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## **THE REITH LECTURES 2020: HOW WE GET WHAT WE VALUE**

**Reith Lecturer: Dr. Mark Carney, former Governor of the Bank of England**

### **Lecture 3: From Covid Crisis to Renaissance**

**TX: 16.12.2020 at 9am, BBC Radio 4**

**Anita Anand:** Welcome to the third of the 2020 BBC Reith Lectures, with the former Governor of the Bank of England, Mark Carney. Now, in his series, How Do We Get What We Value, he is discussing how putting financial values above everything else has contributed to many of the biggest problems that we're facing today, including crises in credit, climate and in this, his third lecture, COVID too. The pandemic, he observes, has forced nation states to confront just how we value health, wealth and opportunity, apparently forcing governments to choose between the life of its citizens and the lifeblood of the economy. Now, Mark's going to argue that this is a forced dichotomy and that we should be moving beyond the narrow and the financially driven reaction to COVID-19.

The third of his four lectures is called: From COVID Crisis to Renaissance.

Mark, it's over to you.

**Dr Carney:** Thank you, Anita, and thank you all for tuning in.

Near the end of February, I sat in a gilded chair in the Al Yamama Palace in Riyadh at my last meeting of the G20 Finance Ministers and Central Bank Governors. After having attended these gatherings for 15 years, I was well familiar with their rhythms. The heads of the international organisations would warn of the risks from unbalanced growth, growing inequality and chronic environmental unsustainability. Yet, as memories of the global financial crisis faded, ministers would often appear indifferent. They were increasingly scripted, rattling off talking points prepared by their officials, and the combination of jetlag, the immediacy of domestic politics, and slavish devotion to social media meant that few paid much attention when they weren't speaking. That day, however, something was different. Several ministers spoke in agitated tones of an impending catastrophe. Heads snapped up from iPads. Everyone around the table was familiar with the coronavirus, then thought to be confined to parts of Asia. Some could even name its strain, COVID-19, but few were prepared for what would be required in just a few weeks in their own countries, and no-one imagined how the professional and personal lives of everyone they knew, everyone on the planet, would be transformed, and how we would soon be confronted by fundamental questions about what we truly value.

So, how could this have happened? In his classic treatise, Leviathan, Thomas Hobbes described back in 1651 how the fundamental duty of the state is to protect its citizens from violence. Over the centuries, the

government's role as protector has been extended to areas as varied as promoting financial stability, protecting the environment, maintaining data privacy, and, yes, preparing for a pandemic. For some people, these are essential public goods. To others, this is the creep of the nanny state.

Last year's Reith lecturer, Lord Jonathan Sumption, even argued that we have developed an irrational horror of death, leading us to protect lives at exorbitantly high cost that previous generations didn't contemplate. In the event, states failed in their duties to protect and now the COVID crisis is forcing us to confront questions of how we value health, wealth and opportunity. Looking back at the initial response to the catastrophe, something is striking. Governments and citizens drew on their core values and made decisions based on human compassion, not financial optimisation. Governments prioritised the health emergency and then tried to address the resulting economic consequences. The economy was put on life support in order to save lives.

Governments have asserted a level of control over our everyday activities that has surpassed anything in modern history. In many countries, leaving your home to exercise or visit family members has been prohibited. People have been deprived of their livelihoods. Staying at home during a lockdown or wearing a mask following government guidance is part of the Hobbesian bargain: obedience in exchange for protection. Many are willing to comply with decrees of a legitimate and trusted power, but such state legitimacy must be continually earned. Compliance will be undercut if concerns develop about fairness, administrative competence or the validity of the strategic objectives themselves. Most people across the globe have supported lockdown measures and massive government spending, even if they perceive little personal risk, and they've gone well beyond compliance to active charity. So, we mask delivering food to the vulnerable, becoming NHS volunteers, and sharing the heroism of frontline workers. Authorities, in turn, have drawn on this spirit of altruism by emphasising the good that social distancing does for others.

