



GCPH Seminar Series 6 Seminar 2

Royal College of Physicians and Surgeons of Glasgow

Tuesday 26 January 2010

***'Prosperity Without Growth'***  
***Professor Tim Jackson***

**Phil Hanlon, Convenor:**

Well good morning, my name is Phil Hanlon and I'm just going to spend a second or two saying a word or two, just while others are finding their seats, then I will formally introduce our speaker so that we get started on time. This is the Glasgow Centre for Population Health's latest seminar, and I think a point to make is that the seminar series, which the Centre makes happen and that Andrew Lyon engineers with imagination and inspiration, I think, has become a feature of the landscape of this part of the world. Very significant speakers have been brought to Glasgow and I think very interesting audiences are almost essential. I think this looks like an interesting audience, I recognise about half of the people and that suggests that the other half have come from a wider spectrum than perhaps we sometimes attract, and that's a good thing. So when it comes to discussion it would be nice if you could identify yourself so that we are aware of what part of the intellectual or practical firmament you hail from as that would be nice to know.

So, without further ado, let me welcome Tim Jackson. Sandra Carlisle and I have been working in the area of culture and health for a number of years, and early in that exploration we would come across papers by Tim Jackson, without really knowing much about you at that stage, but we were struck by the relevance and also by the eloquence of his writing. Since then I've come across Tim in the context of the Sustainable Development Commission; he is one of the Commissioners. And I've heard him speak a couple of times, so I can reassure you that we are in for a very stimulating and interesting session.

I'm going to read out a little bit from his web site because I think this is just such a lovely thing to say of anyone. He says ... can I find the right bit? I hope I can ... yes, 'Tim Jackson, Professor of Sustainable Development.. [aside] and don't lean on that'. [Laughter] and what he does is he is director of a research group that looks into the lifestyle, values and other factors that affect sustainable development'. And I just think that that issue of lifestyle, values and practice in this context is such a unique perspective, because if you read a lot in this area, you will find lots of people will look into one of those dimensions, but to bring them together is what I've valued in his writing thus far. In his most recent report of looking at *Prosperity Without Growth* attacks one of the central issues, but I'm guessing that you are going to be saying much more about that, and we need him to touch on that. So, what I'd like you to do now is to put your hands together and give a very warm Glasgow welcome to Professor Tim Jackson [Clapping].

**Tim Jackson, Speaker:**

Thanks Phil, thank you very much, it's a pleasure to be here. When I was on my way here, Andrew very kindly came to the station to meet me, and he told me there was going to be a pretty full house, which is fantastic to see. He also told me that some Professor Layard managed to attract slightly more people talking about happiness or something wishy-washy like that [Laughter] and assured me nonetheless that I was in the top quota [Laughter] of the number of people attracted to such meetings and being a West Ham United Fan, actually the thought of being in the top quarter is something that I could live with, strangely, you might say, since we are in imminent danger of relegation in the next few weeks.

I'm going to talk about *Prosperity Without Growth*, which started its life as a book, as a report ... lights ... do I have to do something? What shall I do, tell me where to stop ... lights ... too low? Try again, is that okay? You can see that anyway, you can't see me but that doesn't matter so much, you can hear my disembodied voice. *Prosperity Without Growth* started its life as a report to the Government actually, for the Sustainable Development Commission. As you can imagine it wasn't necessarily a very easy message for the Government to hear. In fact, I think I can safely say that the immediate response was something approaching fury [Laughter]. But on the back of that, and a resounding silence when the report was first launched, it then became actually a sort of download phenomenon; it was the fastest downloaded report the Commission has ever produced, it seemed to go everywhere very fast. Subsequently, I was invited to revise an updated report which was published last November, and I think it is still a difficult message for the Government, and I want to tease out some of the reasons why that's the case. But at the end of the day it's a kind of invitation to what I think is an incredibly important conversation about the way that we manage our economy, and the kind of society that we have.

The French perhaps unsurprisingly have a word for it, they call it 'de croissance', it sounds like something that you might want for breakfast, certainly. It means in English, or it is translated into English as de-growth, the idea of contracting the economy. But to an economist of course, and actually to many ordinary people, it's a complete anathema to even think in those terms. So why would we bother to do that? I'm just going to sketch out for you, to start with, a framing of this debate which actually is in the form of a quite profound dilemma, what I call the dilemma of growth. What are the horns of that dilemma? The first one is really around sustainability. Here is a little bit about it, it's actually more recent than the book, which we published in September of last year. This was a study done by a team lead by [name unclear in audio] in Stockholm, and this is evidence of what the Limits to Growth Team called 'overshoot', the fact that planet earth is somehow living beyond its means in ecological terms and has already to some extent transgressed what this team called a safe operating space for humanity. So this little green circle here is what they feel is a safer operating space, and each of these dimensions is a dimension of environmental damage, and the red signifies the extent to which the environmental impacts are problematic.

