HOUSE OF COMMONS

Environmental Audit Committee

Oral evidence: Aligning UK economic goals with environmental sustainability, HC 849

Wednesday 9 February 2022

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Watch the meeting

Members present: Philip Dunne (Chair); Duncan Baker; Sir Robert Goodwill; Clive Lewis; Caroline Lucas; Cherilyn Mackrory; Jerome Mayhew; John McNally; Dr Matthew Offord; Valerie Vaz; Claudia Webbe.

Questions 1 - 58

Witnesses

I: Dr Matthew Agarwala, Project Leader, The Wealth Economy, Bennett Institute for Public Policy, University of Cambridge; and Professor Tim Jackson, Professor of Sustainable Development and Director, Centre for the Understanding of Sustainable Prosperity (CUSP), University of Surrey.

II: Signe Norberg, Head of Public Affairs and Communication, Aldersgate Group; Jeremy Peat OBE, Vice-President of Business and Convener of the Economy and Enterprise Committee, the Royal Society of Edinburgh; and Nick Spencer, Council Member, Institute and Faculty of Actuaries.

Written evidence from witnesses:

– Bennett Institute for Public Policy

– Professor Tim Jackson

– Aldersgate Group

– Royal Society of Edinburgh

– Institute and Faculty of Actuaries

Examination of witnesses

Witnesses: Dr Matthew Agarwala and Professor Tim Jackson.

Q1 **Chair:** Welcome to the Environmental Audit Committee for our first session in a new brief inquiry into aligning the UK's economic goals with environmental sustainability. We have two panels today and we will start with some distinguished academics. I welcome Dr Matthew Agarwala from the University of Cambridge and Professor Tim Jackson from the University of Surrey. Please briefly introduce yourselves and explain why this topic is of interest to you.

Dr Agarwala: Thank you very much. It is a pleasure to be here. Thank you for the opportunity to share the work that we have done at the University of Cambridge. I am an economist and my research and my team's research focuses on how we can develop economic statistics and measurements that are fit for guiding policy through the challenges we face in the 21st century. It is about how we can develop economic measures that reflect our social infrastructure, our natural environment and the level of inequality and how that plays through the rest of the economy.

Professor Jackson: Thank you very much. It is a pleasure to be here. I am a professor of sustainable development at the University of Surrey, where I lead a research group centre called the Centre for the Understanding of Sustainable Prosperity. What prosperity means, how you measure it and so on is our bread and butter. My interest in this started when I was economics commissioner on the Sustainable Development Commission between 2004 and about 2011. I think this might be my third EAC inquiry into the measurement of progress and the role of the GDP in particular. The first one of those was back in the days of the SDC—2008, from memory. For me it has been a lifelong query into what prosperity means and how we measure it.

Q2 **Chair:** I am sorry we keep asking you back to discuss the same topic.

Professor Jackson: I am glad you do; it is not a problem.

Chair: But it may reflect the fact that we are very interested in the topic, and we sense that the Government are becoming interested in it too. I think that now is perhaps a more topical time to be discussing it than some of your earlier appearances. Maybe that is what should start my line of questioning.

We, as a Committee, regard ourselves as the scrutineers of Government on their progress towards net zero Britain, and we think that is an important role for the Committee for the rest of this Parliament. A critical part of that, as was clear from our presidency at COP26, which obviously continues until November, is the whole taxonomy, the whole measurement and metrics of how we decarbonise our economies and hold Governments to account for meeting the commitments and the ambitions that they have set out.

Matthew, do you think that the current measurements of economic success take into account sufficiently the role that is required to achieve a decarbonised economy?

Dr Agarwala: That is a great question, and one that I have worked on for at least the past decade or so. The reality is that GDP—gross domestic product—remains the primary indicator of economic progress. At least that is what we think if we read the newspaper, listen to Governments and reports about whether or not there has been progress. The problem, though, is that GDP was a measure developed in the 20th century for measuring 20th-century progress, and for guiding policy with 20th-century solutions to 20th-century problems. What were the big problems at the time? Well, people did not have enough stuff, people were hungry, we did not have food security in much of the world, people did not have enough clothes. There was a relatively poor population for much of the 20th century.

What are the problems we see now? They are completely different in their structure and, therefore, they are different in the way that we ought to measure them and develop solutions to address them. GDP growth brought about lots of great things: we saw incomes grow; we saw access to food, education and medicine improve; we saw life expectancy extended in all parts of the world—unequally, definitely, but in all parts of the world.

The problem is that alongside these undeniable improvements in the human condition, GDP growth also released 1.5 trillion tonnes of CO_2 into the atmosphere and drove over a million species to the brink of extinction. We have seen rising inequality and these three—the climate, the biodiversity and the inequality crisis that we face—could ultimately wipe out an entire century worth of gain.

GDP will not tell us anything about that. GDP is inherently backwards looking. In a world where innovation, technology, AI and automation are running away at ever faster paces and where financial transactions are measured in nanoseconds, we have an economic measurement system that tries to tell us what happened last quarter, or maybe last year. We are looking backwards when we ought to be looking forwards. The problem here is that GDP is a flow measure. It tells us after the fact what we did last quarter and what we did last year. We cannot build forward if we are always looking backwards. We need a new economic model.

Q3 **Chair:** That is a great critique of the system we have at the moment, but it seems to me that you are calling for a forward-looking measure that Governments are not very good at doing—in fact, nobody is very good at looking forwards in any credible way. Forgive me, but economists more often than not get it wrong. Are you advocating an entirely new approach to forward-looking measurement as well as advocating introducing some element of sustainability into the metric?

Dr Agarwala: Yes, I am advocating a forward-looking measure. It is not as radical as it may sound. It is simply measuring capital, measuring assets, measuring wealth. Any measure of capital is inherently forward looking. The way I like to describe it is this. Imagine you are running a bakery and the size of the pie you can produce in the future depends on the stock of ingredients in your pantry. If you run out of ingredients in your pantry, tomorrow's pie will be smaller—no question. The economy works in exactly the same way, except the ingredients of our economic pantry, the things that comprise economic prosperity, are not milk, eggs and butter; they are wealth, a stable climate system, healthy ecosystems, our natural assets. They are our human assets; the health, education and skills of our population are human assets. It is our physical infrastructure and our social infrastructure, our social capital, the strengthen of communities, the degree of trust that people have in each other with business and in Government. That is what makes up the economic pantry. If we measure our economic pantry, we have a forward-looking measurement. All of those assets are defined by their contributions in the future. This is no different from the way that every business on the planet operates.

Q4 **Chair:** One big difference might be that you value natural resources if you are taking a balance sheet approach, which could give a complete distortion of the current annual contribution to the global economy. Saudi Arabia would suddenly go to number 1 on the league table because it has more value locked up in oil and gas reserves under its sand than any other country. Russia would probably be number 2. Is that how you see the consequence of such a balance sheet approach?

Dr Agarwala: Not at all. The purpose of the balance sheet approach is that you think about these assets as a portfolio. If we take the Saudi Arabia example, we would show that Saudi Arabia's wealth is lower than it is currently recorded. It would be lower because we are factoring in the value of the emissions embedded in its subsoil assets, which would reduce the balance sheet book value of its assets and bring it more in line with what the scientists tell us is carbon molecules going out into the atmosphere to decrease all of our potential. They affect all of the other assets. Climate change is going to affect physical infrastructure, human capital, the skills of the population, the health of the population.

What I am advocating for is no different from what Professor Sir Partha Dasgupta advocated for in the Dasgupta review: it is that we measure our economic pantry, our wealth, alongside measures such as GDP.

Q5 **Chair:** Thank you. We will come on to Professor Dasgupta in a moment. Tim, this Government regularly say that we have succeeded in growing our economy at the same time as cutting emissions significantly by exiting coal as a source of generation, effectively, and creating more renewables more quickly than other countries, certainly in Europe. Do you see continuing to grow GDP as compatible with achieving the sustainability challenge that the Government have presented themselves with?

Professor Jackson: No, in broad terms I do not. I did a lot of work on the numbers on this, the rates of decoupling that would have to be achieved while GDP was still growing. Typical economic assumptions of 2% per year growth in the GDP lead to historically never achieved and conceptually extremely difficult rates of decarbonisation, particularly if we want to keep 1.5 alive. Even for a country that has decoupled its production-based emissions faster than many other countries, as the UK has done, it is still reliant on imports of carbon-intensive foods that are not factored into that equation. It also has an historical responsibility for the carbon in the atmosphere, which many other countries in the world do not have.

When you bring those things together—when you bring together that historical responsibility, the need of poorer countries to develop quite fast and our own relative position as an advanced economy, and a rich advanced economy—I do not think that the UK should be privileging the GDP over and above reaching those carbon targets and keeping 1.5 alive. The impact of that in the long term will be disastrous, and it will be measurable not in fractions of a per cent of the GDP that we might have to sacrifice now for investment in low carbon opportunities, but in 10%, 15%, 20% or more of the GDP in probably less than half a century's time. Against those future costs, we should not be privileging growth in the GDP over and above our carbon targets.

Q6 **Chair:** Do you think that there is a role for economic policies such as carbon taxes in trying to decouple GDP from economic sustainability?

Professor Jackson: Yes, I do. I think the design of those taxes and instruments is extremely important, particularly given the impact that they may have on poorer households. I believe that they are one of a number of instruments that can be put in play to reduce our carbon intensity, to incentivise investment in low carbon renewal technologies and to protect the livelihoods of the people who will be working in a net zero carbon economy.

Chair: I am going to move on now. Cherilyn Mackrory has to leave shortly, so over to you, Cherilyn.

Q7 **Cherilyn Mackrory:** That is very kind. We have talked about many of the limitations that GDP has. Matthew, could you tell me a little about the benefits of GDP? We have talked about why we have it now but what potentially are the benefits of going forward with the GDP, or are there none?

Dr Agarwala: Well, as I said, GDP growth has come alongside lots of very substantial improvements at an unprecedented pace. Over the past 120 years, the increases in life expectancy, incomes, literacy, access to healthcare and medication are unprecedented. It is at a pace that we have not seen even in the 1,000 years before. GDP growth has come alongside lots of great things. It has also come alongside lots of terrible things that genuinely threaten to wipe out all of those gains in all parts of the world.

There is a lot of stuff in GDP that I want to see more of: more books and more music being made. I would like to see people going camping, travelling, visiting the coast. There are lots of things in GDP that we do want more of. There are lots of things, though, in GDP that undeniably, unquestionably we want less of. When we have to pay lots of money to clean up after an expensive oil spill, GDP goes up. In the United States after a mass shooting, gun sales go up, and GDP goes up. This is insane. We should not be trying to boost that kind of statistic.