The willingness and, at times, eagerness of people to help their fellow citizens has come at great cost. Lockdowns deepen economic uncertainty, disrupts social lives, and bring incalculable levels of stress and anxiety. Solidarity in a pandemic is an example of positive behavioural contagion. If those around us observe lockdown rules or wear masks, we're more likely to do so as well. This concept, which can be also termed a social meme, goes back to the moral sentiments of Adam Smith, and it reminds us that virtue is not a finite resource to be conserved, but a value that grows with use. At the beginning of the pandemic, many said that this tragedy underscored our common humanity. Put another way, we – we are all in the same storm. It quickly became apparent, however, that we were in very different boats. COVID is fundamentally unequal in its impact and it has exposed deep inequalities in our society. The virus targets older populations, those with pre-existing conditions like obesity, hypertension and diabetes. In the UK, men in low-skilled jobs were found to be almost four times more likely to die from COVID-19 than professionals. In England and Wales, the mortality rates for black Pakistani and Bangladeshi people were nearly double that of white people, and the same grim ratio holds for African Americans.

The economic impacts of containment measures also fall differently across populations. Lockdowns have decimated jobs in service, hospitality and entertainment industries. In the UK, nearly half the jobs that were at risk of permanent layoffs were those with wages of less than 10 pounds an hour. The increases in unemployment affect the young, minority ethnic communities and women to a materially greater degree. Closure of primary and secondary schools will undermine equality of opportunity in the years ahead. Education under lockdown depends on parental guidance and access to computer and good broadband, reinforcing the structural advantages of children coming from richer households. At the height of the spring lockdown the UN estimated that approximately half of the 1.5 billion children out of school did not have access to a computer. The cost of these inequities will mean greater income disparities and higher unemployment in the future. The young will pay a significant economic price, and that's even before the possibility of higher taxes over their lifetimes, to fund the current emergency. As the costs of preventative measures grow, so too does the imperative for a clearer strategy that values life, opportunity, fairness and sustainability.

One of my mentors when I was starting in finance was Jerry Corrigan. Tough as nails, Jerry was in charge of the New York Fed during Black Monday in 1987, and that was the day the US stock market crashed by its largest fall in history. During the volatile days that followed, many clamoured for trading to be halted. The market, it was said, had taken leave of its senses and needed the equivalent of a child's timeout, but Jerry would have none of it. In his view, the problem with closing the market was that you would have to open it again. As military leaders know from a young age, and many politicians only learn at their cost, starting a war is easy, exiting the field of battle much harder. Having closed the economy, how could governments safely open them again? Many

frame this decision as a trade-off between the health and – and between health and economic outcomes, and this demonstrates in the starkest terms the importance of understanding the relationship between value and values. Now, there are ways to turn this decision into a pure calculation using techniques such as value of statistical life and cost benefit analysis, and these weigh the current and potential future economic damage against monetary costs, estimated monetary costs, of increased ill health until the marginal costs and benefits of death and commerce are equalised.

Now, valuations of life are not a new concept. The prophet Muhammad endorsed a compensation of a hundred camels when the life of a free Muslim was taken. Under old Anglo-Saxon law, the perpetrator of a murder owed the victim's family an amount based on the wealth the victim had accumulated during their lifetime. In the 17<sup>th</sup> century, Sir William Petty put a value on life in order to measure England's national wealth. He valued the population according to an estimate of the average annual labour value multiplied by 20 years. This resulted in a figure of 80 pounds per head, which Petty noted could be used to – to estimate - the figure of 80 pounds a head could be used to estimate national losses from events like plague or a war.

During the industrial revolution, crowded cities and unsafe working conditions led to the development of wrongful death claims and the proliferation of life and accident insurance. As with Petty's calculations of national wealth, the focus of compensation of insurance companies and the judgments of Courts remained on lost future earnings. Valuing life this way makes sense when the objective is to ensure the deceased's family remains financially secure, but the shortcomings of the approach become evident when we're assessing the desirability of preventing death.

If we only cared about the financial security of survivors, we'd never spend any money to save the life of retirees or those permanently out of work. In a similar vein, in the early 1950s the RAND Corporation realised that the value of the lives of Air Force pilots was greater than the cost of their training. Even Dr Strangelove could see the difference between intrinsic and replacement value. These limitations ultimately led to a change in the valuation of life that has many parallels to the subjective value revolution discussed in the first lecture.

In a seminal article in 1968 the Nobel laureate, Thomas Schelling, shifted the valuation from those left behind to those who would die. Schelling's second insight was that calculations didn't need to value life but instead, they needed to value the postponement of death. Schelling realised that people's preferences could be determined by examining what people were willing to pay to reduce the risk of death by some extremely small amount, and to answer that question he suggested conducting surveys and looking at existing prices for taking and avoiding risk.

