



Is the Next Recession Imminent?

Peter Hall

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Thank you very much Rev. Dr. Bennett. I believe that is going to be a very hard standard to live up to behind the podium. I did have some very great years of working together with Andrew. He is absolutely right, I am very proud of the team that I have. They give excellent support, not only to me, but to Export Development Canada (EDC), Canadian exporters and businesses in your countries around the world. I have had the great and distinct pleasure of visiting many of the countries represented here today.

Thank you very much, Andrew, for your kind words and thank you all for being here today and giving me the opportunity to share a few thoughts with you. We are all very busy people and to see a full room like this, when our agendas are all very full, we thank you very deeply.

It is also a great pleasure for me to have worked together with the Christian Embassy over a number of years and to worship together with Darlene and Harold. I have enjoyed your fellowship on an ongoing basis. Thank you very much, Darlene, for the work that you do with the Christian Embassy and for inviting me to be with this great group today.

In fact, knowing how well-schooled this audience is, makes it rather intimidating for me. It reminds me of a conversation that Winston Churchill had with a young member of Parliament, who had just finished one of his first speeches in Parliament. He asked that how he might have put more fire into his speech. Mr. Churchill responded, that it would be better if he put his speech in the fire.

Now, I'm not sure what Mr. Churchill might think of this speech, or of my profession, as he is also known to have said that the future is unknowable. Of course, I am trying to impart something of the future to you today. That's my profession, I'm an economic forecaster.

I can only imagine what scathing comment Mr. Churchill might add to the myriad economist jokes that are used with regularity when I and my contemporaries are being welcomed to podiums just like this. He might say something like: "Economic forecasting is the only profession that heaps rewards on those who are less wrong than the rest."

It's true that the standard that we're held to these days is far more relaxed than in ancient times. Thousands of years ago, prophets were held to a standard of 100% accuracy. Otherwise, they were labelled heretics and their lives were cut rather short as a result. But here I find myself in this profession, all too aware of its past missteps.

I believe very firmly that there is a Divine Power that very much knows the future, as well as knowing the past.

With all due respect to Mr. Churchill, I am determined - call me naive - that the future is indeed knowable. Not by the likes of me, or those in my profession. I believe very firmly that there is a divine power that very much knows the future, as well as knowing the past.

The future is not a thing for humans to know. But knowing that the future is knowable gives hope to the likes of me and gives hope to all of us, actually. So we endeavour by various means to do our best to shed light on the current world state, where it is headed and advise as best we can. It's clear that over the last decade that has been a very strenuous task.

As Andrew has said, I have been at the art and science of economic forecasting for 30 years and the past 10 have definitely been the most challenging. On that score, my former boss, friend and the current Governor of the Bank of Canada, Stephen Poloz, proved to be a much better forecaster than I. You see, he handed over the position of Chief Economist at EDC to me in June of 2008, mere days before the global economy started lapsing into its greatest recession since the Great Depression itself. At least from that, you can conclude that the Bank of Canada is in good hands.

It is often said that those who forget history, are doomed to repeat it...More than once I have wondered aloud if the exponentially increasing deluge of data and information is daily displacing our grasp of history.

One of the great lessons I learned in forecasting, is that it is greatly aided by a solid knowledge of the past. It is often said that those who forget history, are doomed to repeat it. That is often true in economics and perhaps even more true in our information-rich world. More than once I have wondered aloud if the exponentially increasing deluge of data and information is daily displacing our grasp of history. Even short-term history, to the extent that recent correlations embedded into financial models can pose a grave threat to, or even cause the near collapse of the financial superstructure of capitalism in a matter of days, or minutes.

If we don't know where we have come from, and we don't know where we are, then we have no business projecting the future.

My team has often heard me say about the economy, that if we don't know where we have come from, and we don't know where we are, then we have no business projecting the future. A solid understanding of the economic journey and a sense of where that journey has brought

us, is essential to having even a modicum of confidence in talking about the future and to those who are staking their livelihoods on it.