So you can see within the circle here you've got ocean acidification issues, you've got some global fresh water use issues, you've got changes in land use, but the three big ones that stick out ... and perhaps this is a surprise, climate change isn't the biggest. Climate change is this one here, where we are already over and above our ecological capacity in relation to planetary boundaries, a safe operating space for humanity. This one is nutrient cycles, particularly nitrogen, but the two things go together quite closely, and this enormous swathe here is biodiversity loss. And we are at the moment, in a situation where largely from human

impact on habitat, biodiversity loss is an order of magnitude bigger than anything that we could regard as a safe operating space for humanity. So the sense there is quite definitely of overshoots, of a planet already under threat from the level and scale of human activity, and yet we still live within an economy which is growing, so it seems almost unassailable. The first point of my dilemma is that growth in this context is unsustainable. It's certainly unassailable that growth of the kind that we have seen and continue to see is unsustainable. So let's just get rid of growth, de croissance, something nice for breakfast. Why do we not do that? Why is that actually so unpalatable? Why does it raise visceral responses from policy makers, from people in the street, from businesses, from business and financial communities? It's worth teasing out the dimensions of that.

The first thing we could obviously say is let's accept the great benefits of growth for humankind, let's accept that our quality of life today is better than it was 50 years, a hundred years ago, certainly in the mill towns of the 19<sup>th</sup> century. Let's accept that growth is absolutely essential in the poorest nations, where 2 billion people still live on less than \$2 a day. Let's accept all of that, but is it still a legitimate case for the richest nations to be pursuing ever increasing incomes? Now, looking at the data on that, what one might want to know, is growth still delivering dividends to the richest nations, or where is growth delivering dividends, and here is some very simple evidence, very straight forward evidence around life expectancy and income growth. Let's just have a look at this, there is lots of this kind of data and analysis that I did in the book. So this is life expectancy at birth against income. And what you see here is a very interesting pattern really, and you can see it in lots of different kinds of data, those of you who were here for the happiness lecture, we've seen it in the happiness data. And it is this, that at low incomes, less than \$10,000 or \$15,000 per capita, you have great increase in this life expectancy factor, you get a big bang for the buck in terms of every income increase along there. And yet beyond that point, there is a kind of tailing off, there is a diminishing sense of returns for that income growth, and in fact we have some anomalies here, because the United States and indeed the UK have life expectancies which are at the same level, even lower slightly than Chile, Costa Rica and Cuba.

So there are places where human development is managed in a completely different way and they achieve human wellbeing outcomes at much, much lower incomes. There are two things really to point you towards in relation to this data. The first of course is we still need growth up here to improve the things that matter to us. That's definitely a question worth asking, but perhaps even more important really is what this glass shows to us; that in a world, in a finite world constrained by ecological limits, where income growth surely matters most is here, where human development outcomes depend on it. So, in some sense, what we found here is not an argument against growth per se, but certainly an argument about making room for growth where it matters most in human terms. It doesn't quite explain the visceral reaction of those here, who are still unprepared to even think about a model of development that isn't predicated on continuing growth. So we have to delve a little bit deeper into why that might be, and the most obvious finding actually is that de croissance, de-growth, just doesn't sit well in structural terms, in dynamic terms, with the way that we organise our economies, de-growth in fact is unstable.

Let me just tease through for you the principal dynamic here, because it's a very interesting one and one I will turn to later. It's captured, and I apologise for this, it's captured in this little equation, actually it's not an equation in mathematical terms, it's actually an identity, the left hand side is defined more or less by the right hand side. The left hand side is the GDP, the villain in question, the villain of the piece if you like, economic output is the GDP, the gross