An example would be a wage premium for someone who takes on a dangerous job or their spending, such as buying a helmet, which reduces the probability of a bad outcome. These different methods lead to surprising variance in the value of statistical life across countries. The Canadian life is worth between 3.3 and 9.9 million Canadian dollars. The European Commission rates the European life between euro 1 and 2 million, and the UK Department of Transport uses the disturbingly precise figure of 1,638,390 pounds. Americans are valued between 1 and 10 million dollars, with the average trending upwards at a rate that rapidly exceeds inflation. America isn't just great again; it apparently never has been so great.

Today, public policy decisions around the world use values of statistical life and the related concept of quality-adjusted life year as part of what has been determined, or has been termed, the cost benefit revolution. The attraction of doing so is that financial values encourage clear decisions. The question is whether this clarity is justified and whether it reflects the values of society and is it appropriate to apply it to such a comprehensive a challenge as COVID.

We put a value on pain when, through the market, we set a price for aspirin, and we put a value on pleasure when we set a price for Pepsi. To Schelling, the intangible qualities associated with life weren't that different from other consumer goods. Now, I disagree and there's four reasons why the value of life is radically different. First, unlike consumer goods, life is what economists term a "non-positional good," that means no part of life's value stems from the ownership of comparable goods by others. We do not feel any better off when those around us have less life, though there is evidence that shows that we often do feel better off when we have a nicer car or a bigger house than our neighbour. Evidence also shows that workplace safety and risk of death are valued in absolute terms. In other words, people will support measures that increase their life expectancy, even if it increases the life expectancy of others by more. It may seem odd to have to state it, but life is different

from Pepsi. Second, Schilling's faith in the wisdom of crowds can be questioned. Estimates of the value of statistical life rely on assumptions about markets and human nature that are seldom, if ever, realistic. It's difficult to believe that a person taking on a higher risk job knows the occupational probability of death and rationally analyses this probability against their wage premium. Moreover, can the frailties of human behaviour be overcome by the law of large numbers?

To put it bluntly, would we be in our current predicament if we valued mortality consistently? The cost of pandemic preparedness was less than two days of lost output from the lockdown. What's more likely, that we radically increased our valuation of life this year or that our human frailties, including present bias and confirmation bias, meant that we underinvested in resilience as a society? Thirdly, there are moral issues that transcend these methodological flaws. In classic utilitarian fashion, methods of calculating the value of life aggregate individual preferences without considering their distribution. Those in their fifties report a higher value statistical life than those in their twenties, as do people in advanced economies, relative to those in developing economies. Are we comfortable that policies should be made accordingly, maximising wealth, not welfare? Moreover, while advocates of herd immunity suggest shielding the vulnerable groups, like the elder – like the elderly and those with comorbidities, what of socio-economic groups that are more likely, and in fact most likely, to catch the disease and more likely to die from it? I'm unlikely to catch COVID working online but those who deliver my packages, prepare my food and provide me with healthcare are consistently and constantly exposed. The path to herd immunity runs directly through the inequalities in our society.

Finally, monetising life ends up trivialising the very values that make it worth – make it worth taking the decision in the first place. As we saw in the first lecture, calculation can corrode. As weeks turned to months and the prospect of a return to normality receded into the distance, three things changed. First, the economic cost began to mount, with government deficits reaching levels not seen since the heights of the Second World War. Secondly, prolonged inactivity – prolonged inactivity began to erode the productive capacities of workers and companies, and finally, the unequal impacts of the pandemic on women, minorities and the young, and on the broader welfare of the population, including on mental health, domestic abuse and the non-treatment of other diseases, became increasingly apparent, and this renewed calls for explicit trade-offs between health and the economy. It's not clear that these are best answered by cost benefit analyses, cost benefit analyses that can be fraught with dubious assumptions, flawed methodologies and hidden inequities.

More practically, we need to resist the siren call that there is a trade-off between the economy and our health. As my former colleague at the Bank of England, Jan Veliger, has documented, there's extensive cross-country evidence that these objectives are complementary, but one example, data from various countries indicate that more than 80 per cent of the reduction in mobility has been voluntary as the prevalence of the virus increases. Recent surges in infection rates have undermined consumer confidence slowing the recovery. The fact is, people are reluctant to go back to work, or to the office, or to go out to spend, when they're concerned about their health and that of their friends and family. The lesson is that we – we need to either control the virus or credibly lessen its impact on people's health.