So here I come to the point in my talk where I discuss how we actually see the world. The title of today's presentation, you've told me as you were walking in today, has gripped you. Everybody wants to know when the next recession is going to be. Everybody wants to know why it is that stock markets are in as great turmoil as they are in at the moment. Why the yield curve seems to be starting to invert. Why leading indicators of economic activity appear to be heading in the wrong direction and there is slowness inside of the data. Of course, that is corroborating all of these fears that we have. Are we, 10 years beyond the last recession, on the verge of another recession? The perspective that I would like to put on that today is not what you will hear from the average forecasting economist on Bay Street, in academic institutions and elsewhere.

The journey that the economy has been on...demonstrates that technology, together with the inexorable reach of globalization, has taken a 10-year business cycle and has stretched it over 20 years.

We believe fundamentally that the journey that the economy has been on over the last 20 plus years, demonstrates that technology, together with the inexorable reach of globalization, has taken a 10-year business cycle and has stretched it over 20 years. Now that might be an oversimplification to this audience here, but this is not something that is discussed in the general discourse on the world economy at this point in time. I think if this is actually true, it has stunning implications for business strategy decisions and policy decisions of a number of different types.

How do we actually characterize this? Well, we take a look at the last business cycle, and for all intents and purposes, absent a shift that occurred back in 2001 when the tech sector was in disarray, we had a 16-year growth cycle. A normal growth cycle would be 8 years. So, when you have a 16-year cycle, something strange happens along the way. When you go beyond that time where you should have had a correction, somebody like me - not me - stands behind a podium like this, and says some very difficult words: "It is different this time."

That gets us into a lot of trouble, because as growth goes past previous barriers, we begin to believe that it *is* different this time. And what do we do with that 'different'? Well, what we do with it is to say, "Well, if we can grow for longer and if we can grow forever," - as some alleged at the time - "without interruption, we have hit this new normal, where we are going to continue growing forever, then we can lower our risk threshold on all the decisions that we make politically and in business."

Any time there is a monster bubble of excess, you know there is going to be a very large correction that occurs.

What that led us to, was a supercharged period of global growth that lasted somewhere between 5 and 7 years. It generated a monster bubble of excess in the world economy. And any time there is a monster bubble of excess, you know there is, at some point in time, going to be a very large correction that occurs - and that's exactly what happened in 2008. That's why it was magnified as much as it was. That's why we fell into abject panic at the time and decided that we needed to pour out as much stimulus as the world felt that it could afford, to raise ourselves up from the depth that we had fallen to, and to preserve the financial system from going into collapse. We were on the verge of all of those things and stimulus actually rescued us from that.

But that stimulus revealed that many world leaders - with all due respect, everybody was in on this, so nobody is left out of this comment that I am going to make - world leaders proved that they had a lot of difficulty with grade 3 math. Because somewhere along the continuum as they were spending hundreds of billions of dollars this quarter to replace the hundreds of billions of dollars they had spent in the previous quarter, they failed to realize that it was the same amount of money in both quarters and that there wasn't an underlying economy that was taking the bait and growing. So the quarter-over-quarter growth rate was zero. Leaders were standing up and saying, "I don't understand why the economy isn't working, because I am cutting big cheques every quarter to get the economy going again."

Those big cheques were only enough to replace all of the cheques that were written in the previous quarter, so they generated no growth; they simply propped up zero growth. And since then, we have lived through a protracted period of sub-standard growth. There are many structural reasons that are given for this, but folks, when we have collectively created a monster 5 to 7 year bubble of activity, we are going to have a long period of very sluggish growth to get rid of, or use up that excess in our day-to-day economy. It hit the consumer sector, it hit the investment sector and has had manifestations all over the economy.

The economy is healing itself after all of these years.

So where does that bring us to now? Well seven years onto this protracted period of sub-standard growth, all of a sudden things started picking up. Once again people didn't understand why it was that we would be picking up now. Well our simple explanation for that was, "The excesses are exhausted, so enjoy yourself. Get on with those investment projects. Let's get our economies back to normal." And indeed the economy was doing that all on its own.