domestic product. And it's defined or identified really as the number of people working times the economic output that each of them produces, the labour productivities, it's very, very simple. But the dynamic of the economies that we live in has particular characteristics, and it goes like this; labour productivity actually increasingly is pursued as the Holy Grail, so the increase in labour productivity is something that economists search for, modern capitalist economies are almost built around that search for labour productivity and improvement. And if that factor of labour productivity is going up, and I'm saying, we are saying, *de croissance* is saying, these factors should be stable, or going down, the left hand side of the equation is going down. There is only one way to manage that identity and it is this: labour goes down. In other words, the amount of employment in the economy goes down. The only way you can keep the amount of employment in the economy is to have growth going up for as long as you are pursuing labour productivity. Now this is not news, in fact it was recognised long ago for example by Chancellor John Maynard Keynes, and in an essay called *Economic Possibilities for our Grandchildren*, he followed through the logic of increasing labour productivity in modern economy. The point where he said, 'eventually what we will have is actually is a situation where we just don't have to work so much, we don't have to care about the means of subsistence so much, we can give our lives over actually to things that matter more'. Remember, this is an economist who is talking, it's not some green radical visionary. He is the grandfather of the macroeconomics that we inherited. Sadly perhaps, his macroeconomics didn't quite reflect his vision, and he was in the process of building a macroeconomic theory in which, in fact, stability depended upon economic growth. But the point nonetheless is there, that this understanding of an increase in labour productivity leaves us with only one place to go. We either accept more leisure time, less work, and the risk of unemployment, or we grow our economy. So that explains of course in part some of the visceral reaction; jobs equal growth in this formulation of the problem, and jobs quite clearly matter, not just in economic terms, not just as a means of subsistence, but they matter as a part of our ability to participate in society. They matter in fact in meaningful ways that one would want to capture in any sense of the word 'prosperity'.

So we are here in something which is quite a profound dilemma. How do we respond to this dilemma? What is the response? Given the visceral reaction of Government, of business and of ordinary people to the idea that we might not be growing in the way that we were in the past, given also our understanding that the existing patterns of growth are unsustainable, you would have to say that somewhere, and it may not be fully conscious, that dilemma exists within the minds of policy makers, within the minds of everyone. So how do we deal with it? Well, there is a response, and I am told that the language of this is slightly difficult to absorb, and it is a rather clunky term. The response is basically something called decoupling. Decoupling is basically the idea that we will allow, because we need to in structural terms, our economic output to continue to rise, GDP will continue to go up. But knowing that we have to remain within ecological limits, let's try and do that whilst at the same time reducing our material impact, so continually taking the material content out of the economic values, so value goes up and up and up, but by doing things more efficiently, by doing more with less, and that's something capitalist economies are very good at, we will try to achieve our environmental targets by reducing our material input continually, continually, continually, until we can get underneath the ecological bar and remain within the limits that we want. How do we do that? We do that by making the content of each dollar of economic activity less and less materially intensive, by doing things more and more efficiently. And as I said, since efficiency is prized in the modern economy, surely it's something we should be able to achieve.

Let's look at the data. The data says that we do achieve efficiency. Very, very clearly, for example, energy efficiency and carbon efficiency over the last three decades have improved by about 33%, so by a third. The carbon content of each dollar has gone down, that's good, right? But of course, at the same time, economic activity and the total number of dollars is going up, so when we look at the picture as a whole, we have to factor in both efficiency and scale; how efficiently we are doing things, how little we need to do them with and how much of it that we are doing. And here the balance is much less happy, in fact there is anecdotal evidence in some countries of some decline in carbon. There is in the UK for example, but when you look more closely at that decline you find it's largely because we have reduced the carbon that we are burning in the UK at the expense of importing goods from other countries which need carbon to make them. So actually when you do that calculation, and I've done it in my own research groups, as have other people, I know the results are solid. And it turns out that we are increasing our carbon commitment, even in the UK, where we pride ourselves on being able to meet our commitments. Actually, from a consumption point of view, we are not. And unsurprisingly, when we look at the global data, which for carbon is the only thing that matters, you find that we are not decoupling either. So here is the world GDP. Now these lines are fossil fuels and the red one is the carbon dioxide. And all you really need to know here ... although it's interesting to note that these lines fall below the GDP, so we have here something called relative decoupling, we have an improvement in the efficiency with which we are using carbon, but nonetheless the lines are growing, in fact in some places closing the gap. This black line here is coal, where we are closing the gap with GDP, we are actually doing things less efficiently in terms of fossil fuel consumption, as a factor in the production of GDP than we were back here. So that's a salutatory lesson, you can look at it for resource extraction rates, you can look at it for land use, you can look at it for water use, you can look at this kind of data and what you find is we are not decoupling. That default mechanism for evading the dilemma of growth just isn't happening. That's obviously a point to stop and reflect, and you could say, 'well how hard did we try?', and it's probably true that we didn't try that hard.