So how should we proceed? As advocated by the economists Nick Stern and Tim Besley, the ideal is to define our core purpose first and then determine the most cost-effective interventions to achieve this goal. Such cost effectiveness analysis explicitly seeks to achieve society's values. I've argued in the wrong hands, cost benefit analysis can help determine them.

During the pandemic people have prioritised the values of solidarity, fairness and responsibility, and this suggests that COVID policy should be centred on health and social outcomes, minimising the risks of death, ensuring that the sick have adequate treatment and buying time for better treatments and vaccines. The burdens of social distancing and the benefits of any state protections should be shared fairly across society, and once these objectives have been achieved, policy makers should seek to maximise the benefits to welfare and minimise the threat of a resurgence of the disease by selectively opening up. It does make sense that the unifying objective is targeting the low R or reproduction number. Said another way, the average number of people infected by any individual with COVID.

R brings public health and economics together. Relaxations of restrictions increase R, with economic, health and social consequences. A strategic approach to COVID is the best combination of policies to achieve the desired level of infection control at minimum economic cost with due respect for inequality, mental health and other social consequences, and calculating those costs then provides guidance when considering different

containment strategies. That means paying attention to the impact on – of measures on fairness, the social returns to education, intergenerational equity and economic dynamism.

In deciding which sectors of the economy to open or close, policy makers must weigh up externalities, in other words the spill overs from one activity to another. There are classic economic externalities, such as when car production increases the demand for steel, but there are also infection externalities, such as when the opening of one sector of the economy, like hospitality, increases the spread of the disease. Policy makers should restrict economic activities that have weak economic externalities but high infection externalities, and open or even subsidise those with low infection externalities and a high and positive economic externality. Obviously, the biggest challenges are in those areas that are essential economically but also highly risky from an infection perspective, like healthcare, essential travel and education. Legitimacy and fairness demand that we should take into account how the disease and the economic shocks hit different parts of society.

As I've said, COVID affects the old more than the young, it hammers industries prone to spreading the disease, like hospitality, while reinforcing the competitive advantages of those that do not, such as ecommerce, eLearning and eHealth. This means that alongside broad-based support programmes, we need ones targeted at specific sectors of the economy and segments of the population. This isn't about picking winners, it's a reaction to COVID choosing losers.

In the same vein, fair access to healthcare is essential. If it's compromised, the bonds between the state and citizen will be undermined, feeding back to lower compliance and worse - and as a consequence of that lower compliance, worse health and economic outcomes, and the same goes for perceived fairness in terms of the privations experienced during lockdowns and social distancing. There cannot be one rule for the powerful and another for the rest. Managing COVID is a dynamic process. Decisions taken early on when information was limited and fear rampant, shouldn't be set in stone. Policies must be recalibrated with new developments, such as improvements in testing, better therapeutics and the prospects of a vaccine, developments that changed the risk profile of the disease, and with the build up of debt, the eroding skills of workers and the [rusting] of idle capacity of firms, our resilience is diminishing. It's also becoming critical to address, in many countries, disparities in education. As the crisis is accelerating technological change, we will need to support, increasingly, workers over jobs, promote the creation of new companies and ease the exit of those businesses that are no longer viable.

Finally, we need to spend public money wisely. It's not unlimited.(27:31) This isn't about a return to austerity but, rather, about more effective spending by supporting education and skills, and the productive capacity of businesses. In short, we will need, in time, to begin to move from redistribution to regeneration.

Now, the G20 will meet again later this month on Zoom. This time, leaders will have to look into their iPads to see, rather than avoid, each other. The COVID crisis has revealed the importance of the state and the costs of its failure. Governments undervalued resilience in the years leading up to the crisis, failing in their duty to protect their citizens. People across the world rose to the occasion, displaying their values of solidarity, fairness and responsibility, but at the same time, the COVID crisis has revealed deep strains in our society. Essential workers have been undervalued. There's a stark contrast between the solidarity in the crisis and those deep inequalities.

...