And so we entered a period where we were actually getting back to normal growth; believe it or not, it's not a new normal low growth scenario that we have out there. The economy was actually picking up on its own. Investment was, remarkably, with no policy coming into place to actually get it going, getting up on its feet all on its own. The Trump tax reductions in the United States came after the investment wave started to pick up. They have augmented it, but they didn't cause it.

Here we are, right now, at a great crossroads where growth is rising for the first time in a long while. Onto that we drop, what? All kinds of policy confusion. Businesses who would otherwise naturally invest at this point in time are holding back. They're holding back because they don't know what the policy architecture is going to be.

But if investment were growing, would there be enough labour in the economy to hire? Aren't unemployment rates at historic lows? They are; but they ignore millions of workers around the world who have simply dropped out of the labour force out of discouragement. You see sub-standard post-recession growth left many behind.

Economists want to talk to us about all the structural reasons why these people have been left behind. The structural reasons are likely valid, but one of the prime reasons that never gets discussed is sub-standard growth. And if growth is going to pick up again, then naturally these displaced people should be coming back into the economy again. And folks, one participation rate after another, age cohort by age cohort in the United States, has demonstrated that without any kind of policy action on any politician's part this has naturally started to occur. Again, the economy is healing itself after all of these years. Well, I as an economist stand back from that and think, "This is a really remarkable thing that's going on."

Is the next recession imminent?

So our difficulty at the moment, as far as I'm concerned, is not whether we are going to fall into a recession. Folks, we have pent up demand in the two 'engine' economies of the world: Western Europe and the United States. That's not a bubble of excess activity; it's actually the opposite. It's a cavern of demand that needs to be filled and growth will do that. Well if you have an anti-bubble out there, I have a very hard time going out there and saying the economy is ready for its next recession. Now, we don't have time to go into all whys and wherefores for that, but I have plenty of information on the EDC.ca website. If we see the economy that way, then it's a very different picture from what many are saying.

A strengthening of globalization

Now, is all of this trade acrimony, everything that is going against globalization at this moment, going to wreck it all for us? Well, I choose to believe no. Because we here in North America are the first ones that have a new trade deal that has been put together. And absent all of the rancour about tearing the deal up, and globalization being a thing of the past, and getting on with hegemonic and country-only isolationist policies, we have actually seen, inside of the CUSMA deal, a strengthening of globalization.

I can only imagine that in Washington D.C. pieces of that torn-up Trans Pacific Partnership were being glued back together again, because key tenets of that policy were actually incorporated into ours, dealing with some of the most contentious trade issues that we have

been wrangling about, perhaps since the signing of the NAFTA deal itself. And I do also believe that the China-US trade spat is about strengthening globalization.

I'm one of those, perhaps fringe people, who believes that BREXIT is going to end ultimately well. The reason for that is, that the cost of not doing so is something that no politician wants to answer to his or her people for. You may think: "Well, we're impossibly positive about things."

Go for the gap that is being left behind by people who would prefer to sit on the sidelines.

We are confident enough in what it is that we are doing that we are encouraging Canadian businesses to do three things. One is to go for the gap that is being left behind by people who would prefer to sit on the sidelines. Because where this is actually going, is strengthening the position. If you grab that business now, you will be in much better shape than those who have sat on the sidelines.

For those that are sitting on the sidelines, investment is piling up.

The second thing, though, is that for those that are sitting on the sidelines, investment is piling up. And if we're right, and trade deals are put into place and it dawns on everybody that we're not wrecking our architecture, but strengthening it, that money is going to wash back into the economy. I want Canadian exporters to be the first to be able to get that. I want the partners that they're dealing with in your countries to be the first, to be able to cash in on this as well. So we are spreading this message around the world.

Diversification is already happening around the world. So to not officially, or unofficially join this diversification move is not the wisest thing to do.

Finally, I would say on the economy and where we see it going, we believe that diversification is already happening around the world. So to not officially, or unofficially join this diversification move is not the wisest thing to do. Well, I welcome your comments and questions on my views of the world, as I close my remarks.