Quite clearly there are all kind of policies that could be put in place and economists are fond of telling me that I have not spoken about the fact that the price mechanism, pricing those externalities, pricing the resources, pricing the carbon dioxide would have changed that behaviour quite significantly. There is no doubt that that is true, we didn't try that hard but policies are not in place. We haven't even managed to instigate anything like a carbon price worth its name, to change behaviours of business, people and Governments towards decoupling. So clinging to the idea that we can decouple is fantastic, but it hasn't worked out in practice. Could we, through decoupling, evade the dilemma of growth? That's my critical question. Could we actually avoid even thinking about the growth thing by just pushing technology as fast as we can and as far as we can, pushing policy as far as we can to decouple, to dematerialise, to separate economic value from material through-put?

So I will come back to the question of what we might be selling, what that value consists of later on, but for the moment, let's just ask the question of how far would we have to go? Here is a scenario exercise, and this is a world in 2050, actually this number here is 768 grams of carbon, the dollar is the current carbon intensity of economic activity. And then I sketch some scenarios into the future, and this is a world in 2050 where the expectation is, and of course population and policy could change this, but the middle range expectation is there would be nine billion people on the planet. The other elements of my scenario are that these nine

billion people all have a decent chance of a western level income. Again quite a heroic assumption, but let's for the moment accept that we care something about equity. And that we would like the economy still to be growing, as is our assumption in the Western European economies, and that we want to get under the bar, under the carbon bar, under the limits set by the IPCC for a 2% warming target. You don't need me to point out, because it would destroy the dramatic intent entirely if it weren't the case, that the answer to the carbon intensity that we need to achieve that is on the right hand side of the graph, it's 6 grams of carbon per dollar of economic activity, 130 fold improvement over where we are at the moment, and that improvement is an order of magnitude faster than anything we have ever achieved in history, and doesn't look like it's going to happen at the moment. So that's already quite difficult, you could look at this and say it's a huge challenge, let's just do it, let's just get the technologies and the policies in place for goodness sake, and make it work. But then you think well, we are still living in the model that's growing, we still have this growth dynamic and beyond that point, by 2,100 for example, not that far away, the economy is going to be 80 times the size it was only half a century ago. And it's still growing, the carbon number actually at that point has to drop to make itself work and to still stabilise below zero.

Carbon per dollar of economic activity is less than zero, what does that mean? It means essentially that economic activity, every dollar of economic activity, instead of pumping carbon relentlessly into the atmosphere, is pulling carbon out of the atmosphere. What is that economy, what does it look like, what are its economic activities, what does it run on, how does it resource itself? What are its products and its processes, what's life like in an economy in which instead of consistently pumping carbon into the atmosphere we are pulling carbon out of the atmosphere? And the most extraordinary thing to me, they are all interesting questions, is that nobody who aspires to this model of continuing growth really has any answer to them. All we have is an article of faith, an ideology that suggests that because our economic activities are good at efficiency, we can achieve decoupling faster than we have ever done in this kind of economy. Now for me at that point, it really demands that we look a little bit at the structural dimensions of the economy, to see whether there is any chance at all of pulling this trick off, it is almost like a camera trick that we are being asked to believe in.

And, so, again this gets a little bit complex but let me just tease you through the dimensions of this dynamic because it is very important. Firms produce goods for people, that's us, households, and also of course provide us with incomes. They are very important. Why? Because we can spend those incomes on more goods. That's called the circle of flow of the economy. At the moment it doesn't necessarily call on us to grow anything, but it does call us of course to invest in our ability to continue to produce goods, and investment turns out in fact to play an absolutely key role in the system, largely because investment is targeted not just at replacement, but actually improvement of economic activity, and largely, as I've suggested already, increasing the productivity and in western economies particularly. That has meant increasing or attempting to increase labour productivity. That in fact, although it does put as I've suggested a downward pressure on employment, is good in some quite specific ways. One is that it reduces the price of goods. Now this is very interesting, that's got to be a good thing certainly for poorer households. But at the same time, because of the way in which we respond, and again economists are very keen on pointing this out to us, when the price of things falls, we tend to buy more of them.

So there is beginning to be in this circle of flow of the economy an incentive towards continued growth, and that incentive actually is exacerbated by a very particular feature of modern economies that Joseph Schumpeter was the first person to talk about. He talked about

creative destruction. And creative destruction as he described it, the process through which economies progressed, actually was a continual throwing over of the old in favour of the new. New production processes, new products, new services, that create new bubbles of value for entrepreneurs to achieve or to attempt to achieve monopoly situations in relation to that. In other words, to some extent to be able to survive in a set of activities where everyone is trying to achieve that same aim. So that production, that creative destruction and production of novelty is interesting in its own right, but it's even more interesting when you begin to understand that there is a social psychology around novelty. That we as human beings actually, and perhaps unfortunately, turned out to have a kind of appetite for novelty. Why does novelty matter to us? It matters actually in all sorts of ways. Actually novelty is nice because it instils on its own terms a kind of sense of progress. Things are newer, brighter, shinier, better than they were, and that gives us a sense of hope for our children and our children's future, that idea that we are moving towards a newer, better, braver world, actually is almost a part of our psyche. And it matters of course in some slightly more insidious ways because novelty plays into dynamics like status, competition, keeping up with the Jones', having the latest gadgets, having the biggest house, the fastest car, the shiniest indicator of our status in society, and although we might want to demonise that, there are elements of that as I will talk about in a minute which are actually very human and very important.