After decades of risk being steadily downloaded onto individuals, the bill has arrived. Entire populations are experiencing the fears of the unemployed and sensing the anxiety that comes with inadequate or inaccessible healthcare, and all of these developments have rightly raised expectations for fairness and greater equality in all spheres of life, and this points back to a deeper issue that comes across these lectures.

In recent decades, suddenly but relentlessly, we've been moving from a market economy to a market society. Increasingly, to be valued, an asset or activity has had to be in the market, and this crisis could help reverse that so that public values help shape private value. When pushed, societies have prioritised health first and foremost, and then looked to address the economic consequences. In this crisis, we know we need to act as an interdependent community, not as independent individual. The values of economic dynamism and efficiency have been joined by those of solidarity, fairness, responsibility and compassion. Many of those G20 leaders have described the current crisis as "a war against an invisible enemy." When the war is over, we'll need to win the peace. How we address climate change will be the test of these new values. After all, climate change

involves the entire world, from which no-one will be able to self-isolate. It's a risk today that's predicted by science to be the central scenario tomorrow, and it can only be addressed if we act in advance and in solidarity.

If we come together to meet the biggest challenges in medical biology, so too we can come together to meet the challenge of climate physics, and how we do so will be the subject of my last lecture. Thank you very much.

(27.14)

( Applause)

**Anita Anand:** Well, an absolutely fascinating and very timely lecture from you. Well, let's take some questions from our virtual audience now. We can start with Steve Baker who is a Conservative MP for Wycombe and a ...member of the Treasury Select Committee:

**Mr Baker:** Mark reminded us that public money is not unlimited but the pandemic's accelerated a phenomenon we've seen over the last decade. It's become the norm for the governments to issue debt and for another part of the state, the Central Bank, to buy that government debt out of newly created money from nothing. With this money the government pays its obligations. Now, I would say this encourages people to believe it's possible for there to be such a thing as a free lunch. So, as with the moral hazard created by the government bailouts of the banking system, to what extent will it [skewer] the quantitative easing, create moral hazards in our society in future whereby it becomes an openly acceptable premise that there is such a thing as a free lunch?

**Dr Carney:** It's a very important question and it goes to the heart of the institutional structure of – of the Bank of England, which the Conservative Government helped put in place, which is that you have independent committees of the bank that make these decisions and what's critical, and I think my colleagues ...former colleagues are making clear that they are independently making these decisions because they think for the pursuit of their monetary and financial stability objectives, that these purchases, the quantitative easing is the right thing to do – and at present the government's fiscal policy and the policies of the Central Bank are in alignment, they're reinforcing, but depending on the outlook for inflation and moral hazard and other risks in the financial sector-----

**Anita Anand:** Yeah, but when you say – yeah.

**Dr Carney:** Sorry – is that they can come into opposition and that's where the test of the independents come.

**Anita Anand:**....When you say "moral hazard," what's that meaning there?

**Dr Carney:** "Moral hazard," think not you, maybe me, when I take a rental car and I have insurance on it I am less careful with the – you know, the rental car. When you provide insurance to somebody it changes their behaviour.

**Anita Anand:** Let me go back to Steve Baker here because, I mean, it's one of those things that we – we heard, you know, there is no magic money tree, and now we seem to have discovered a magic money tree. Is your worry that culturally we can now not un-discover said magic money tree?

**Mr Baker:** That's absolutely right. ....I do think what we've seen here now is that government finances are where they are, we're able to finance this deficit because of the extent of QE, and I think that is teaching the public that there's a free lunch, that there's something for nothing.

**Anita Anand:** Steve Baker, thank you very much for your question. Let's go now to Sophie Harman, Professor of International Politics and an expert in Global Health.

**Ms Harman:** Really, what I wanted to ask was that COVID-19 really exposed the care crisis in the UK. If we're talking about values and what sort of values we want in society and our economy, how can we build an economy that values care?

**Dr Carney:** It's a great question and I think part of what we've seen is the value that people have put on – including in a non-personal way, on the elder generation and the response, which was well in advance of the actual government lockdowns. I mean, you see, actually, in mobility data and other, people started to respond to it, and a lot of the response was Rawlsian. In other words, it was taking care of others even though you

weren't directly affected yourself. I mean, my argument, in part, is there is a revealed preference which is to the credit of the country, the people in the country.