Let me be very clear, one thing I can say with absolute certainty is, that in some ways, maybe even in a big way, this will be an imperfect forecast. I believe that over my career, my forecasts have been unusually blessed. I have been able to make bold calls that have actually occurred and I am more than happy to go over those with you. Those are the moments I like to talk about. There are a lot of other very forgettable moments that I'd probably rather not discuss. It's sort of like life, isn't it? We have our high moments and we have our low ones too.

Economy developments are going to come and go, but sometimes it's important to talk about serious life issues.

Well I'm going to end on a more sober note. There are things out there that we can forecast with absolute certainty. Taxes are usually first on the list. Death is another thing that is absolutely certain for all of us. I'm not going to address taxes today, but I do want to address death. It's a very sobering topic, but as I get older and witness the passing of family members, loved ones, heroes, mentors and especially at the moment beloved members of my parents' generation, I'm getting a whole new appreciation of the brevity of life and the need to prepare for that inevitability.

Some, maybe all of us, desire in our lives to leave a legacy.

Economic developments are going to come and go, but sometimes it's important to set them aside to talk about serious life issues. Some, maybe all of us, desire in our lives to leave a legacy. Something to provide for our offspring, either tangibly or in accumulated memories. You know, it's a notable and laudable desire.

But I think that wise King Solomon in all of his accumulated wisdom, his innumerable possessions, his military might, his peaceful reign, his vast number of loved ones and offspring and what did we see at the end of his life? A man tormented by existential ruminations of the meaning of it all. And it's at times a vacuous response to the question of: "What comes next after life?"

I think of our propensity to change, to forget the past and favour the latest technology or innovation. I think about the temporariness of financial wealth and wonder how easy it really is, to hope that I personally will leave a lasting legacy.

For me, placing hope in one's own goodness is a very risky venture. I don't know how much of a legacy I will leave...but I'm not placing my hope in it.

Others place their hope in living a good life, doing good deeds, developing and practicing principles and virtues that are good and wholesome and benefit others. These are also laudable, but I personally cannot depend on that. Because as good a life as I may think I have lived, I have still made mistakes that blemish my record. And I've yet in my life to meet a perfect human. For me, placing hope in one's own goodness is a very risky venture. I don't know how much of a legacy I will leave - I hope to leave one - but I'm not placing my hope in it. And I've already admitted I'm far from perfect.

So what is my reason for hope? Let me tell you a quick story. I was a young boy, maybe 8 years old at the time. I'm of Scottish heritage and so managing finances means a lot to me. And I had taken out - with apologies to my Scottish friends here - a library book and I was way beyond the date where that book was to be put back in again. My fines were mounting by the day and here I was, as an 8 year old, losing sleep, wondering how I was going to pay this fine. I finally got to the point where I said, "I can't pay for this thing, but I've at least got to stop the fine from mounting."

When I walked into the library, there was a long line up and my turn came. Mrs. Barrott was sitting there and she was a very stern lady. I thought, "I'm never going to get this past her."

I said, "Here's my book."

She stamped it and moved it on, and I said, "Wait, what about the fine?"

She said, "Don't worry about the fine."

Well I walked out of that library and I was walking on air. You know, as a Scottish person to have my fine cancelled like that, it really meant something to me.

Well when I was 17 years old, I mounted a fine of a different kind. I was raised inside of the church, I knew better. And I walked away from all that I knew. In a very short period of time, I got myself into a lot of trouble and I had something very remarkable happen to me at that point.

There are many religions, many beliefs, many creeds that have a notion that at the end of our lives we will have an examination. How have we lived our lives?

Even though I had heard this message over and over again it struck me with a new certainty. We're used to going through school, passing examinations, having deadlines at work that effectively are examinations. There are many religions, many beliefs, many creeds that have a notion that at the end of our lives we will have an examination. How have we lived our lives? Are we right? Are we not? Are we on good terms with the divine, with our maker?