But before I mention those, what you can clearly see now through this dynamic, and it's a twin dynamic, it's not just about economic structure, the production of novelty, it's about social structures, the consumption of novelty. This is an engine of growth, this is something which is clearly driving the way forwards, locked in by both economics and psychology. And it is as I said an interesting dynamic for all sorts of ways. One of them is that it's driven to some extent by anxiety, the anxiety of the firm of course is that capital will fly, shareholder value will fall if you don't engage in it. The anxiety of people, of the household relates to something that Adam Smith called a 'life without shame'. He spoke 200 years ago about the objective of the consumers being able to live a life without shame, being able to go out in public with the things that you need to signify that you are a decent person leading a decent life. Interesting in his theory, his example was a linen shirt, simple clothing attire that actually fulfils all sorts of functions, both physical and social. In our day of course, it's a much bigger basket of goods and commodities that we need to signify to each other that we are decent people living a decent life. In Mary Douglas' words, and this again is a very humanising vision of what is going on, the objective of the consumer is to help create the social world and find a credible place in it. And I think you will accept in a way that far from demonising behaviour which is seen as to some extent socially reprehensible, status, anxiety, keeping up with the Jones', actually there is something there that is recognisable and is entirely human. So what we are looking at here is a set of factors that appear to lock us into a structure that demands for a growing economy. It is also propped up, it has to be said, by credit, that's a very important part of keeping this growth engine going. I won't dwell on this number but one of the ways we've done that is to increase personal debt and demolish household savings just so that we can get out and spend and stay on this cycle of a decent life, a life without shame. Of course, we have been encouraged, arguably to do that by all sorts of availabilities of that cheap credit, and that cheap credit was itself implicated in the financial crash. So we are looking at a set of issues here that are very, very complex, and is right at the heart of the economic instability that we've seen as a result of chasing the growth model. So whilst de-growth may be unstable, growth itself actually has some problems to face.

Now, where do you go from here? Diagnosis time, and this is not particularly a happy picture for the planet, or indeed for human life. Society is kind of locked into an iron cage, and these

two mutually re-enforcing dynamics of economic structure and social logic serve the end of economic growth actually very well indeed. They don't of course necessarily serve the end of human wellbeing. And they certainly don't serve the ends of the planet to find that ecological balance. And here is a very interesting point, the Government itself is conflicted here, because why, why is it the Governments chase and chase and chase economic growth? Even though they know that there are points where it conflicts with their ecological and social goals. The Scottish Government chasing the new Forth Road Bridge knowing that it's going to increase the carbon and threaten it's concept of sustainable economic growth. Why did it do that? Because economic growth matters for economic stability in this kind of system. Economic stability matters for social stability. When societies collapse bad things happen in anybody's terms. So you have a conflicted Government dealing with a deep dilemma. And not to recognise that I think is one of the biggest failings of the debate; to somehow parcel that conversation out into a radical wing somewhere, because it's too difficult to have in the corridors of power, it is an abdication of responsibility, of major proportions I would argue. So diagnosis: not so good.

Prognosis, well this is the point of course in which you say actually it's hopeless, there is no sustainable future, let's just go away, let's give up. I know lots of people ... I admire then actually ... who occasionally are tempted towards that, to just find themselves a patch of land on a hillside somewhere, above the rising sea level, clearly, [Laughter] and to keep a few goats, a couple of chickens, grow some vegetables, have a nice life. I might write some poetry, I might even get to write some more plays one day, and I would live with that if I thought it would last, I think, and if I thought it would last and was the only thing to do. But actually, the likelihood is that that escape route that we might want to achieve, and it's not at all selfish in some ways, it could be the most effective way of remaining in harmony with nature, but nonetheless apart from the fact that when bad things happen, that's probably not going to last too long. You'd have to ask yourself the question, is it absolutely the only way out? Because it clearly isn't the only way out for most people. Here is if you like, it's not entirely an article of faith, but it is in some sense something that I personally cling to. It's not my slogan but it is an interesting way of opening out and keeping open the world of possibility, another world that is possible. Of course, you have to be realistic in that there is no point being visionary, there is no point in being hopeful and aspirational, you have to ask yourself where are the possibilities for change? Clearly we are not about to change human nature. We may want to say that concept of human nature is not a very good one to be in our institutions. Neither are we going to change ecological limits. So it does then lead to the only possibilities for change sit in institutions, in social institutions, and in particular of course in the economic institutions that determine structure. We must also look at the social logic and the way that is played out, even encouraged because of its role in keeping economic structure intact. We might also want to look at the Government. And that's really what *Prosperity Without Growth* attempts to do, it isn't simply a lament on the condition of the world, it isn't simply a set of impossibilities, in fact, impossibility confronted me at every turn writing it. At every turn I think the most interesting thing for me was to discover the fact that those impossibility themes were not only unconstructive, they were inaccurate, that another world was possible. So let me just sketch for you some of the issues that I think are important.