The reality is, whether you are pro growth, post growth or anti-growth, if you are basing your argument and measurement on GDP, you have already lost the plot. It is the wrong measure. We need to focus on the pantry. We need to focus on that core set of assets: nature, people, our social relationships, our trust and our physical infrastructure. We need to think about them as a portfolio.

Q8 **Cherilyn Mackrory:** Going back to that economic pantry analogy, you said before that if you have fewer ingredients in the pantry, you have to make a smaller pie. So if you have more, you are saying, you automatically make a bigger pie. Is that true? Are humans inherently greedy enough that that is the way we have to go and therefore we have to force social and natural capital as well as GDP?

Dr Agarwala: You need to measure the entire portfolio of assets, everything in the pantry together, because this way when you invest in physical infrastructure, like airports and railroads, you will have to deduct the negative impact that this physical infrastructure has on nature through the carbon emissions, embodied—

Q9 **Cherilyn Mackrory:** Sorry to interrupt you, but is that something we can measure when people are making that forecast? That is what I am trying to get at.

Dr Agarwala: Yes, these are things that we can measure. In fact the UK is among the best in the world at measuring natural capital. I work and advise the United Nations Statistics Commission on the development of natural capital accounts, environmental economic accounts. I work with statistical bodies all around the world. The UK is, without doubt, among the top in the world at doing this.

Q10 **Cherilyn Mackrory:** And for social capital?

Dr Agarwala: With social capital we are currently where natural capital was about 30 years ago. The UK has better social capital accounting metrics than most countries. In fact, last year we developed, with the Government Statistical Service and the Office for National Statistics, a harmonised set of social capital metrics that can be used across Government. We have some of the richest data in the world. We have weekly surveys on trust in the UK. This is hugely important and a tremendous asset.

One of the things that we ought to consider is how we manage our statistical infrastructure, the ability to develop and compile data and use it. We have seen over the past 2 years how quickly everybody in the country started talking about data and statistics daily. We have professionals at the Office for National Statistics and they are brilliant. We need to invest in that infrastructure.

Q11 **Cherilyn Mackrory:** Tim, could you expand a little bit on what the risks are if we carry on with business as usual and we do not take into account more of the social and natural capital in this?

Professor Jackson: Let me start by perhaps adding a little bit to what Matthew said about the limitations, because it is not just that pantry analogy, it is also about distribution of those assets and incomes. That is a huge influence on social capital. For example, when you have an unequal society, social capital begins to disintegrate, health outcomes begin to fall, mental health begins to fall and the distribution of the GDP does not appear in the statistic anywhere. It is just not there; it is invisible. We are measuring an average wealth of the average person in the country and we know that those averages do not exist and we also know that the distribution of incomes across the economy has changed radically over the last half century or so.

As Matthew said, the GDP has a job to do. It measures the busyness of the economy overall but it does not measure changes in its asset base, the using up of the ingredients in the pantry. It does not measure the distribution of assets in the economy. It does not measure non-market goods. It is very interesting that non-market goods, in particular, include the work that people put into households.

It is very interesting also that most of that work is done by women. The GDP is a measure that systematically disadvantages and devalues the work of women in the economy, in particular the work of care in the economy, which is not solely the preserve of women but women contribute most to it, and it is the foundation for all of the wealth and all of the productivity that we have. Without caring for our children, without caring for ourselves when we are sick, without caring for the elderly population, it is not possible to think about a productive economy in any meaningful sense of the word, yet most of that is either invisible within the GDP or has an extremely low value within the GDP.

These are serious limitations and, as Matthew says, the measurement of social capital is difficult but the measurement of inequality is very precise. There are some very precise ways in which we could be measuring inequality and factoring that measurement into our measurements of the GDP. A couple of years ago we did a study, for the all-party parliamentary group on limits to growth, on distribution and inequality, and using the late Tony Atkinson's measure of the welfare lost through inequality, we worked out that around 12.5% of the GDP is lost in welfare terms. To put that into perspective, that is about twice the budget of the NHS from having an unequal economy.

These are serious economic and social losses by—not using the wrong measure; I would not advocate doing away with the GDP because it is a good measure of busyness—using it for the wrong purposes, for setting our policies and measuring our progress.

Q12 **Claudia Webbe:** This is a fascinating debate. Thank you for what you are telling us. Professor Jackson, could you share a bit more about the alternatives to GDP and break it down for us?

Professor Jackson: Sure. We have looked at this for quite a long time and, broadly speaking, you can think of four or five different ways, different alternatives to the GDP. One of them is the dashboard approach. It is a dashboard of indicators, which tells you what your climate is doing, what your health indicators are doing, what your inequality indicators are doing, what your air pollution looks like. Yes, what your income is doing but also what the distribution of those incomes is doing.

This dashboard approach is most famous in its incarnation in New Zealand—the living standards framework. Interestingly, we also have a dashboard approach here in the UK, which was put together while I was economics commissioner on the Sustainable Development Commission and I was partly involved in that work. It is hidden somewhere in the depths of the ONS as a set of indicators that never fully reaches the policy light of day. That is very important. In New Zealand the approach has been that the living standards framework sits inside the Treasury, and the Treasury formulates a wellbeing budget on the basis of that living standards framework, which allocates resources in the directions that the living standards framework points to.

That dashboard approach is approach 1. It is a bit like when you are driving a car—a bad analogy in our post-car world perhaps—you do not just look at the rev counter; you also have to look at the direction you are travelling, your indicators, what is happening elsewhere. You need a dashboard of indicators to steer an economy properly. That is missing when you focus purely on the GDP. That non-monetised dashboard is one of the approaches. You can aggregate all those indicators together in some way and there are examples of that, such as the Human Development Index and the Canadian sustainable wellbeing index as an aggregated measure.

The reason for putting them together is quite a fundamental point, which is that there is a natural tension between having robust measures that give you all the information you need and having something that resonates in policy and society. The GDP resonates. It is one single measure that we can apply policies to and make it go in a direction hopefully that we want it to go in. With a dashboard of indicators, some are going up, some are going down, policy becomes more complicated and messaging around it also becomes more complicated. This is an inherent tension in the indicators debate. You want robustness and you also want resonance, but you cannot always find them in the same place. One of the reasons for aggregating some of these together, as they do in the Human Development Index, is that you have a more resonant single overarching indicator. That is an aggregate non-monetised indicator.

Then you have a set of indicators that are measuring something very different. In 2005 Lord Layard recommended the measurement of subjective wellbeing as the policy guide rather than the GDP. His argument goes right back to the classical economics that the GDP has built out of measuring utility in society. Utility in society is a measure of how well off we are, what wellbeing we have and we should go back to the source and measure that. In fact during the period when the dashboard of indicators that the ONS still work from was being put together, there was the inclusion of indicator number 68 in the sustainable development indicator set that measures subjective wellbeing, and DEFRA and the ONS have been doing that, making that measurement. That is a completely different measure. It measures reports of how well people are in various aspects of their lives.

Then a fourth component is to aggregate some of those non-monetary indicators but to add prices to them in the way that Matthew was talking about and come up with something that might look like a GDP because it is one number but it takes account of the depreciation of assets of the inequality in society and, indeed, of the running down of all kinds of natural, social and human capital, or indeed its building up. That is a set of indicators that has been led by an initiative in the United States called the Genuine Progress Indicator, which attempts to provide a plug-and-play alternative to the GDP as a single resonant measure of progress.

Q13 **Claudia Webbe:** Thanks for that. You have touched on some of the pitfalls as well, which is quite useful. Do you want to expand on any other aspects of the pitfalls with those alternatives? Through your earlier presentation you have highlighted the benefits quite well and I just want to be clear about the pitfalls.

Professor Jackson: I think the pitfalls derive from that tension between robustness and resonance. As you seek one single resonance indicator that tells you everything you want to know about progress, you have to make decisions about the way you aggregate the subcomponents of it. You may have to make decisions about the pricing of them. Those decisions are not things that are determined in the market particularly. The whole point about them is that they are non-market prices, but you can make some guesses towards them. We are now pretty good in this country at putting monetary prices on elements of natural capital and finding various techniques to do that. If you think about integrating something like unpaid housework into the accounts, you have to go out looking for what economists call a shadow price—something to give it a value. If you value that at the wages that many housekeepers or house cleaners are paid, or even less than that because much of it is done for free, that market price does not tell you anything about how you might want to include that in your index.

There are various ways economists have put together to overcome those difficulties and they all require some degree of decision making. I would argue that that is typical of any accounting system that you want to systematise. If you want a set of accounts that is comparable across nations, robust across time and decipherable by different Governments, you have to systematise it in ways that ensure that the decisions that you make about putting indicators together and how you put them together make sense, are scientifically valid, robust and continue into the future in a meaningful way. It tells you, most fundamentally, that measuring progress is only partly a scientific process; it is also a policy process. And that policy process matters in making the decisions that allow you to overcome the difficulties of putting a complex set of individual measures together to give you a way forward and to understand where progress lies.

Q14 **Claudia Webbe:** Dr Agarwala, I think that you have advocated an asset-based system for measuring wealth and prosperity in society. Can you share some of the challenges, when looking at social capital, of getting a reliable and comparable system?

Dr Agarwala: Social capital is the one that economists have largely dropped the ball on over the past 15 years or so. There was quite a bit of activity before then and there has been a bit more activity on the research side more recently. Social capital is hard because it is hard to define and hard to measure. I cannot see how there is any credible way of putting a pound sign in front of it, putting it in an account in the same way you would with physical infrastructure expenditure. It is not going to work.

Social capital refers to the trust we have among individuals, the trust we have in business, the trust we have in Government. It is basically the ability of communities and economies to overcome collective action problems. Social capital is what compelled us to wear masks, social capital is what convinced us we should come out and clap for the NHS to show some solidarity in the way that we could from our households. That is what social capital does. Social capital is when neighbours and communities come together after a flood or after a fire and help out. It is unevenly distributed across the UK.

We did an analysis based on the number of covid mutual aid groups that were established across the UK and we scaled it so that the results would be comparable. Per local authority it ranged from somewhere around one in 250,000 people to 57. That is a huge disparity in the ability of communities to come together. When we look at the places that had the highest capacity and the places that had the lowest capacity, we mapped it out and we laid over other measures of deprivation and inequality, and the results were exactly what we would have expected. The places where people are very hard up were hit hardest by this as well.