Well that's an exam of all exams that I do not want to fail. But, I already go to that with a failing record. I've made mistakes. I have blemishes. I have sinned, if we want to put it that way. I have done things that are wrong. Although I am ashamed of those things I cannot, on my own erase them.

Somebody at a point in history stood in my place and took the penalty for me.

And what I learned when I was 17 stays with me to this day and burns inside of me. I came face to face with the truth that somebody at a point in history stood in my place and took the penalty for me. The Bible says, that the wages of sin is death. That's what was coming to me. The Bible also says in that same verse, that the free gift of God is eternal life in Christ Jesus our Lord. And what he did was documented in historical fact that could not be disputed, because Roman census systems chronicled exactly when he was born. And what was an undisputed fact at the time - and I believe to be an undisputed fact now - is that he lived a perfect life. He then died in my place, so that I could actually be made whole, perfect in the sight of the divine.

Folks, that's what my hope rests in. The fact that he was, as a historically documented fact, raised from the dead, gives me hope that I can actually live this life in line with his divine rules, his order. I wanted to share that with you today, if perchance you've wrestled in your life with the same thought and wonderings about life.

Life churns, the economy rolls up and down, we have conflict in our lives that we deal with. And that certainty is going to happen to all of us. And I don't think there's a greater thing that I could share with you today, than that experience that I had, which I believe is as real as anything that has happened to me in my life. And so I hope you will receive it in the love in which it is transmitted to you. And I would be delighted to talk with any of you individually about that, or about the economy if you want to. Thank you very much for your kind attention.

Q & A

Q: *Mr. Hall, any thoughts on the size of the U.S. national debt?*

A: This is one of the most often asked questions out there. And clearly the perspective on that is that when the world economy tumbled into recession back in late 2008, it was so deep that there was an outpouring of stimulus that for its size, synchronization and speed, was probably unprecedented in world history. The calculations that governments made at that time, right across the Western world, put together the equivalent of about 3.9% of area-wide GDP. That is a phenomenal amount of instant stimulus. Imagine an economy that is growing by 0% and you throw that much money into it, multiply that around the economy the way that the economic multiplier works and you're going to get more than 3.9% growth in economies that can only sustain growth of somewhere around 1.8%. So that was a phenomenal amount of stimulus.

Now, what that did given that the economy was going backwards at the time, was to cause the debt to GDP ratios of all Western nations to balloon. The ones that we heard about were Portugal, Spain and Greece. As a piece of perspective on this, Greece had a debt-GDP ratio that went up to about 177%. Now, the U.S. prior to this had a debt to GDP ratio of around 65% which most would consider to be sustainable. The Maastricht criteria for Western Europe is 60%. The U.S. fell into recession, stimulated the economy and their debt to GDP ratio ballooned to what it is right now: 105% of GDP.

Now we Canadians will all remember that a similar thing happened to us back in the 1990-1991 recession. Because we had about a 65% debt to GDP ratio and we were very closely moving in on 100% debt to GDP. The ratings agencies pounced on us and that's what caused the obliteration of a historic party. A new party came up in the middle, [their plan] was written and the party that actually got us into trouble in the first place, was actually tasked with getting us out of trouble. We saw that all before, so 100% debt to GDP is a very dangerous point to reach. The U.S. has gone through that and they've suffered with the ratings agencies as well.

Now, how do we deal with a situation like this? Because Americans do not like the fact that their accumulated debt is a bigger number than their annual GDP. There's a lot of backlash and reaction to that. We as nations are all dealing with the same thing. So let's remember that America's problem is multiplied right across the developed world at the moment. And Japan is probably writing the book on this because their debt to GDP ratio isn't 105% it's 240%. And I don't know how you deal with a situation like that. I really don't understand the dynamics of getting out of a situation like that.

So what I would say to the U.S. problem here is that the U.S. economy, love it or not, is the most efficient economy on the planet when looking strictly at economic data. I'm looking at the three pillars of how you build an economy: labour, capital, and total factor productivity. On all three of these [the U.S.] is a fully developed nation. The one thing that I look at is the growth in productivity over time, which, in recent years has been 50% to 75% greater than the rest of the OECD. In fact, that number actually includes them, so if you take them out their wedge is higher.

