserve balances.
Demetri Kofinas:	45:43	First of all, do you think that they, how do they view a floor system? Do they think it's actually ideal or optimal or better than a corridor system, which is what they had before? And are there indirect consequences or costs associated with running such a system? For example, the hiccups that we saw in the repo market does the banking system become more dependent on dealing directly with the Fed as opposed to relying on the interbank market and therefore providing an important signal about the credit worthiness of some of the world's most important financial institutions.
Bill Nelson:	46:19	So, I mean, the Fed look carefully at the range of options that it had to conduct policy a couple years ago and they elected to conduct policy with a floor system. So with an overabundance of reserves. So I guess the FOMC on the whole, I think that they made that decision without a lot of dissent. So I'd say the FOMC on a whole is content to conduct policies, happy to conduct policy as if using a floor system. Now, first and foremost, the issues that you need to worry about when conducting monetary policy is, do you have good control of interest rates and are those interest rates well transmitted into the rest of the economy? You're worried about the macro economy. And I think that the two ways of conducting policy, the floor system and the corridor system, as the method with scarcity are called, well, I prefer the corridor system, they both score perfectly highly on both of those criteria.
Bill Nelson:	47:14	So in some sense, a lot of my concerns about going back to the corridor system are largely second order. I think that they're important because they deal with things like the Fed's relationship to society and the Fed's independence, for example. But in terms of controlling the macro economy, I think that they're second order. And as I said, it's really moot now because the Fed used to provide reserves on the order of say a hundred billion with excess reserves back when reserve requirements were above zero, if maybe 13 billion, and now they provide trillions and trillions of dollars’ worth of excess reserves. So we're so far beyond that situation, that probably is most productive to at least for me to accept the loss and move on. I said the more immediate concern it's something that's closely related to the issues that you've raised are to some extent, there's been somewhat of a negative spiral between how the Fed responded on the regulatory and supervisory front to the financial crisis, the past financial crisis, and more recently. And how the Fed has chosen to conduct policy in response to that.

Bill Nelson:	48:25	So in 2015, I co-chaired an international committee in Basel at the BIS that looked at how the post-crisis regulatory changes were impacting monetary policy. And basically the conclusions were, those changes were going to cause banks to have to hold a lot more reserves. They were going to make the ability of banks to intermediate in capital markets more difficult. And they're going to force central banks to have to deal with a larger balance sheet and deal with more counterparties and be more frequently interact with the financial system. And then this was an international committee of which there was a broad agreement across the group. These weren't radical conclusions, and this is pretty much what's been born out.
Bill Nelson:	49:10	So to look back to the September event, the September event was basically a situation where there was a big increase in the demand for repo funding on the same day, there was a big decrease in the supply of repo funding. This took place against a backdrop of a shrinking Fed's balance sheet back then. So reserves were falling, but they were still very plentiful. And I asked the ultimate question is, well, why didn't bank shift from their holdings of reserves into lending repo? It's shift from one asset to another, and there the issue is-
Demetri Kofinas:	49:43	From reserves to treasuries.
Bill Nelson:	49:44	From reserves to reverse repos.
Demetri Kofinas:	49:46	Right, collateralized, using you as treasuries.
Bill Nelson:	49:48	Collateralized by treasuries, exactly. And there, I think that the answer is to a great extent because is that banks and supervisors and regulators had gotten used to those high level of reserves and they weren't comfortable with banks shrinking them and banks weren't comfortable with them shrinking them. Even though the letter of the regulations in many cases actually allowed the switch. So you can build in and a ratchet effect, a demand for a large Fed balance sheet just by having a large Fed balance sheet. The other question, and probably the one that's more relevant now was well, okay, that's fine if they wanted to hold onto those reserves, why didn't they go out and borrow where it was cheap and lend in to these repo market where interest rates were very high. And there, the answer is capital regulations.
Bill Nelson:	50:33	Capital regulations have been tightened quite a bit since the financial crisis that's appropriate. Capital was too low in the last financial crisis. Banks have doubled the amount of capital they have, but unfortunately, I mean, there've been some smart ways that that capital requirements have been increased. Risk based requirements increase more, require more capital for riskier assets, stress tests look carefully at the capital that bank's gonna need for and they look at the responsiveness of loss rates to economic outcomes, but there are other capital requirements in particular leverage ratios, which aren't risk sensitive, which have had the effect of making banks hold a lot of capital on the very low risk assets like treasury securities and reverse repos, overnight loans secured by treasury securities that are necessary for financial market intermediation.
Bill Nelson:	51:20	And those have made balance sheet, the space of the balance sheet of broker dealers necessary to provide funding to those that are holding securities so