What do we do about measuring it? We need regular surveys asking people about trust, in the same way that we have regular surveys asking people about their subjective wellbeing. This is the work that Professor Layard has been doing. The ONS compiles these and the European Social Survey compiles these. We do not have them regularly enough. One of the problems is that trust data tends to come annually but we know that increases and decreases in trust in Government and in business do not play out over just an annual scale. We need more regular, more frequent data.

When we analyse the results here in the UK we see that trust matters, but one of the biggest things in measuring social capital in the UK, the biggest determinant, is how you feel in your neighbourhood: do you talk to your neighbours; can you rely on them; do you feel your neighbourhood belongs to you? The neighbourhood and how you feel in your neighbourhood is the biggest contributor to the way that we measure and define social capital here in the UK. That is different, for instance, from the way it is defined and measured in the United States, where it is much less on the neighbourhood and much more on your church community and on the time you spend with your family. That demonstrates and reflects cultural differences across countries.

Accounting mechanisms ought to be able to do this, in the same way that we measure GDP, all according to the same guidelines, but some countries update the basket of goods for deflating every year, and others do it every 10 years. That is okay, even within the GDP measurement. In social capital we can focus on things that count within our own country and still have a comparable metric.

Q15 **Claudia Webbe:** You are highlighting a huge challenge with the difficulties of measuring it in country never mind internationally. On the international scope, are there any examples—you have highlighted some already—of where other countries have adapted or come up with alternatives or comparable measures around GDP that have been successful? Would you point us to them?

Dr Agarwala: If you are asking about how other countries measure social capital, we get a degree of respite—we get lucky—in that there is one survey question that captures most of the variation in all of the other trust questions and social capital indicators out there. That is a simple survey question, "In general, on a scale of one to 10, how much do you think people can be trusted?" If you give me that piece of data, I can describe about 50% or 55% of the variation that comes across an entire panel of questions, about 20 different questions, on trust.

There is one more question that we can find out, which covers another 15% or 20% of the explanatory power of a much bigger dataset. That is whether people place their trust in people or in institutions. On those two parameters—on a scale of one to 10, how much do you think people can be trusted; and do you place that trust in people or institutions?—our analysis describes 65% of the variation across 20 years of data, across 30 European countries. That is quite good. One question can capture an awful lot of information. If you are talking about specifically alternatives to GDP that other countries are using as an alternative metric, I think that the New Zealand living standards framework is probably the prime example.

Professor Jackson: There are a few other. One that is talked about a lot is Bhutan's gross national happiness, which is a gross national happiness measure that is a combined dashboard measure. There are some very good regional examples of using the green GDP. There is a green GDP in Vermont. There is a Bill going through Congress at the moment—I am not sure of its progress—which is arguing that the measure that is used in Vermont should be used across the federal states of America. There are some interesting initiatives. There was an initiative here with the regional development authorities in the late 2000s—we were involved in it—where they got together as a collective and commissioned some work to come up with a green GDP that they would then integrate into their regional accounting frameworks and progress measurements.

There are measures, which have not quite come out with a green GDP yet but which are very definitely in the same space that you are creating here, such as Austria's growth in transition initiative, which is now 15 years old, and the Netherlands has just set up something they are calling a broad prosperity, which is their version of a wellbeing policy in their economy. Then there are the wellbeing economy Governments in Finland, Scotland, Iceland, New Zealand—I cannot remember who else is in that collective—who are essentially attempting the same task of saying, "If we are not leading our policy and measuring our progress through the GDP, how should we do it?" To me that is the right place to be at this point.

As I said before, there is not an absolute plug-and-play measure. There is a lot of expertise, as Matthew has been pointing out, there are many practical examples and there is policy space that has been created in other countries. There is no reason why it should not be created here to develop different ways of approaching the measurement of prosperity.

Claudia Webbe: Chair, it might be important—picking up the study that was done on the mutual aid groups that Dr Agarwala mentioned—to have a copy of that, if that is possible?

Chair: That would be helpful. Thank you, Claudia.

Q16 **Jerome Mayhew:** Picking up on some of the points you have made—it is a fascinating conversation, and I confess there were some parts I struggled to follow—one of the queries I have is that if you have a value achieved by a market, then it is a real value, whether it is for the sale of labour. Actually, let's talk about employment. It is irrelevant whether or not you think it is right that labour is sold for the hourly rate because that is the market and it has established a price. Part of the problem about seeking to attribute value to other aspects of the economy, which you rightly point to, that are not valued by the market is, as you also clarified, essentially a political decision and not an economic one.

My concern is that if you start bringing political decisions into the valuation of economics, we then move on to the other issue, which is trust. In this room we have a number of different approaches to politics and our political philosophies, yet we all need to agree around some common version of the truth, which is the trust we place in economic figures. How do you square that?

Professor Jackson: How long do we have?

Jerome Mayhew: Thirty seconds because I was not meant to ask you that question.

Professor Jackson: I will push back a little bit, Jerome, and say that you have that problem already with market prices, because market prices are determined by exchanges within markets. The rules of the game in the market are set by political and policy processes. If you take a care worker, for example, the wages to the poorest people in our economy who are doing the most important jobs in the economy are set through a political process, which defines how that market operates.

Q17 **Jerome Mayhew:** It is essentially supply and demand, is it not?

Professor Jackson: I would argue that the supply and demand curve is shifted by the institutions of the market. It is not a fixed thing; it does not exist in absolute. It exists in the way in which the economy has developed. If you have an economy in which there are a lot of rich people who are very secure in their jobs and a lot of poor people who are very insecure in their jobs, the rich people are able to set the conditions of that market in ways that disadvantage the poor people in the economy. If they are very lucky they are able to engage in policy processes that put those things in law and legislative frameworks and, therefore, hardwire both inequality in our markets and the undervaluing of care.

Q18 **Jerome Mayhew:** I know we are short of time, but if I can precis your answer, you are saying it is not that you can defend the politics of the assessment of the non-economic value, but it is that the market-based values are also political.

Professor Jackson: They are also political. You also have what you might call market values and then you might have the politicisation of those values, but I believe in the policy as a process over and above politics as a process. That is what I was pointing to in a sense in about the systemisation of our accounts, because that is what gave us the system of national accounts. It was not politicians putting their political viewpoints into the building of those national accounts; it was a policy process that underpinned the scientific building of a consistent set of national accounts that we now rely on. It is out of date and it needs changing. Our policy process—

Q19 **Jerome Mayhew:** That does bring us neatly on to the area that I should have been asking about. Since 2010, since David Cameron and the "hug a husky" period of the coalition Government, the ONS has been creating satellite accounts that have tried to bring in aspects of what I believe you are talking about. Those are the natural capital accounts, the physical flow accounts and the monetary accounts. What is your perspective on the working in that area?

Professor Jackson: This is the moment that I have been waiting for, because it did not happen in 2010. I give David Cameron his due in coming out politically with that work, which he did, and I appreciate that. The work began under the previous Administration and had been going on for quite a long time under that previous Administration. Satellite accounts began to be built by the ONS in 1997. The building of those accounts has greatly contributed to the information base on which policymakers have to make decisions about policy and come up with assessments of the progress towards our economic and social goals. It is a fantastic resource.

I have two considerations on that. One is that the ONS, although it does a lot of great statistical work, is not as accessible as it could be and as it should be. I have worked with statistic sets in Canada, Scandinavia, Sweden in particular, Denmark and New Zealand, and I can tell you in all honesty that we need to do something about the ONS's statistical interface—the website, basically. It is very difficult to get the statistics that you want out of that, even if you are someone who has worked in it your whole life, and much more so if you are someone who is moving through a policy arena quite fast.

The second point is the interface between the ONS and what ONS does and policy. An argument I could make suggests that David Cameron pointing to an already existing set of satellite accounts in the ONS and saying, "This is what we are doing about measuring progress differently" is an avoidance strategy. Unless the act of measuring those accounts, setting up those accounts and providing them in a consistent format crosses into policy, it remains invisible to policy, and it remains very difficult for policymakers legitimately to use the information at their disposal in the direction of policy.

The link between the statistical stuff that is going on in the background and everything that is great about that, and where policy uses it in practice as in direct policies through the information gained, is missing.

Q20 **Jerome Mayhew:** Dr Agarwala, you have been nodding along, so I take it that you agree?

Dr Agarwala: I would like to comment on GDP being less politicised than, say, environmental valuation by economists.

Jerome Mayhew: Or even valuing non-employed labour as well, because that is as close as you can get, isn't it? It is within the market, but it is unpaid.

Dr Agarwala: All economic accounts, everywhere, are simply tools for telling stories over time. The kinds of stories they will tell is a choice. What goes into GDP and, therefore, the stories that we get when we look through the GDP accounts about growth, about recessions and depressions, do not come out of economic theory. There is not some big calculus equation. What is included in GDP is a political decision and always has been.

When Roosevelt developed GDP statistics from the beginning with Simon Kuznets—Roosevelt was the President who commissioned them—the economists came back to him and said, "Government spending should have a minus sign; it should be a negative entry into the account because what the Government spends is something that has been taken from the people and the people cannot spend it." That was the economists' view. Roosevelt was thinking, "We might need to take this country to war, and if we have to do that there will be massive expansion of Government spending. I think you need to change that to a positive sign. We will add it to GDP." And that is what happened.

When Greece wanted a loan from the European Central Bank, their debt to GDP ratio was too high—too much debt, too little GDP—so what do they do? The national accountants of Greece go back home and overnight they calculate the size of the informal economy in Greece, illegal drugs and illicit stuff. GDP grows 25% overnight, the debt to GDP ratio falls and the European Central Bank issues the loan. There is politics throughout all of this, but there are good, sound economics behind the way that we measure value as well.

Q21 **Jerome Mayhew:** I am sorry for trying to interrupt you earlier on. What we are saying is that there is a huge number of assumptions based in accounts, and some of those are codified in the rules for accountants and they are something that we have coalesced around and they have general acceptance. I do not want to carry on too much about this, but the more we stray from that and expand it into greater and greater assumptions without some kernel of fact, the more we stress and strain the need for trust.

To bring this conversation on a little bit, Professor Jackson, what are the changes to the way that the ONS communicates environmental and social wellbeing statistics that could encourage greater focus and make the link from analysis to macroeconomic policy change?

Professor Jackson: I like that point about trust, and I think it is correct that if you have a set of institutions that is not trusted, it is difficult to establish policies that are.

Jerome Mayhew: We would then progress that.