Then the more challenging thing is, okay, well, what do we do to invest more effectively in care, knowing that this issue is only going to increase, given the demographics, which requires a rethink, and I think you know better than I, Sophie, but even I was aware of it, is that tough issues around care have been dodged, effectively, over the course - particularly in the last 10 years. We have a window here where big issues, issues around resilience and solidarity, that we, as humans, want to put off for another day and as a society we want to put it off for another day, includes sustainability, includes care, okay, now's the time. We should take the opportunity because it's all there.

**Anita Anand:** We've got Kaz Rate, who is joining us from our virtual audience. Kaz..?

**Ms Rate:** Will the, apparently, putting the economy before the health of the nation in the USA lead to major international economic repercussions?

**Dr Carney:** I think there are a few repercussions of the US policy as a whole internationally. One is that I would argue that the US economy will be weaker in the next, certainly, the next six months than it would have been if the disease had been properly handled. And then measures, harsher measures as we've seen in a number of countries, have to be ultimately taken to get the disease back under control, and so that will have economic impacts, absolutely. I think the second point, Kaz, is that the global response, in part because of an indifference by the United States to a global response to COVID has not been up to the task. That will mean weaker economies and a weaker recovery in emerging and developing economies because they just won't have the resources. They don't have the resources today, and it could be a slower rollout of vaccines when they come there, and there's there is a human element to that, it's humanity, but there's also an economic element to it, and there's also a disease element to it, which is that the longer we have COVID coursing around the globe, the more likely it is to mutate and we have subsequent waves and bounce back. So, their global response is not in place and one of the big tests of the US Administration, all administrations, will be not just getting on top of it domestically but what we do internationally.

**Anita Anand:** ... Can we talk about individuals now? Because, you know, for people who are at home trying to pay their rents, trying to buy their food on less money – well, let's take a question from Chris Naylor now, Chief Executive of Birmingham City Council, and Chris tell me what your concern is for those people who power the economy but at that level?

**Mr Naylor:** Yeah. Well, I guess, I think, what we've – what we've, I guess, seen in the last six months or so are those structural inequalities that you were talking about, Mark, that have been hidden in plain sight for many years and that have now been kind of revealed by COVID, and they – those – those barriers, those inequalities that people feel are very much driving demand for services that we are increasingly struggling to be able to afford to provide in the ways in which we've traditionally done so. So, I guess my question, really, coming out of all of this and in response to what you've been saying today, is the appetite for the kinds of public service reform we're going to need to see in response to those challenges that you've talked about, and I suppose the context is, quite aside from, kind of, the many more years of fiscal restraint we're likely to be seeing, the kind of profound frustration that many of us on the frontline feel about our ability to innovate and support people in new and novel ways that certainly are potentially more cost effective, that both build on and draw on the solidarity of which you've been talking about today, and the – the challenge, I guess, is essentially we are working within models of public services that were kind of designed by our great-grandparents' generation to meet the needs and risks of their times, but aren't being built from first principles to address the kind of risks and issues of today's economy and society. So, I suppose my point is do policy makers understand that? Do they get the need for change and the nature of what that change might be?

**Dr Carney:** That's a fantastic....One of the small-p political economy, the social realities of this crisis, is it an opportunity for a social reset? What do we value, what – and how are we going to go about it, achieving it, and given the solidarity which *has* been demonstrated, it really has been demonstrated spontaneously by citizens, how do we bring that into the system and how do we maximise it? That's the first point. One of the things that has happened with this is it's pulled forward change that was probably going to happen anyways in terms of and, again, I'll lean on the online economy and pulling forward elements of the "fourth industrial revolution," Okay? Whenever you have these big technological shifts, there's big impacts and they tend to exacerbate

inequalities, you have to do massive retraining and retooling of your economy and that which we probably thought we were going to do over the next 20 years, it's been pulled forward into this decade, and we really need to think about how we're going to do mass retraining and reskilling, which is a related point to what Chris is talking about

**Anita Anand:** Chris Naylor, let's go back to you. Do you see that happening and being played out in Birmingham?

**Mr Naylor:** Yes, well, I think what we're – what we are having to do in – in relation – in, you know, respect of the – the financial challenges that we're experiencing over the next two to five years, is think from first principles, how we support people with the kind of – the root causes of the reasons why they are coming into our services, rather than dealing with the presenting need, and that feels to me to be the big public service reform challenge. We know King's Fund health charity will say that over 60 per cent of health expenditure these days is spent on preventable conditions for which there are no cures. We cannot carry on with a model of public services that operate in that way. We have to, instead, I think, double down and invest in those preventative measures which requires a degree of solidarity and proximity with people that we've been talking about, but that does require reform, and I do think – I agree with you - that Agenda has been brought – brought into sharp relief and – and needs to be speeded up in the the years to come. What I don't see is the kind of – the political imperatives from the top, in this country or elsewhere, kind of recognise that's the context we're in.