expensive and so rigid that banks really weren't able to respond to the repo market turmoil in an effective way. Broker dealers weren't and rates remained high for a couple of days and markets remained unsettled for a week, but of course that's peanuts to what happened in March. In March, the most liquid market in the world, the treasury market effectively froze up. Standard measures of liquidity went up by a factor of 10. And the Fed, as I mentioned felt compelled to intervene massively to take the demand that was flowing into the market off the market. Now, if the U.S. wants to continue to have the world's safe haven currency and the world's safe haven asset and its treasury securities run very high deficits and very high debt, it needs to have a financial system that has a capacity to handle flows, large flows in those securities.

Bill Nelson: 52:20 And what you saw in mid-March when everybody decided they needed to switch to cash largely was that it overwhelmed the financial system. And that's in large part because the balance sheet of broker dealers in the U.S. including importantly foreign owned broker dealers have declined pretty steadily. Well, U.S. broker dealers have largely stayed constant, foreign has declined, and that's in part because it's just become more expensive than for them to engage in the kind of financial market intermediation that's important. And as I mentioned earlier, this is not just a matter of some people on wall street making money. The way credit is intermediated in the U.S. between savers and borrowers businesses, small businesses households is to a large extent through financial markets. And so it's important that we have-

Demetri Kofinas: 53:07 It may be outside of the banking system.

Bill Nelson: 53:09 ... a well-functioning outside of the banking system.

Demetri Kofinas: 53:10 Right.

Bill Nelson: 53:11 And it's critically important that we have, well we mean we continue to have the extraordinarily liquid and well-functioning financial markets that is unparalleled in the U.S. compared to the rest of the world.

Demetri Kofinas: 53:23 So, bill, I want to take the rest of our conversation into the overtime. I want to ask you a few more specific questions dealing with an email that you sent out, I think it was also back in July dealing with scalability and falsifiability and what makes for a good bazooka. I think you called which is interesting.

Bill Nelson: 53:42 Oh, right, yes.

Demetri Kofinas: 53:43 Because I also want to ask you the follow-up, the natural follow-up to that would be, which was when would we expect the Fed to use that quote bazooka, which I think that word entered the lexicon in the 2008 crisis I think, was it Hank Paulson they used it for the first time?

Bill Nelson: 54:00 Yes, it sure was.

Demetri Kofinas: 54:00 Yes, series of awkward press conferences. I also want to ask you what you think based on your experience or your reading of the Feds tea leaves they're most concerned about and what policy tools or policy responses they may enact in that regard. I'm also curious because we haven't talked about this and I don't know how familiar you are with it, with the Feds use of swap lines and how the Fed sees its relationship to other central banks and its need to take into account what's happening in other important trade partners and other economies like the Eurozone or China or other places when it conducts its monetary policy. And then lastly, something else I want to tease as well that I want to get into the overtime is what if you think the Fed has put its independence at risk, or if its independence is at risk in the current political climate, this is a theme that comes up more and more and more. Is there a risk that its charter could be revoked seems crazy given how long it's been with us or maybe that the McFadden Act of 1927 would be revised.

Demetri Kofinas: 55:11

But of course, these are things that have happened in the past and history has a long shadow. For anyone who is new to the program, Hidden Forces is listener supported. If you want access to the rest of this conversation, as well as the transcripts and run downs to each episode, head over to patreon.com/hiddenforces and subscribe to one of our three content tiers. There is also a link in the summary page to this episode with instructions on how to connect the overtime feed to your phone so that you can listen to these extra discussions, just like you listen to the regular podcast. If you've been a subscriber and you haven't done that, please contact me through Patreon. I want to make sure you're set up and able to do that because it is the best way to listen to these overtimes. Bill stick around, we're going to move the second part of our conversation into the overtime.

Bill Nelson: 56:00

Okay. Look forward to it.

Demetri Kofinas: 56:03

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Demetri Kofinas: 56:40

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