Professor Jackson: Your question is what kinds of measures. I think the bits of the equation that are important at the moment, as they stand, are those that relate to carbon targets. The best of our scientific knowledge is that we must make rapid progress towards those targets in the space of a decade. Effectively an advanced economy such as the UK should be reaching net zero within the next two decades. That requires us to think very long and hard about the values of carbon-based assets, about the emissions that are coming from carbon-based sources and about the investments that are going into the transition away from carbon-based sources. That means that taking into account the value of carbon in the economy is incredibly important and it is a negative value.

Q22 **Jerome Mayhew:** It is establishing a price for carbon that can then be diffused throughout every economic decision?

Professor Jackson: It is establishing some form of shadow price that will allow you to meet your goals in carbon terms, yes, and then integrating that not just into slapping it on instead of or in addition to VAT, but thinking about where in the economy that shadow price must be made to work to encourage the investments that you need and to discourage the behaviours that you want to avoid.

Immediately when you begin to think about that you come up against the question of inequality because of the large proportion of household budgets among lower income households who spend a larger proportion of their budget on carbon and energy and fuel. You immediately come up against it. I would take that inequality point as a separate point because I think it is so important now and it speaks directly to your point about trust. Unequal societies have lower levels of trust and the studies on that are very conclusive. Therefore, if you are not measuring that inequality, if you are not factoring that measurement of inequality into your headline measures, into the way that you apply carbon tax and indeed into the way that you measure progress, you are missing a vital piece of the puzzle that can trip you up disastrously later on.

Jerome Mayhew: Chair, how pressed are we for time, because there is another question I would like to ask?

Chair: You can get in a quick question and then we will move swiftly on.

Q23 **Jerome Mayhew:** Surely the right approach to that is to apply the price of carbon right across the economy. The market works because the decisions of more disadvantaged people about what they spend their money on is just as important in reducing carbon as those of rich people, but that money is not being destroyed; it is being collected. Someone is collecting that price for carbon—presumably the Treasury. It is a political choice then how that money gets recycled. Is it not at that stage that you can look at inequality and the restructuring?

Professor Jackson: You can look at equality in all sorts of different places. You can look at it first of all by having a less unequal society so that you do not have so many poor people who do not have enough money to spend on their fuel. That is stage one; predistribution is really important.

You can use those measures. Historically, Treasury has been a little bit antagonistic to what you are suggesting, which is some form of hypothecation, but there is very good evidence to suggest that those kinds of taxes become more acceptable if there is a well established and visible form of hypothecation, in other words you know where the money is coming from and you know where the money is going to. We have done studies ourselves on this and people find those kinds of changes and policies more acceptable.

Q24 **Jerome Mayhew:** Dr Agarwala, we have international standards for accounting and they are based around the UN. Do we have the ability to influence international policy on how we can develop these standards?

Dr Agarwala: We absolutely do and now is the time to do it. The UK has always been a leader in pioneering improvements in economic measurement. At the time when it was needed it was the UK that delivered the GDP, the initial version of the SNA—that was Stone and Meade at Cambridge. Now the time is needed for natural capital and environmental accounts, and Partha Dasgupta, the late Professor David Pearce and Giles Atkinson are the ones who have delivered this over the past three decades.

The UN Secretary-General has advised the executive board of the United Nations to develop proposals to him on what it would take to go beyond the GDP, what would be the outcome, what would we move towards? Those are expected in the next 12 to 18 months. The system of national accounts, which is the guideline for calculating GDP, is currently undergoing a revision and that process is increasingly amenable to the idea that we need to incorporate better metrics of human capital, so the health and skills of the population, and natural capital as well. There is a place for the UK to influence that.

The upcoming G20, the head of the T20, which is the technical thing that goes behind it, is the former Finance Minister of Indonesia and it is working on precisely these topics. There are routes for the UK to continue its decades-long leadership in improving the way that we measure the economy and it can do that through the United Nations system. We have developed a set of ecosystem accounting standards that was released and accepted by the UN Statistics Commission in March of last year. Colleagues at DEFRA and myself helped contribute to how we account for air quality in those standards.

We have the UN front, the G20 front and the system of national accounts front. It is incredibly rare that the revisions of these three things comes simultaneously, so there is a real chance to deliver this through the UN, the G20 and the SNA now.

Chair: That is a marvellous conclusion, but we are not quite finished with you yet, I am afraid. We would like Caroline Lucas to pick up the baton.

Q25 **Caroline Lucas:** Keeping with Dr Agarwala, we have been talking about the fact that there are already some existing alternative accounting processes out there. Do you think that the Treasury in the UK could be making better use of measures that we already have in place to guide macroeconomic policy? Is it a question of political will, or is it a question that those accounts, whatever state they are in, are not fit for purpose for that end?

Dr Agarwala: There are areas in which the UK Government have made some progress. The levelling up White Paper that was just released took as its framework the six capitals approach. This is what I have done for the past decade; it is what Partha Dasgupta has done for the last half century. That is very exciting, but it excluded natural capital on the grounds of, "Well, we have some other stuff that deals with natural capital elsewhere." It ignores the portfolio approach. That is a missed opportunity and needs to be corrected.

Q26 **Caroline Lucas:** Why do you think that happened? You can be candid. No one will hear what you say.

Dr Agarwala: I genuinely do not know. They cited my work, they cited Partha Dasgupta's work. Why they took natural capital out—I do not understand what we have done wrong in communicating the importance of all of the assets in the pantry being measured simultaneously. The UK has developed its Natural Capital Committee, which was a great thing to do, and it has the natural environment White Paper, which brings in the natural capital approach, but it should be incorporated through the levelling-up strategy.

The UK is now the world's largest sovereign issuer of green bonds. We have £16 billion-worth of green bonds that were raised last year and those were massively oversubscribed, which means not only were they cheap gilts for us to borrow, but there is more where that came from. We have to report on the progress of those bonds. We have to report every year on the allocation of those bonds across projects, and we have to report every two years on the environmental and social benefits that those investments generate. The Treasury is currently working on developing its reporting framework for that.

We have work ongoing at universities across the UK that would help improve the scientific underpinnings of the environmental reporting that the green gilts could have. If we do that well we can corner the market, because every asset manager out there is looking for credible ESG credentials. If we can demonstrate that we have the best scientists in the world underpinning our green gilt reporting mechanism that will be a huge advantage for us in that market.

We do have that science here. We have better land use models in this country than essentially any other country on the planet. Our biodiversity modelling, our carbon modelling, our measurements here in the UK are very high quality. We should integrate this through the Treasury's work.

Q27 **Caroline Lucas:** Professor Jackson, I want to play devil's advocate here, and let me stress that is what I am doing. There will be some who say that since tax revenues are tied to income and spending, would it be economically disastrous for a Government to deprioritise GDP growth? What is your answer on that?

Professor Jackson: The Government certainly have a responsibility to figure out what is going on with the GDP, and perhaps this is something that I should say, because it has not been mentioned before. Matthew mentioned the benefits of GDP growth, but the GDP as a measure is quite a sophisticated thing. It allows you to match up expenditure on the one hand with income on the other and the value added of your economy. All of those things miraculously come together in the system of national accounts. It is a good way to figure out what is going on in the economy, what is happening to your labour productivity in the economy, what your tax receipts might be from incomes and from various places in that economy. It is a good accounting tool for those purposes.

Any of the work that is talked about here is not a call to disband or deny the existence or the value of the GDP in that form of being a useful accounting measure for Government. Its failures lie in its ability to measure the distribution of those goods and services and incomes, and in its failure to measure the changes in the asset base on which that future flow of goods and services can be provided and the impacts of our production of goods and services on the environment. Those are all important failures.

Your question, and it is a good one, is how do we go forward in that situation knowing that we are guiding ourselves with using a measure that is no longer sufficient for purposes in the complications of the society that we exist in, in the face of our social and environmental goals, some of which are incredibly pressing, and in which we have built a set of institutions that is to some extent dependent on that growth in GDP?

That is my answer to your question: that the starting point in figuring out the implications of moving to a different measure—not abandoning the GDP but definitely measuring things differently—is to work out where those growth dependencies exist, how pressing they are and how we could do otherwise.

For example—and this is again an area where we have done some work—if you look at growth dependency in the welfare sector, as you say the conventional model has been that tax receipts provide the income for the spending through which we can develop care services, health services, education and so on. That requires some thought.

Our approach to that is essentially that you must take a structured approach, you must understand three factors in that growth dependency. What is the demand for those welfare services and how is that welfare demand structured? What is the cost structure of those services? What dynamics within those cost structures create a growth imperative within the structure of the financialisation of those services where you might find social and political interests and economic interests, particularly rent-seeking behaviours that make those services more and more costly into the future and drive your growth imperative? It is a process of understanding what is driving the need for a growth in spending in the welfare economy and how that welfare spending will be financed.

If you take a very simple example of the social care sector where we have done some work, you can look at the rising demand, the cost dynamic, which is a very difficult cost dynamic because care does not typically lend itself to productivity improvements, and you find yourself with a rising cost for the work in care within those sectors. The political situation is as a Government you look at that and you see those rising costs and you think, "What is the solution to this?" and you say, "Well, the best solution is probably the market so let us financialise social care." Then you find that you have created a kind of horror in which private equity companies are syphoning public money to provide a social good and putting it into bank accounts in the Cayman Islands. We know that is happening.

My point here is to say that when we address this question we must, first, understand that we have built growth-dependent architectures and, secondly, unravel those. Then in the unravelling of those put into place post-growth architectures, which I would argue we have to be doing anyway, for a reason that we have not yet mentioned. What does a post-growth welfare state look like? I argue that we have to answer that question not just because of carbon emissions in the environment, not just because of inequality, but because the economic evidence tells us that productivity growth in the UK and most advanced economies has been declining since the mid-1960s. Before the pandemic even it was hovering just below zero in the UK, which means essentially that we are already living in a post-GDP growth environment. We can continue to inflate that GDP growth if we want to by having people working longer hours in the economy, by having more immigration if we would like that, but we cannot avoid the historical trajectory that says we must be thinking about what happens after GDP growth.

Your question is one of the most important ones to think about in that: what happens to the welfare state in a post-growth economy? I argue that we do not have easy answers to that but we have a systematic way of analysing what the problems are. Some of those problems arise from things that are imminently and eminently correctable, such as the perverse structure of the financialisation of social care.

Q28 **Sir Robert Goodwill:** I have a quick point following on from what Professor Jackson has just said. Would you agree that we are starting to see this emerge already? For example, as people are starting to buy electric cars we are seeing revenues from vehicle excise duty and fuel duty falling. Are we going to get into a situation where we are encouraging people to do green things and to have less of an impact on the environment, to do things that maybe have more social than economic value, but they are the things that we do not want to tax because we do not want to discourage people? How can the Government square that circle for the revenue they need to provide the services that people want?