So, they are the economy of all economies that can grow out of a debt problem like they have right now. They move labour and capital around efficiently, and that's what gives rise to the superior rate of productivity growth that they have. So, that's just the facts. That's the way America was built. That's how fluid the economy is. And so, of all nations that are dealing with 100% or higher debt to GDP ratios at the moment, I think that America is the one that can most easily grow out of it by itself.

Q: *In terms of monetary policy, you really don't talk about the central banks. Yet the central banks, in terms of their actions over the last 8 or 9 years, have been unbelievable: the money expansion and also negative interest rates which actually still exist in Europe. How can those economies actually be strong when they need negative interest rates? Or interest rates as we saw with the federal reserve too: as soon as you increase interest rates, you pull a little liquidity out of the system and a lot of problems start to happen in the U.S., certainly in the capital markets. How do you see that playing out with the central banks with regards to their involvement in order to keep this thing going?*

A: Well that's an excellent question and it's not an easy one to answer. I think if I had an adequate answer for that I would get a PhD right on the spot. But we noticed back in the fourth quarter of 2010 that something was amiss in the way that the financial system was working. We observed at the time that commodity prices, which had tanked at the end of 2008, went right back up to previous peaks. And yet at the same time producers were trying to find supertankers that weren't going anywhere to store surplus oil. We had so much oil coming into the system even though usage rates were low, but at the same time inventories were ballooning and prices went back to previous peaks.

That offended everything I learned in Economics 100. That doesn't work. So we had to somehow square that circle. We had to figure out what was going on at the time. That's when

our view of what quantitative easing was actually doing to the world economy was birthed. We haven't had to change the model since.

We just tried out our model at the time - we were a little tentative about going out with it - but what it's telling us at the moment is yes, these are very unusual times and we've never done this before. So many PhD theses will actually be created in the coming years, trying to explain everything that has happened. We're still trying to get our minds around it.

But the way that it interacts with the view that our team has of the stretched out cycle is that because that bubble was so large and we needed so much time to actually exhaust those extra investment or consumer resources that were created at the time, those resources needed some kind of undergirding, and the financial system needed that undergirding as well.

But, if we can have inadequate growth for such a protracted period of time, how could we possibly be ready for the next recession, with all that sub-standard stuff? Unless, psychologically we've talked ourselves into some kind of 'new normal' existence that says that that's just all we're going to get. And so with much less growth, we are going to create recessions for ourselves.

Okay, so how does that get us back around then to the state that we're in. Well, if we're still mid-cycle, as I believe we are, then we have lots of room to normalize interest rates and get ourselves out of this very low funk. The difficulty is, that we now have people who might have gotten a job in 2009 and they're going into the 10th year of their employment history with no knowledge of normal interest rates. So, how are they actually going to be able to function? They don't have tools on their belt to be able to deal with what normal interest rates are like. If we've got business strategists and policy makers that are making their decisions based on an episode of time that is very contrary to most of human history, then we could be in a bit of trouble.

We need to rely on those who are older and wiser - as unpopular a notion as that might be - to be able to get ourselves back into that position. And with very great respect to the Japanese economy, I don't think anybody wants to have the same post 1990 experience in their economies. They saw 30 years of perpetually low interest rates and very few solutions as to what to do about it. It's a very perplexing situation. I'm very heartened to see, that to our projections, when we would actually reach the magic moment of the end of quantitative easing and the resumption of moving toward normal interest rates we're pretty much bang on with our calculations. And it was all based on when these excesses would be used up inside the economy.

There are many avenues I could go down to answer, or try to answer, that question and all of them would be inadequate in the time that we have. I'm not trying to take credit for our team, in terms of seeing through this thing, because we just went right back to the basics to try and figure out how everything connected together. So we're getting out of it and I'm glad to see

that the federal approach to this, which has been very measured, and the Bank of Canada which has come into that federal slipstream, are two that are actually showing the way as we go forward. I believe Europe is always a bit behind the curve when it comes to decisions like this, so they're catching up.