The first is of course to have some meaningful definition of what prosperity might mean, if it isn't just economic growth. And here of course there is a fantastic legacy from philosophy, from theology, from psychological theory, from grassroots practice, actually from our everyday lives, from Richard Layard's own work on happiness, the sense that income is the only thing that matters. It's completely derelict. It may be a decent means to an end but it

certainly isn't the end itself. The concept of prosperity that I like, or that I have adapted a little bit really for the purposes here, is to argue that prosperity consists in our ability to flourish as human beings, in ways that we can identify and indeed quantify, such as life expectancy and health and so on but to do that within the ecological limits that define our planet. Now clearly we're not asking to get away from the material conditions of that flourishing, food, clothing, housing, it's still going to matter, but it's also clear that we do much more with material things, particularly in western society, and that they are deeply implicated in our social and psychological flourishing. They contribute to identity, to our sense of meaning and purpose, to our ability to participate in the life of society and this idea of participation in the life of society is an incredibly important one. What we need for another prosperity to work is a set of conditions in which it's possible to participate in society, in less materialistic and more meaningful ways than we've achieved in a consumer economy.

I'd like to actually ask us to do a very interesting thing, which is to re-think the role of social goods and of public spaces. I just want here to quote Michael Sandel - this idea that public spaces actually provide something very interesting, they provide sites, in his words, for the cultivation of the common citizenship, so that people from different walks of life can count on one another and so acquire enough of a sense of a shared life that we can meaningfully think of one another as citizens in a common venture. And I find that incredibly interesting for all sorts of reasons, but not the least because public and social spaces have largely been seen as a safety net for those who don't have access to private affluence, and yet what turns out from this analysis is that they are absolutely critical components in the transition from one form of prosperity based on individual materialism to another, in which participation in the life of society is provided as a common shared endeavour. So that's just a thought really about the nature of this different kind of prosperity, and clearly we don't create it out of nothing, it requires an investment of some kind, it requires a different sense of organisation and that demands on us a different economy, and in fact we know we have to go there, because we know that this economic structure is not going to lead us to that sort of vision.

So let me talk a little bit about the other economy, another economic engine. Could we have ... this was a call at the beginning of last year, particularly quite a wide call really for a different engine of growth. We'd lost the growth that we had, we recognised the environmental limits of going back to business as usual, could we find a different kind of engine that would still allow us to grow our economies, and there were two basic ideas that that call pinned its hopes on. The first was the idea that we could create a whole new set of technologies, technologies for low carbon transition, renewable energies, and again Scotland is ideally situated to take advantage of that particular transition. The renewable energy resources in wind, in waves, in hydro are fantastic, particularly in Scotland, and the Scottish Government has rightly recognised that and set up programs which are putting forward a win-win situation, arguing that the prosperity for Scotland, sustainable economic growth for Scotland is going to come from that different engine, that clean technology sector. I don't want to ditch that idea at all, I don't want us to dismiss it at all, I want to come back to it because it turns out to be incredibly important.

The second avenue for a different engine of growth, it's been talked about a lot and it follows from the logic of my decoupling argument, from the idea that we have to de-materialise each dollar so that we are still gaining value but changing goods and services, but those goods and services no longer have the material content that the old engine of growth has to have. So what might those activities be is a really interesting question to ask, I mean energy services rather than energy through put, perhaps mobility services, a different way of thinking about transport, perhaps a loss around renovation and refurbishment, so the services that are needed

to maintain the material products that we have are continually throwing over the old ones, and then beyond that, what? All kind of community activities perhaps, health, education, participation in leisure activities, tai chi classes, yoga, go where you want with it, the idea of a different set of economic activities that contribute to people's flourishing but that aren't so materially heavy, so environmentally damaging as the activities we've had before. And again, this is a really interesting idea, it's actually an idea that I spent 10 years of my life working on, talking about and writing about, the idea of a dematerialised serviced economy in which we continue to extract the human value from economic activity, but we do it with fewer and fewer materials.