Professor Jackson: I agree that we are already in that situation. The transition to net zero is such a fundamental transition of industrial infrastructure, of people's lifestyles and of the policy environment that we cannot expect to navigate that without rethinking some of those really tricky issues. Of course sometimes there will be trade-offs, but there will also to some extent be some unintended positives. If you have transitioned, for example, from a situation where you are largely taxing carbon fuel as an income source to a situation where you are arguing, rightly, that the road is an infrastructure that must be maintained, that it has limited capacity, that having more crowded roads is to the detriment of our health and sometimes to our budget, transitioning from taxing fuels to taxing the use of the road is not outwith the reasoning of what we must engage in sensibly if we are thinking about a transition as radical as the net zero transition is.

Sir Robert Goodwill: It sounds like you might have read my article in *The Yorkshire Post* a couple of weeks back.

Chair: The oracle speaks. Thank you.

Q29 **Duncan Baker:** I look forward to reading that. I want to come on to Professor Dasgupta's review and start with you, Professor Jackson. The Dasgupta review of the economics of biodiversity concluded that GDP-led economic policy did not account for the depreciation of natural assets. That is something that we know well. He had an alternative proposal, inclusive wealth, and I know you have commented on that. Could you share with the Committee what you think of that proposal?

Professor Jackson: The inclusive wealth measure, as I understand it, is very much the kind of measure that Matthew has described, which is that there are certain types of assets that remain invisible to the GDP but on which our progress in any terms depends. An inclusive wealth measure would measure the changes in those assets, assign a price to the changes and then look at whether we are depleting assets or accumulating assets in the economy. That would contribute to our sense of progress in the economy.

I think that is one of the elements of the change in accounting system that we need. I find the term "inclusive" in the inclusive wealth measure slightly misleading, because it does not refer to inclusiveness in any social sense. It misses, essentially, the point that I was making earlier: that the distribution of incomes, the distribution of goods and services, the distribution of environmental and social harms matters in society. As part of a change in the way that we measure our progress, the work that has been done around the inclusive wealth index is important.

Q30 **Duncan Baker:** Professor Dasgupta has come to talk to our Select Committee before, and it was a fascinating session. On the work that was performed for the Treasury, how effective do you think the Government's response has been to his review to date?

Dr Agarwala: If I am being charitable, I would say it is too soon to tell. I think it has not been as warm a welcome as it could be. We need to start measuring these assets. We need to start using those measurements when we define what progress looks like and when we develop policies. I think we are not quite there yet. The exclusion of natural capital from the levelling up White Paper is a demonstration of that.

On the other hand, the inclusion of the capital framework in that same White Paper is progress. We must go through a learning process that as we start to implement these ideas and we are at the beginning of that. It should be faster.

Q31 **Duncan Baker:** What timescale would you put on it? We are still very historical, very set in our ways of how we measure. How do you see that realistically changing, and over what period?

Dr Agarwala: I think we could do it within this Parliament. We could have reports. We could have you as leaders coming out and saying, "What really counts to measure the progress of the country is not just GDP growth. It is whether we are growing the economic pantry". As Professor Jackson points out very clearly and many times over, it is not just that we are growing the pantry, but that we are increasing access to it, that it is distributed, that people are able to take advantage of these assets and resources.

The issue is that if we continue on with GDP and the diversion, the gap between what GDP explains about the world and what real people and families experience day to day continues to grow, all of the trust that we have in national statistics that Jerome was talking about disappears. We have a measuring device that describes an economy that does not exist because it ignores nature and it ignores social capital and for a group of people that it does not have any relevance to. That is a problem, so we need to start doing this.

It is difficult to make this point strongly enough. We need forward-looking measures. We need to understand what is going on in that pantry, those assets. That is inclusive wealth. That is what Dasgupta writes about. They are forward-looking. That is the only way. If we know what these assets are doing, we know if we have them at our disposal, and whether we can use them to generate prosperity long into the future.

The difference between using wealth versus GDP as a measure of the economy is the difference between getting a backwards, after-the-fact diagnosis at an autopsy from a coroner versus getting one ahead of time from the doctor in the surgery that you can then treat. We need our statistics to help us to behave like doctors, not coroners. At present, they don't.

Q32 **Duncan Baker:** It is incumbent on us as parliamentarians to push and raise that, because frankly at the moment I do not feel it is there at all. Do you share that view?

Professor Jackson: On timing, maybe we could get that fixed before I come back for my fourth appearance in front of the Environmental Audit Committee on this issue.

Duncan Baker: I have not been in Parliament for very long, but I can tell you one thing: nothing seems to happen very quickly.

Professor Jackson: I think that there is a responsibility on Government, on leadership and on Parliament to take these issues forward. They have been kicked down the road, sometimes claiming credit for some of the kicking in the wrong places, as I have pointed out, for as long as I have been working on these issues and probably a lot more. I think we have run out of road, for all sorts of reasons, not least of which is the secular stagnation that I was alluding to, that the growth is not going to be there in the way that we hoped it might be, but also of course the transition to net zero and the drastic inequality that is undermining the trust on which the political process depends.

If you are looking after the integrity of your own jobs in Parliament and your licence to operate as part of a democratic set of institutions, it is incumbent on Parliament and on Government to move and not to kick the can down the road, not to engage in avoidance strategies, like, "The ONS is doing this," and not to do as was done when I submitted a report from the Sustainable Development Commission, which the Environmental Audit Committee—and I love the work that you do here—forced the Government to respond to. Their response was, "We welcome the report from the Sustainable Development Commission." It was literally one line and I have it framed somewhere.

Chair: That is a very good segue on which to finish this panel, because we are having a rather better track record at getting recommendations taken forward by Government than perhaps our predecessor Committee was when you were here last time. Thank you, Duncan. I am going to draw that panel to a conclusion. Thank you very much, Professor Tim Jackson and Dr Matthew Agarwala, for a fascinating session.

Examination of witnesses

Witnesses: Signe Norberg, Jeremy Peat and Nick Spencer.

Q33 **Chair:** As the witnesses settle into their chairs, I will start by welcoming Jeremy Peat from the Royal Society of Edinburgh, who is joining us down the line, I assume from somewhere north of the border, and as you settle down I would like to welcome Signe Norberg from the Aldersgate Group and Nick Spencer from the Institute and Faculty of Actuaries. It would be helpful if you could introduce yourselves to the Committee and explain the roles that you have that are relevant to our inquiry today.

Jeremy Peat: I am vice-president of the Royal Society of Edinburgh, which is Scotland's national academy. In that role we are able to bring together a wide range of interested and informed parties to comment on consultations such as the one that you have put forward, and those from the Scottish Government. We try to provide responses that are informed but also constructive and thoroughly objective and I hope that we have provided some interesting information and views in this case.

Chair: Thank you very much. Signe Norberg, thank you very much for joining us, particularly today in your condition.

Signe Norberg: Thank you very much. My name is Signe Norberg. I am head of public affairs and communications at the Aldersgate Group. We are an alliance of businesses, academic institutions and civil society organisations working together to advocate for a sustainable economy.

Nick Spencer: Thank you also for inviting me. I am a council member at the Institute and Faculty of Actuaries and the immediate past chair of its sustainability board. My business activity is focused on advising pension funds on the integration of responsible investments into their investment strategies and portfolios.

The Institute and Faculty of Actuaries, the IFoA, is a royal charter professional body representing 32,000 actuaries and this work is very relevant to us. Actuaries work at the intersection of economics, finance and statistics. They use their judgment to help manage the impact of future risk, uncertainties, particularly over the long term, which can be 20 years or more. You might typically associate their work with insurance or pensions where they have statutory roles, considering prudent reserves and funding plans. Environment and sustainability represent material financial risk, over the short term and particularly over the long term. Understanding these risks, understanding the direction and the policy on GDP is critical to understanding the long-term financial impacts.

I particularly appreciate the work here because the broader environment and these broader issues are often playing Cinderella to the climate change discussions. I think that more inclusive thinking and broader scale is very necessary to this overall work.

Q34 **Chair:** Thank you very much. Having heard from the academics, this panel, as we have just heard, comprises people who advise Governments and the private sector on how they should regard metrics and measurement of the economy. I will start with Nick. You have just explained that your professional role is in advising the financial sector, in particular pension funds and insurance companies. Could you elaborate a little bit further on what you have already said on why actuaries are interested in whether GDP is an appropriate measure of economic growth in the context of a net zero move by corporates?

Nick Spencer: My direct work is looking at long-term investments and long-term financial returns. The way that we govern that economic policy—and this is looking at return periods that can be 10, 20, 30 years into the future—is very much based on those foundations, what is happening to economic policy. That is the first basis to think about it.

The second basis is what preferences does that lead us to. What is going on in the direction of policy on the environment? What is the impact of the net zero goals and the environmental goals? That would lead us to preference and the broader regulatory environment is now encouraged to think about what are the environmental, social and governance impacts of the investments in our portfolio? These interact within that.

If we take it a step further, on the assets side we think about the liabilities. What is the change in climate and environment going to do for people's health? How would that affect our need for pensions and how long would longevity last? What would it do for health insurance? What should we be thinking about for policies and business activities? If we move from cars that are now diesel engines and transport, how does that affect things? All of these start to come together in that direct investment impact, but also then as we think about design for insurance, design for policies and design for the broader outcomes.

Q35 **Chair:** We heard in our previous panel the suggestion from Dr Agarwala that we should be looking at Governments setting up a balance sheet method of accounting, rather than a P&L method of accounting for economic development. What would happen if the corporate world was to do something similar, taking into account sustainability to thereby alter valuations on their balance sheets?

Nick Spencer: What would happen also depends on the incentivisation to do that. In many respects corporates act as independent bodies. They do what they are incentivised to do. They are currently incentivised to maximise profits, and that is used to understand what the financial impact is. At the moment they are not incentivised to think about the economic and social take, and in fact the incentives are often set up to degrade that more natural capital environment.

To achieve the Government's broader aims we want to look at that incentive system for the corporates. How does it measure profits? How does it tax and regulate activities? To be successful in the economy as a whole, it would want to think about its impact in the private sector. I do not think these are divorceable, but I would look at it through the lens of what are the incentives and how you achieve the outcomes that you want, which again brings us together in the political economy that in practice we have been discussing today.

Q36 **Chair:** I will move on to Signe and ask you the same question. How do you see your members reacting to having a measurement of their economic progress that takes into account sustainability?