Q: *I'm wondering what, if anything, can EDC do to help at least influence this kind of attitude that doesn't appear to be what I would call 'small business friendly.'*

A: We are passionate, at EDC, about small business. It's in our mandate. Small and medium sized enterprises are our target. We are incented based on the business that we actually do, and I think you know about the structure of that. The way that we actually deal with issues like this is as a crown agency, we operate at arm's length to the federal government.

What we have recently created is what we call our knowledge business. We are itemizing and publicizing these difficulties and the nuances of doing trade around the world. We understand that many people in small businesses are doing their own HR, accounting, product development, trying to sell the product, they're trying to make sure that they can pay their taxes at the end of the year. You've got multitasking that's going on ad nauseum.

What can an agency like ours do to actually shed some light on that? Well, I'm a personal example of that, going around the country and transmitting opportunities around the world. Not just in the U.S., but around the rest of the world and it's a nice big competitive place with all kinds of nice growth inside of it and every country has its own nuances.

My team does risk analysis, we provide 7 ratings per country. That's how detailed our risk analysis is. There are other groups at EDC that are responsible for getting together legal and trade information. We work hand in glove with the trade commissioner service and all of their operations in 160 offices around the world to bring that information to bear. We're trying to make it more accessible so that not only do businesses know how to respond to that, but that it's in the public domain shedding light on some of the issues that need to be dealt with.

Q: *What will be your message to policymakers to heading warnings that world competition financial and speculative economy, deregulations are leading the world to a major crisis with impressive consequences on peace and stability?*

A: These are questions that deserve very good answers so I'm not going to be able to do those questions justice given the time that we actually have. How do we address that? How do we deal with some of the issues, with the gaps that we actually face? How do we deal with some of the world's greatest issues? I can only answer that from my little corner of analysis and what it is that I do.

I do believe that what we have seen rise up over this period of stretched out cycle...if I could boil it down to one thing that we really need...I believe we need to be cognisant of and develop

strategies to address, it's those who have been left behind by the substandard growth that we've seen since the great recession. The economy simply has not been able to absorb the same number of workers that it would traditionally do over this period of time. So some people say, "Well you know with an unemployment rate that is less than 4% in the U.S what are you talking about?" As if to say, "How could anybody possibly be displaced inside of this?"

Well behind the unemployment rate, folks, is something called the participation rate. And the only reason that the unemployment rate is as low as it is right now, is because we have had participation rate that has tanked repeatedly year after year in a way that we've never seen before. This is not an ageing of the population phenomenon. It's an inadequate economic growth phenomenon.

So here we are 10 years beyond the great recession and populism, which is a manifestation of this displacement that is out there, is actually gaining strength. Populism usually gains strength when you have a great recession that is followed by no answers and a protracted period of nothing. And then the recovery takes over and populism goes down.

So why do we have populism that is rising over time? There are many answers to that. But the discontent and the acrimony that we see in the world and the lack of desire to come together to solution the problems that we have, I believe is anchored in the fact that we have not understood the inadequacies of the economy and the lack of hope that millions have around the world, even in the most developed economies.

I've steered that in a particular direction, but I believe in going to the root of problems. We can try and deal with the symptoms but the root cause of many of our problems, is really this stretched out cycle and this period of very sluggish growth we have seen over an extraordinarily long period of time. And if we can understand that, develop responses to it, and understand that even after that protracted period of time it's okay to invest. It's now okay to invest out there, to create new capacity, to reabsorb these displaced into the economy. I do not believe that they have been displaced fundamentally because of the rise of technology. I do not believe that they have been displaced by other structural factors that we economists routinely come up with. I think it's much simpler than that.

That was a great set of questions. There is no way that I was going to be able to nail them, so that's the direction that I drove them in. I tried to bring you to the root cause of things and that is at the base of much of our analysis. I do want to thank you very much for your great questions and for having me here today. Thank you very much.