How far can we go with those two ideas? And the way I've explored them in the book, I've translated them into two concepts that draw from each of those ideas, one is called ecological investment and the other is an idea of ecological enterprise, so a different concept of investment, a different concept of enterprise, of what economic activity means. Let me just talk very briefly about those. The idea of ecological investment actually again came out very widely during the crisis because there was a recognition that we needed investment to get to a low carbon economy, and there is also a long standing recognition that comes from Maynard Keynes' work, that when your economy crashes one of the things the Government can do is to invest. They did it in a new deal in the 1930s, lots of people talked about the green new deal in 2008/2009, and the green new deal was the idea that now is the time to invest in low carbon technology. So the target for those technologies is pretty clear actually, if you wanted to invest in them you'd need to invest in low carbon transition in particular. We also need, and this is an increasingly recognised fact, that we need to invest in ecological assets more generally, that they are critically important to protect biodiversity, to give us a workable climate, to provide the resources that we need to keep our economies running, investing in those assets matters. And of course my message from the very first graph I showed you suggests that we need an investment strategy in protecting livelihoods, and in particular in addressing issues of poverty, where there are particular extremes.

So here is a whole set, here is a portfolio if you like, of investments. Perhaps the most important thing to note is that, other than they are absolutely vital, is that they don't quite behave in the way that the financial markets are used to thinking about investments. Some of them actually, particularly in low carbon transition, will show decent rates of return over quite short time periods, and might get close to the high return short payback conditions favoured by existing financial markets. If that were uniformly the case, of course, then we would have seen it happen already. The financial markets would have done it for us, and we haven't seen that, we have seen financial markets chasing bubbles of value that they can capitalise on very quickly, to the point at which they have crashed whole economies trying to do it. That's what we've seen, that's how financial markets work at the moment, and what's absolutely blindingly clear from this is that we need a different set of financial markets, with different conditions under which investment occurs, different financing vehicles, different regulatory structures and conditions that allow for ecological investment to work in a different way, and the one thing that we might have to come to accept is that the returns so favoured by the financial markets just are not there in the same way for this portfolio. Actually, in some cases some of those investments won't show conventional financial returns at all, but they will show absolutely vital social and ecological terms.

It's a challenge, its suggestion is that it's a core economic concept that will play a vital role in the new economy, but it's a question as to whether it will provide a different engine of growth. This isn't the productivity and profitability of the existing investment structure, it is a

different way of thinking about investment, a different way of thinking about return. And very interestingly the same thing happens when we go to the concept of ecological enterprise. I have sort of sketched for you what some of those ecological enterprises might consist of. But they have three overriding characteristics really which are pretty straight forward. They tread lightly, they are materially light and they are carbon light. They contribute to and support communities and provide for the flourishing of human beings. They also contribute, of course, to livelihoods. So again there is a very interesting question here, there is almost nothing wrong, this is motherhood and apple pie, why do we object to these kinds of enterprises? Well, let me tell you why we would object to these kinds of enterprises. If these exist, these Cinderella enterprises, they exist at the moment as a kind of margin on the edge of the formal economy, and the data around the productivity of these activities is really interesting, I will show you this very quickly. This is obsessed with productivity and productivity growth.

Insert data?

This is some data from the project which looks at productivity growth in Europe over the 20 year period. And, if they exist at all, these sectors, they are something called personal and social services, which is the blue one there. I will just show you where that sits in relation to productivity growth. Largely over 20 years it's been negative, some small increases and a couple of outliers where you see a little bit of productivity growth, but on the whole, in the language of the dismal economy, the performance of this sector which we arguably say could provide the basis for the kind of economic activity that we re-vision our economies in ecologically sound ways has been dismal. Again, that shouldn't dissuade us from thinking about the idea, because it clearly is the right way to think about economic activity. What it does suggest once again is that this different engine may not be an engine of growth. Of course that doesn't matter, it shouldn't matter, it doesn't matter to me. It matters only to those who won't sit back and question for one second that the right way to run an economy is to predicate it on continual growth. And while that occurs, while there is no ability to question that, while there is no ability to think differently about the economy, we are in a situation where economists and politicians won't even think seriously about this kind of enterprise. They won't give it the time of day. Now that's very sad, because actually, and there is a long history of this again in Scotland, that social enterprise is the model that I've sketched here, it's based very strongly on social enterprise, social enterprise is a fantastic way to support resilient communities, particularly in the face of economic crisis. And these are the kind of politics that we are asking for, that we should as members of the public, be demanding in the face of the irresponsibilities that have been condoned in relation to the kind of economic role model that we've had, as I've expressed, more strongly than I usually do, but it does seem to me the case, perhaps coloured by an exchange that I had last night, a rather robust exchange with a representative of the Royal Bank of Scotland [Laughter]. I'm hoping it's not on video anywhere. It did lead me to express myself in a rather stronger way than I normally do, being a retiring academic.