Signe Norberg: In a lot of discussions with our members and looking at them from very much a range of sectors across the economy, we see them already doing work in this area, better understanding what their business impact is on the natural environment, understanding their role in carbon emissions. They are setting ambitious targets, whether it is producing net zero concrete by 2050 or looking at their supply chains and eliminating emissions across the supply chains by 2040. Action is being taken in the private sector already to align what their economic performance is and evaluating that alongside a wider range of metrics to understand their business model and how they can also meet their sustainability objectives alongside one another. I think that there is some evidence that the Committee can take reassurance that the private sector understands this and it is undertaking work.

Of course we need to understand, as Nick was conclusively putting forward, that it cannot happen in a vacuum. We must look at a wide range of policy mechanisms to support the private sector as a whole, to move towards better understanding the impact on the natural environment, on carbon emissions, but also make sure that they stay competitive at the same time. These are agendas that go hand in hand. We have seen that through work we have done with academics at the LSE, looking at particularly, in the context of the recovery from the pandemic, that assets that are more aligned with sustainability objectives perform better in the long term, so focusing on this will help put the UK economy on a more stable footing in the long term as well.

Q37 **Chair:** Performance at the moment is judged by bald financial metrics, EBITDA, earnings per share. How can you take natural capital into that account as a single country? If we were to change the rules in the UK—I think I am pre-empting what you are about to say—companies accounting in that way, in an environmentally sustainable way, may be valued less highly than those that are just going all out for earnings per share growth.

Signe Norberg: It is important to recognise that first and foremost boards are already looking at this. This is a board level issue for a lot of companies. If we look at, for example, a company such as Wilmott Dixon, which is a UK-based company, it has very much integrated its nature and climate ambitions into the boardroom. It is something that is examined and reported on alongside economic metrics. It sees that as part of its business model to align these two.

Looking at it from an international perspective, we can see that there is an increased recognition that we need to understand GDP in a broader context, introduce these additional indicators, to better understand underpinning wealth on which we seek to have economic growth, business growth, social equality. It still goes hand in hand and is something that we can build on as the UK's leadership grows in this area.

Q38 **Chair:** Has anybody developed any metrics or measurement of these intangible things?

Signe Norberg: You had excellent evidence from the previous panel on this, but we know that it is something that businesses are increasingly monitoring and they are looking at understanding it better themselves as well. For example, companies such as IKEA are looking at its entire supply chain to understand what its biodiversity impact is, and from there further develop how it can essentially work to reduce its biodiversity impact across its entire business chain.

Of course, I think that points to the importance of working on this issue internationally as well, and the role that the UK Government have in taking forward, for example, the Dasgupta review, which I am sure we will come to in a minute, and building on that as a pillar on which international progress and understanding of metrics can be developed. On the other hand, there is also a distinct opportunity here for the UK Parliament, having set net zero targets and environmental targets the the UK Government have a legal responsibility to meet. As part of that journey we know that we need to develop metrics and improve on them, particularly in the natural environment space, to deliver on those. There are concurrent developments here that I think we can capitalise on.

Q39 **Chair:** I will turn to Jeremy before we move on. The RSE has made some recommendations about alternative measurements to sit alongside GDP. Could you explain a bit more about that and have you tried to come up with a coherent whole? Are you talking about a single metric or are we looking at a range, like the dashboard we heard about earlier?

Jeremy Peat: Thank you for allowing me to give evidence virtually rather than be present.

We very much believe that GDP is an inappropriate measure going forward because of the necessity, as your previous contributors have said, of taking into account environmental and equity issues. GDP is inadequate, but we do not believe that the solution is to look for one single replacement for GDP. That is not feasible, frankly, given the complexity of objectives and how they relate to different policies and different projects.

Our view is that one should move forward looking for something akin to the dashboard, and there is experience in Scotland developing on that. The first point is that there must be utter clarity on objectives. You cannot talk about what you are trying to achieve and how you measure it until you know exactly what the objectives are and from that basis you then look to what needs to be measured and how it can be measured. You need then to obtain buy-in for both the objectives and the measurement of them and get acceptance that the measures will work, and then you can move forward.

Overall, you are always going to end up with some form of judgment. This is not a science where you can add up the numbers and come to conclusions that are always last. You are going to have to form judgments, but the more that you have clarity on objectives, the more that you then develop a set of measures, quantitative and in some cases qualitative, that relate to those objectives. The more that you are putting those out in the public domain, the more likely you are to form judgments and make decisions that are in line with the overall objectives set out at the beginning of the exercise.

Q40 **John Mc Nally:** My questions are on regional and national inequalities and GDP. Jeremy, I will start with you. GDP, as you know, ignores the distribution of economic activity across the UK. The UK2070 Commission states the pattern of investment is skewed to the already wealthy areas, for instance the south-east of England and London, reinforcing unsustainable patterns of development. How far do you think that they may have contributed to a feeling in parts of the UK that economic policy has previously been focused on London and the south-east? What is your perception in general?

Jeremy Peat: To some extent that is true; that if you are looking to maximise GDP in its simplest form you tend to invest where the returns are greatest. The returns tend to be greatest where you have a higher quality and skilled labour force and more investment in the financial sector and elsewhere. That has led to a concentration of investment in London and other major centres.

If you take account of other objectives, in particular equity in the distribution of income and skills, the distribution of outcomes, you may be working to a different set of objectives. You may make investments in different directions and in different locations and you may be better placed to work towards some form of levelling up, which allows the development over time of a more equitable society.

I note that in Scotland the overall objectives include one related to a better distribution of income with more population in the rural areas and they have other equity objectives for housing and distribution of skills and the like. If you have a different set of objectives that is broader, you are more likely to be in a position to work towards a more equitable distribution of investment and income and economic welfare.

Q41 **John Mc Nally:** Can I turn to you now, Nick? There has been a recent debate between Jack Monroe—I hope you are aware of that—and the ONS about the inequalities hidden by headline inflation. I think we have all read about that and it highlights some of the concerns we have heard today about the way the GDP figures hide inequality and deprivation. It is very simple and straightforward: if you are earning £80,000 a year and you pay £1.79 for a pack of pasta, it does not really have a big effect, so you pay the same price for a loaf of bread as you do for a bag of pasta regardless of what your income is. How do we change that idea and how do we highlight the concerns that we have heard already today?

Nick Spencer: It is a very important point. In fact, we discussed and mentioned Jack Monroe in the preparation and I think it is thinking about the cohort. The actuarial term is talking about cohorts, so different groups of people, and how they are affected together. There is a concept of actuarial fairness when we think about different policyholders, different generations. How do we move this through time? How do we move this to different hopes and expectations? This distribution point is very important. For example, why do we focus on GDP rather than progress of your constituents' median incomes? Would that not be a more direct reflection of your constituents' experience? It is not just the median ones, not the ones at 50%, but how does it affect across that distribution? That is a very key point.

It may also bring out the idea of intergenerational fairness. It is not only of the people that are represented today but how does that move through time? We have a social policy discount rate of 3.5%. That is to say that in the policies today we look at their intergenerational fairness at 3.5%. On Tim Jackson's comments, when we look at GDP and we are no longer in a 3%, 3.5% GDP growing world,[1] what is the correct rate of doing that? Then there is a fundamental point around the GDP in that it does not look at how we allocate a scarce resource. Our atmosphere is not an infinite resource. It is a scarce resource. We can only put in so much more CO_2 before we have tragic consequences. We are borrowing from the future in that allocation. Should we think about how we integrate in these broader dashboard metrics to ask how we understand what is in our pantry, how we understand this future capability in doing that? That is a way of thinking about that distribution, not only for today's stakeholders but for tomorrow's stakeholders as well.

Q42 **John Mc Nally:** I think we are all beginning to look into our pantries. It is an expression I had not heard much of in the past but it certainly brings up easily into the mind what we are trying to achieve.

Signe, I will turn to you. We are hearing quite a lot about this inclusive wealth, or I would call it horizontal community inclusion, where we are trying to see how we measure an individual's wealth and a communities' wealth and not just physical infrastructure but human infrastructure and how we all behave. I think we are all quite well aware of that and it is extremely interesting to listen to how New Zealand measures it. There must be somewhere, with all the data that we have, some sort of horizontal bar that you can look at quite easily and see the different data on how one country is doing better than another. I would love to see something that does that. Jeremy was saying earlier about how different

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[1] Nick Spencer further notes: "The Social Discount Rate (SDR) is composed of GDP growth along with other risk and utility factors. So whilst reductions in GDP would be expected to reduce the SDR these should not be conflated as the same figures nor will changes necessarily be in the same proportion. Further details on the current basis for the HM Treasury discounting recommendation is given in Section 14. A6 of the Green Book. The current GDP growth assumption within the current SDR calculation is 2% real per annum."

areas within areas perform better than another. That is a bit of a ramble but I think it is something that we need to look at very closely and it goes back into the pantry that has been mentioned.

With that preamble, how might the public businesses and the financial system react to any move away from GDP as their primary indicator of prosperity? What challenges would this present and how would we overcome them?

Signe Norberg: Thank you for that question. Some of it I have covered already in that I think there is already a beginning of the move towards understanding economic growth in a wider context. In our conversations with businesses across the economy, so not limited to specific sectors, we find that there is a willingness for businesses to play a more significant part. They understand that they will have to if we are going to meet our environmental and climate goals, because of the significant role that they play in society.

Having said that and illustrated that previously, it is also important to recognise that we need to look at how we engage businesses, civil society organisations and communities in the discussions around economic growth if we are to evolve our understanding of GDP and economic performance over time. It will be a journey and we will need to bring all of these stakeholders along, make sure that there is regular communication and clear guidance in place. We see in the business community that there is increasingly a push towards climate disclosures and soon nature disclosure frameworks for economic actors. That is a welcomed move but will need to be backed up by robust guidance, clear communication and stakeholder engagement as we develop those and put them on a more sustainable footing.

It is something that will go hand in hand as we look to meet the ambitious targets that we have set as the UK. It needs to be underpinned by that support but also, crucially, a wider framework of policy action so that we can see more sustainable business models coming to market, developing those, generating more investment in low-carbon goods and services but also job creation across the country. We can then also see the add-on benefits for different communities, because it is also inherently regionally spread out. It is not focused solely in, for example, financial centres. We can see growth in the north, Scotland has a major role to play in renewable energy and so on. We can see benefits coming from that, but it needs to have the underpinning frameworks in place for that to happen on a wider scale.