**Anita Anand:** Thank you very much indeed your question. Let's turn now to Paul Krugman, Professor of Economics at City University of New York and an opinion writer for The New York Times. Professor, your question, please?

**Professor Krugman:** Well, Mark, I'd like to ask you to, if possible, argue me out of the pessimism that I'm feeling right now. The overarching issue, you've alluded to that, you know, beyond COVID climate change it's the fundamental place where we need to bring values into effect, we need to get beyond just individual self-interest in our collective interest. If you asked me a year ago, I would have said that the reason we have such a hard time dealing with climate is that it is kind of custom made to play into our short-sightedness, our – you know, it's an issue where the consequences of individual actions are very diffuse. They may be enormous but they're very widespread, and it's also the time horizon is very long. But now with just COVID is everything that climate is not. The effects are pretty easily traced. We can actually link, you know, infections, deaths, to specific parties, specific events, quite quickly, and the timescale. Instead of playing out over decades it plays out, often, over weeks. If we can't do this, if we can't respond effectively to this kind of crisis, what hope is there for us being able to do the right thing for the even bigger crisis of climate change?

**Dr Carney:** Yeah. I think there's a couple of things that provide some hope, some possibility, but absolutely not assurance. First, if we look at the experience of countries that had the more severe outbreaks of SARS and MERS and others, the recency bias that we have as individuals, the steps they took in terms of pandemic preparedness and the seriousness with which they put in place - and I'm thinking particularly in some of the major Asian economies – have meant that they were both better prepared and have reacted better, and citizens have been more effective on that, so that's the first point.

Two other points. One is that there is this sense of solidarity and a focus which leads to a where are we going together question that is asked, and I think that, blended with what – the conditions we had in 126 countries now coming into this that have net zero as an explicit target. As you know, the Biden Administration has indicated – the President Elect – has said that that should be an objective for the United States, hopefully the US joining, is to say okay, this is the direction we want to head as a society, not trading off climate versus the economy but we want to get to net zero. Then we organise ourselves in order to do that and then your expertise is what are the types of policies that would have the maximum impact on jobs and growth that seek to meet that objective?

**Anita Anand:** Well, let's get back to Paul Krugman. I mean, has that made you any more optimistic, Paul?

**Professor Krugman:** Well, I mean-----

**Anita Anand:** It doesn't sound like it...

**Professor Krugman:** I'm still confirming the – the funny thing about climate is that right now the economics of drastic reduction anyway in greenhouse gas emissions look more favourable than they ever have.

**Dr Carney:** Yeah.

**Professor Krugman:** And technology has been our friend and where it does not look as if, actually, it's a very costly trade-off, but the problems of special interest and of just politics, and what we've seen is just how terrible the political distortion of science can be in the face of a pandemic that everyone can see around them, and so I'm concerned. I mean, I'll take what Mark said, that recency helps, that it's actually, it's a peculiar thing. The US the epicentre, ground zero, was New York, and New York – New York City is probably the safest place in America right now, in part because the citizens of New York - most of them, not all of them - took it seriously and they've learnt and they – and the most dangerous places are actually in the Dakotas where people have still not wrapped their minds around the fact that this is really dangerous. But it has not been an encouraging episode, I have to say. If there was one thing I thought we could deal with, it would have been a pandemic ....and it's kind of made you worried about the future.

**Anita Anand:** Thank you very much indeed. We could talk, and I know you two could talk, for quite a lot longer, and I'll leave you to continue that after the programme but that is all we have time for. In his final lecture, Mark is going to turn his attention to climate change, something that has been well signalled here. How do we create an ecosystem in which society's values broaden those of the market? That's for next time, but for now, my thanks to all of you, especially to the BBC Reith Lecturer for 2020, Dr Mark Carney.

(APPLAUSE)

END OF TRANSCRIPT