Anyway that's the vision, that's the sense of the building blocks for a new vision. It's a sense of, if you like, a different kind of economics. Let me just recap by sketching what the basis of that economics is. Ecological enterprises provide capabilities for people to flourish, people participate in those enterprises and participation itself is an important part of improving flourishing. So there you have a different circular model, it's good to have a circular model, at least it keeps a sense of familiarity that this isn't quite the same as the circular flow of the economy, it's situated quite specifically within finer ecological limits. And the most

important part of that, for the continuation and sustainability of this economy is the contribution of eco-systems, ecological assets. Ecological assets provide us with eco-systems services which are absolutely indispensable, and the attempts that have been made to establish the value of those services are quite remarkable because they suggest that the economic value of the services is of the same order of magnitude as global economic flows, this is a huge service provided, un-priced by the eco-systems for the benefit of us all. And what is less recognised actually is that there may be a case that we should repay that favour, we should engage in ecological investment, to protect those assets, to protect our ability to continue to have productive economies, and in particular to improve the ecological productivity with which human beings engage with the planet.

So there are the beginnings if you like, and it is only a sketch, of a different kind of economics, and economics for a finite planet, and I will more or less leave it there. Obviously we are highly valid to the UK Government, and we wouldn't get away without telling politicians what they might be able to do on Monday, or at least suggesting the things that they might do on Monday. In *Prosperity Without Growth* there is actually a whole range, there is a whole chapter which is dedicated to a consistent set of policy ideas, all of which have some precedence in economic thinking or in policy debates, and all of which would contribute towards a more sustainable economy, the transition to a more sustainable economy. They include obvious things like the pricing mechanism. You can include less obvious things like addressing the culture of consumerism, looking at the way that we are actually supporting materialistic attitudes precisely because we want those kinds of people who will keep the economy going, and redressing that balance, and I include elements of poverty reduction and inequality. If I was going to characterise them in three short bullet points, which I am now, they would go like this:

- Fix, establish the limits, the ecological limits under which we operate. Going right back to my very first graph, we know a little bit about those limits now, we haven't in any sense established them in a meaningful way in our economies or in our policies.
- Fix the economics, that is blindingly obvious really from everything that I said, and change the social logic. What could be simpler than that? [Laughter] There is more detail, there is lots of it that you can have access to, I'm being slightly trivial, it isn't at all simple, it is the most challenging task of our time, but it is one, I suppose as Sarkozy has pointed out, for which we have a kind of responsibility. Crisis he said doesn't only make us free to imagine other models, another future, another world, it obliges us to do so, and a friend of mine, a female friend I hasten to add, looking at that, imagining other models, did remark 'I wonder what Carla Bruni thinks about that'. [Laughter]
- But the more serious point of course is that what Sarkozy is pointing out to us here is this is not a trivial moment in history. It is a moment in time, actually, at which we should sit back, reflect on what has happened, and at which we do have a profound sense of responsibility to create a different set of institutions, another economy, a different sort of society, one which has a decent chance of making it for the lives of our children and grandchildren.

Thank you very much.

**Phil Hanlon:**

Thank you very much indeed.

What we're going to do is first of all announce, if you don't know, that there is lunch at 12.30, so that takes any pressure off you with respect to what your plans are for immediately after we finish. And what we want to do is, I think, rather than just ask questions and you bat them back, a conversation is what we're looking for, so please feel free just to make an observation or a comment. If you move into speech making mode, I'll thank you politely and we will move on. So I'm going to give you literally a moment or two to stand up and stretch your legs, you can just say a word or two to people round about you about what you're going to say when you get the microphone, and then we will settle down, literally in about 90 seconds and start the conversation. So please do stand up and make yourself comfortable for the next minute.

Okay folks, if you would have a seat. I'm perfectly sure that there are going to be lots of people who want to say something, so who would like to start us off? Just raise a hand and do remember that some of us are deaf, and do remember just to let us know who you are.

**Phil Hanlon:** Tim, thank you very much [applause].