Q43 **Valerie Vaz:** I think we were all jealous of Jack Monroe. She just tweeted and got a policy change, whereas we have to sit through endless Committees and ask endless questions. Some economists have talked about qualitative information as not being rigorous. I am addressing this to Nick first and then I will come on to the others. What do you see as the benefits or the challenges of this information?

Nick Spencer: I can draw on some of the experience that we have had trying to understand ESG risk in investments, which is how we are trying to apply it and what the challenges are. I think the first of those measurement challenges is to go from a soft aspiration to a hard number. What does better nature mean, what does a good environmental approach by a company mean, and how do we add that up? We can talk the same about social, work policy, diversity and such like. These are all very difficult to measure, so that is the first challenge. The second is data. Data are a work in progress. Particularly in the corporate world we have not set up the measurement structure, so that takes time and it takes understanding.

That is the start for the metrics. The second problem that tends to arise is what the objective is. Across many of these measures we are not really sure what good is like. We may be able to say one is better than another, but what is the right female representation on a board? Is it 20%? Is it 30%? Is it 50%? What is good? Where are the outcomes and what are we trying to achieve? This may be an overall measure but what we want on a board and good governance is a good level of debate, a sharing of different perspectives and bringing up good challenge. Diversity helps improve that, but is it what we are aiming for? Again, it is understanding what the objective is and I think that came up in the earlier evidence.

The third challenge is the balancing, underlying these measures. We have 17 SDGs, sustainable development goals. Underlying those are 169 different targets and underlying those is a whole series of measurements. How do we blend those together? If we want to come down to a score or even a dashboard, what are the relative merits? How do we measure river pollution against board diversity? What is the right way of scoring that, or are these irreducible? It is like an aeroplane: you fly an aeroplane in one direction, it will only go up and down. It is how we have different dimensions, but what is the right number that we put to the dashboard?

Apologies, those are more challenges than solutions but those are the areas to work on. It is not to then say, "This is really hard. We can't do it." It is to say, "How do we do a bit better than we did last year on this? How do we improve? How do we get more data? How do we make a start?" This is far more important than how we get to the finish.

Q44 **Valerie Vaz:** The earlier panel thought they had the answer, and it was possible. We are looking to you to say that it is possible, but I wanted to ask to focus on the benefits of having these things.

Nick Spencer: The benefit is that we improve. The key thing here is not to let this aim for the perfect to be the prevention of the good. Each of these is stepwise. There are challenges. By holding this there is that maxim of you can only manage what you measure. It does improve that. The risks are that when we put everything as a number we lose the context. We have forgotten what we are trying to achieve and we start gaming the numbers. What we look to do is to improve that, and by doing this from an investment point of view a lot of this is about risks. We find that the sustainable companies have a far more resilient approach. They better manage the risks in their business and that ultimately generates more sustainable returns, better long-term returns, because you do not have the shock risk of them falling over. That is the sort of environment that comes from the benefit, that you are building resilience and capacity.

When we look at the whole economy, UK and global, the challenge that we face and need to recognise is that we are not on a sustainable pathway. Our mitigated climate change will kill off GDP, it will kill off the modern economy if we do not take actions to manage that. Likewise, we need to be nature positive if we are going to be net zero; it is almost inconceivable that we wouldn't.

The benefits are: do you want a world that is sustainable, manage against unmitigated climate change, to have something for your grandchildren to inherit? If we do not make changes we are going to literally come off the edge of the cliff and the current progress can no longer be made.

Q45 **Valerie Vaz:** Signe, you mentioned something that companies are already doing. How do we learn from the companies that are adopting the ESG—environmental, social and governance—factors into their accounting and decision-making processes?

Signe Norberg: Thank you. It is a very good question. The starting point is that we can learn from them by understanding—very much as Nick was describing—it is an incremental process. There are ambitious targets in place. If we look at several companies' net zero targets and plans that they are putting in place, there are some areas where companies know that they need to innovate and seek what the solutions are.

For this area of inquiry, we need to understand that there are some complexities here, particularly for the natural environment, where we will not have immediate answers. But it means that it is essential for us to start that and begin building on what we have and what we know is coming down the line through the work around the environment targets under the Environment Act, and the metrics that will come with such a measure. That is something we can take from the private sector.

Similarly, the willingness to innovate and look at new ways of doing things will be a particularly worthwhile lesson. With these types of issues we can see how companies, for instance WSP, which is an engineering consultancy, look at the advice they give to their clients and apply a future-ready framework or thinking to all the advice that they provide and integrate that through their business offering. They not only see great innovation coming through that in the design work they produce and the advice that they give, but they also see a very competitive edge to that.

Applying that thinking to the UK, we know that this will be a growing area internationally for international markets. The demand for low-carbon solutions, goods and services, similarly nature-aligned products and services, is growing and we know will continue to do so as more countries continue towards net zero and a nature-positive future. Ensuring we are able to capitalise on that and start these types of discussions about how we better understand economic performance with a wider range of indicators is extremely important.

Q46 **Valerie Vaz:** Jeremy, what impact has the ONS's measurement of national wellbeing and the development of natural capital accounts had on macroeconomic policy?

Jeremy Peat: It is probably wrong to expect the ONS to have a great impact on policy. It has to provide the data that permits decisions to be made and also to listen to what policymakers are seeking, then to ensure that they have the data and information available to help rational decisions to be made. The onus has to be on the policymakers to set the framework and the context within which the ONS can operate.

I am an economist, so I go back to some of what Professor Jackson said. I think it is extremely important that one works towards good measures. I am delighted that in Wales and Scotland there are indications of frameworks being developed that allow for the inclusion of environmental and social equity issues within the overall context. You then need to have measures for them.

You asked about a dashboard. The problem we have in Scotland is that our national performance framework is huge and incredibly well prepared, but it is so huge that no one really understands it, or no one is able to use it for policymaking. Whereas I don't think you can have only one measure, nor do I think you can have such a multiplicity that no one can make rational decisions on the basis of the huge number of lights flashing on numbers that are available. You have to have a set of overarching objectives, as the Welsh and Scottish Governments have now set out, and then to think of measures that bring together your dashboard in an accessible form so that policymakers can form rational judgments on the basis of the quantitative and some qualitive information. In the qualitive, one tries to get rankings and the best form of helping decision makers as one can.

One of the Welsh objectives is to actively invest in reinforcing trust in others and in institutions. That is very interesting, and I am sure one can get survey evidence for that. One of the Scottish objectives is to secure positive effects by diversity, and again you can measure that. Others you need to better define to get measures, but you have to start with clarity on objectives and then get the measures and bring them to bear in a way that policymakers can make informed and rational judgments.

Q47 **Valerie Vaz:** A question for all of you. It seems to me that there is a lot of information out there. We heard earlier that this information is buried deep in the ONS. How do we pull it all together? Some countries are doing it, other countries are starting the framework. Is there a mechanism that can allow us to pull everything together and who leads on that?

Nick Spencer: I will start with the investment world. The national measures are there and we are still making progress on the corporate ones. What leads that follow-through comes from a combination of regulators and investors. If the accounting bodies and the regulators say, "We are expecting you to disclose this information," if we made it a requirement of the listing—take the Taskforce on Nature-related Financial Disclosures—that generates the data in which we can understand the impact on climate and then leads to the management to net zero.

It is a combination of that sort of willingness, and from my point of view it is also working with investors to require the companies to disclose this, to make it a requirement of investing in them, to say "You need to provide us the data so we can evaluate it." It is that combination of pincer movement and goes back to the broad point that corporations will respond economically to the economic impulses given by the Government in the broader economy aspect.

The data disclosures respond to what the accountants, regulators and investors require in response to questions as a requirement for investments. Those are the ways that investment space works and we can influence the private sector.

Q48 **Valerie Vaz:** Signe, do you want to add anything to that? Do the Government have to respond positively to the Dasgupta report?

Signe Norberg: Yes, the Treasury has already sent out an initial response that welcomes the Dasgupta review and welcomes a commitment to a nature-positive future. There are things we can do building on from that initial response. The response itself makes it clear that it is an initial response to the Dasgupta review and that more needs to come down the line.

From our perspective, speaking to our businesses, they are very enthusiastic about the Dasgupta review and its recommendations, but what they are looking for as next steps is a framework or an action plan setting out exactly how across Government you can advance this agenda. How will Government integrate inclusive wealth in its understanding of economic growth and how will we take forward a more nature-aligned policy agenda across Government because of the intimate relationship with economic growth?

Chair: We have some more questions on Dasgupta.

Q49 **Valerie Vaz:** Sorry. Lastly, Jeremy, do you have anything to add? Who pulls it all together?

Jeremy Peat: I come back to what I was saying earlier. If Government clearly set out the objectives of their overall strategy and for the strategy and objectives related to individual projects and individual investments, from that you establish what measures you will need to determine whether those objectives are being met and to what extent they are being met. Then you know what information you want, and you are right in saying we have a wealth of good information. The ONS is a marvellous institution, and it has a diversity of information that is available. To know how to use it, you have to determine what their policy objectives are, what that means you need to measure and then you can proceed.

Chair: I will now welcome the newest member of the Committee, Clive Lewis, to ask some questions.

Q50 **Clive Lewis:** Thank you very much, Chair. Jeremy, my question is—and I will elaborate on it—what further work would you like to see the ONS do to ensure that headline economic measures more fully account for human and natural capital assets?

One of the quotes you gave just now was that policymakers can make informed and rational decisions if they have that information. I put it to you that many of the decision-makers do not want that information because it undermines the baseline of what they are after. If you think about the economic system we have, it is about profit maximisation, and I think one of the reasons we are getting a lot of foot-dragging, given the climate emergency, is that they do not want those indicators.

Even if those ONS indicators were not, as Tim Jackson called them, an avoidance strategy, do you think they would have an impact if we don't change the institutions and the politics around the decision making?

Jeremy Peat: When policymakers are introducing a levelling up White Paper, for instance, they have to have great clarity on what they intend to achieve by that and then say, "Okay, these are our objectives for the levelling up policy" and then define them as clearly as they can regarding regional matters, income distribution, gender—whatever it is you want to do to achieve your levelling up objectives. Then you go to the ONS and say, "Can you help us with that?" and the ONS will almost certainly say yes. If you then have Parliament scrutinising the extent to which the objectives are being achieved by looking at an agreed set of parameters that the ONS is measuring, that will help you to determine the extent to which each and every objective of that particular policy is being achieved.

Then you have government that is understood in its objectives, and you are able to send that out to the population and the population knows what government is trying to achieve. You have measures provided by the professionals at ONS that help to determine the extent to which each and every aspect of that particular policy has been achieved.

I believe that you need to hold Government to account by having agreed objectives, agreed measures have been attained, and professional provision of the statistics that enable that to follow through.

Q51 **Clive Lewis:** The point you are making is that it can but it needs two other ingredients: rational policymakers and democratic accountability.

Jeremy Peat: I think that is right. In my first contribution I said you have to start with clarity on objectives. If you do not do that you cannot hold people to account because there is plenty of wriggle room, and some of you politicians are quite good at wriggle room.

Q52 **Clive Lewis:** Thank you. Nick, the relationship between GDP could be considered challenging if you move away from GDP. My addition to that is that if you see taxation as a way of directing the economy, you use tax to say economically where you want the economy to go. Would that be problematic if your objectives are to set the economy in a certain direction?

Nick Spencer: Building on that last point, certainly if you see that as a form of incentivisation you can start heavily taxing the activities you do not want—think about smoking and cigarettes as an example of where you use tax policy in that sense—and encouraging the activities you do want, that is in the form of either reduced taxation or even grants to create that, so we create development zones to help with social cohesion and regenerate areas. These are all elements.

We tend to think of tax as where money is taken in and benefits are where it is given out, but you could say that benefits and those development policy grants are just negative taxation. Taxation and thinking through about incentives is key to how we want to direct the policy, particularly when a lot of the motivations we are fundamentally talking about are essentially financial. That is the first part and I strongly support that.

The point about the challenge, the key areas of how we make progress and how we ensure that policymaking is embedded, is saying where are the financial incentives? The challenge first of all is thinking of GDP as being very good and it is all important to understand that element of the financial economy. I understand it; it was based on what can we afford to do in the war, what are our financial resources. The reason it relates to status is in some respects that GDP is the national income and it is also the reserve of how much money a Government can raise. As we know, money is equal to what it can do in power and spend. That is why GDP becomes important in that status and that context.

The difficulty in then looking at GDP growth, from a politician's point of view, is that if I have GDP growth I can spend more today because that debt burden gets easier over time. If I have GDP growth it would cost me less to pay it off in the future, particularly in a world of negative interest rates, than my borrowing today. If we have that link between tax and

GDP, if you do not have GDP growth, you have to cut back on what you can promise the electorate today and that tends not to be so popular with them, to promise them less rather than more. The incentivisation for Treasury and the politic in general is GDP growth.

If you want to really start embedding these measures you ask how do we shift that incentive? How do we ensure that Treasury is not incentivised for GDP growth? How do we make our tax revenues independent of this GDP growth if that is the future we are looking for? That would start changing the dynamics of that incentivisation.

Q53 **Clive Lewis:** Thank you. This question is for Jeremy and Signe. Are you aware of any other international case studies where a country has successfully adapted GDP or complemented it with other measures? What the Committee is looking for is whether there are any other nations of the United Kingdom where they have done that and been able to successfully begin to make that shift.

Jeremy Peat: If I can come in first. Internationally, the example you have been given is of New Zealand moving to a wellbeing budget. I think that is probably well worth investigating as it appears to be looking at human health, safety and what they call "flourishing." I am sure there is a lot that could be learned from the way that New Zealand has implemented that.

I think you would also benefit from looking at the Scottish case, because it is now in the middle of reviewing its forward national planning framework. As I have indicated, that is starting with five overarching objectives, including environmental issues, equity issues and geographical distribution issues, and then moving down from that to objectives related to prediction of policies in this overall national performance framework. I think that is wonderful in theory but not quite there in practice. I think you can learn from that as well.

I am from Wales, which has a wellbeing framework that it is using to refocus strategic planning and encouraging high-quality and inclusive green jobs, investing in social infrastructure. It has the equity and the environmental issues in there as well. Both Scotland and Wales are moving in practical terms to setting a context within which environmental and equity issues are up there among their objectives.

If you look to those two cases—the Scottish case is particularly interesting because it is under review at the moment so you could liaise with the Scottish Parliament on what is happening there and then take New Zealand as a case study internationally—there is a lot you could learn from those particular instances.

Signe Norberg: I would have cited New Zealand as well, but you have heard a lot about that already.

Q54 **Clive Lewis:** For the record, can you explain what New Zealand has done differently? They have embedded it into legislation and the budget, so there are budgetary mechanisms, I believe.

Signe Norberg: I can come back with more information on New Zealand following the inquiry.

Nick Spencer: May I come in with one quick point, also to look at the futures generation work that comes in from Wales, which comes to the point about intergenerational fairness as well. There are particularly interesting case studies of considerations on road building. That is another example that is looking beyond the pure GDP metrics.

Q55 **Caroline Lucas:** We have already strayed into these because they are on Dasgupta, so I shall have a word with my colleague later.

How effective do you think the Government's response to Dasgupta has been? Signe, you were talking about needing a framework to translate them. You may want to add to that. I am also interested to know, from both you and Nick, whether you share the concerns about the shortcomings of inclusive wealth, to the extent that the concept does not capture enough of the distributional aspects that we talked about earlier.

Signe Norberg: Of course, my pleasure. Starting with the response to the Dasgupta review, there are a few more things that are worth picking out as good examples of how Treasury responded to the review, particularly around setting forward the vision first and foremost. That is quite significant. Looking internationally, it has had a significant impact on the discussions around these issues. Similarly, the commitment to continuing the work of the ONS and increasing their capacity to undertake work in this area has been important.

Also, for a lot of our business members supporting the continued development of nature disclosure share frameworks will be particularly important in the long run, so we can look at increasing the disclosures and understanding of a business vulnerability to biodiversity loss, and so on. That has been welcome and, as has been alluded to several times during the session today, there is a real opportunity here for the UK to take forward the review but also to respond and continue to build on that to set an example internationally. We have a forthcoming international conference on this where we know the first part of the conference team has been to talk about how businesses need to start disclosing the impact of biodiversity loss and the risks that stem from that.

Continuing to build on these measures will be important. In taking it forward, definitely a framework or an action plan that delivers tangible recommendations in policy and areas of further exploration will be particularly important to continue to signal how this will be taken forward by Government, by policymakers and also, by consequence, how businesses can play a part in advancing that understanding.

It is also valuable to look at how this can become a cross-governmental priority. Treasury should lead on this, but it is also important that it is incorporated across Government so that we have a coherent framework in place. The example used of the levelling up White Paper is a crucial opportunity for us to embed the understanding of nature as we look at levelling up the UK. They go hand in hand, as economic evidence suggests.

Developing those policy avenues alongside the international advocacy side and the governance side for how Treasury and other Government Departments can take it forward will be quite crucial in this area.

Q56 **Caroline Lucas:** Thank you. Sorry, we are slightly pressed for time. Coming to Nick, how would you want to see Professor Dasgupta's conception of inclusive wealth be made operational as an economic measure? How would you address the fact that it is not as accurate as it might be on distribution?

Nick Spencer: From my point of view, as a framework to think about environment and human, it should be worked by extending the human to include the broader social, the distribution aspects. From what I recall—I only read the 110-page version—but most of the examples and focus were more on the environmental side than the human side. To me, it works but it is a question of broadening that scope to include some of the social aspects in the human.

On the responses, again looking at this from an investment point of view, it is how would we apply that sense to a private company; what are the disclosures, the accounting, the regulation basis? It comes back to the earlier point of where does that lead us on tax policy, again looking at the social side. We give grants for apprenticeships. What are the social policies we want to embed in the system, how do we give credit for that social capital that is generated with the regional development? Again, we can look at this through a more holistic lens. That requires investors also to understand the aggregate position of the company, how are those flowing, and that comes back to the data, the measurement and the objective points that we also cited.

Bringing those first to data and reporting but then thinking about the alignment of the incentives would be a powerful way forward. Then that brings the private element. What we talk about there is the just transition that again not only do we need to make net zero but we need to do it in a fair and balanced way that brings along the human and social capital at the same time.

Q57 **Caroline Lucas:** Finally, Jeremy, do you have anything to add about the steps you would like to see the Government take to implement the recommendations from Dasgupta? We have just talked about measurements and Professor Jackson reminded us that these measurements are not helpful unless they start to influence policy. Given that some of Professor Dasgupta's conclusions about the sustainability of an economy based on infinite growth were fairly far-reaching, what chances do you think there are that the Government might look at some of the policy implications of that as well?

Jeremy Peat: That is a very difficult call to make because, as was said by one of your earlier contributors, to go away from seeking increases in national income year after year is very problematic. One of the issues you have to accept is that businesses operate largely in their own self-interest. Government have to set incentives so that their self-interest coincides with the broader set of objectives that Government wish to see imposed across society, the training that Nick has just referred to. The more incentives there can be, the more companies to introduce more training and skill development across their workforce and beyond their workforce the better, but the incentives have to be there.

Over time it will become seen to be in various companies' long-term interest to work towards some of these objectives on the environmental front. I hear more and more stories of younger people wanting to work for companies that they believe share their environmental objectives. Investors can be encouraged to work towards investing in companies with those overall objectives. All of that can help companies to see that their longer-term interests coincide with working alongside Government in achieving equity and environmental objectives. That will help at the margin but overall the onus has to be on Government to set the objectives and then to set the incentives that work alongside that.

Q58 **Caroline Lucas:** Can I make sure I understand? When you say incentives, do you include regulation in that? Do you accept that many businesses are far ahead of Government on this and are crying out for a level playing field so that others will do what they are doing as well?

Jeremy Peat: Yes, that is right. I worked in the private sector for many years and some companies have that view but it is not the majority at the moment. Incentives include disincentives; it is financial incentives and it is regulatory. You have to provide the context within which business will work towards the same objectives as Government and that is what is there. The starting point always is with Government to set it. It is how Government reacts to Dasgupta that matters most and then how they change policies to relate to the way they accept that there is a new world ahead.

Nick Spencer: May I add to that point on regulation to talk about financial regulation. If you think about the roles that are set for solvency, for insurers, for funding requirements for pension funds, and for capital requirements for banks, we manage to use a different term and mean the same thing. Each of those can also think about which are the investment activities that you want to be incentivised and which are the ones where you can apply penalisation and move away from. You can also think about ISA policies, VCTs, the private savings world. That is all part of regulation and creates incentivisation for the right direction and support of policy.

Caroline Lucas: Thank you very much.

Chair: That concludes our hearing for this afternoon. Thank you very much to Signe Norberg, Nick Spencer and Jeremy Peat. We really enjoyed your contributions today as well as the first panel. Thanks to members of the Committee for turning up in such force today, which was such an interesting session, and to Nick Davies for writing our brief. Thank you very much indeed. It was really fascinating.