COMMONWEALTH OF AUSTRALIA

Official Committee Hansard

HOUSE OF REPRESENTATIVES

STANDING COMMITTEE ON ECONOMICS

Reference: Productivity growth in the Australian economy

THURSDAY, 19 NOVEMBER 2009

CANBERRA

BY AUTHORITY OF THE HOUSE OF REPRESENTATIVES

INTERNET

Hansard transcripts of public hearings are made available on the internet when authorised by the committee.

The internet address is:

http://www.aph.gov.au/hansard

To search the parliamentary database, go to:
http://parlinfo.aph.gov.au

HOUSE OF REPRESENTATIVES

STANDING COMMITTEE ON ECONOMICS

Thursday, 19 November 2009

Members: Mr Craig Thomson *(Chair)*, Mr Andrews *(Deputy Chair)*, Mr Bradbury, Mr Briggs, Mr Fitzgibbon, Ms Jackson, Mr Morrison, Ms Owens, Mr Anthony Smith and Mr Turnour

Members in attendance: Mr Fitzgibbon, Ms Jackson, Mr Morrison, Ms Owens, Mr Anthony Smith, Mr Craig Thomson and Mr Turnour

Terms of reference for the inquiry:

To inquire into and report on:

The key factors influencing Australia's productivity growth rate, focusing on, but not limited to:

a) trends in Australia's productivity growth rate during the past 20 years and reasons for the recent trending decline;

b) trends in productivity growth rates against other OECD countries;

c) the adequacy of productivity growth measures;

d) the contribution made by microeconomic reform to the permanent improvement in the growth rate of productivity and the continuing effectiveness of the microeconomic reform agenda;

e) the willingness and ability of small and medium enterprise to adopt best practice technology;

f) the adequacy of the level of investment in physical capital;

g) the adequacy of the level of investment in public infrastructure;

h) the level of resources devoted to research and development;

i) the adequacy of resources devoted to training and development of the labour force; and

j) the key reforms and measures that can be undertaken to lift Australia's permanent rate of productivity growth.

WITNESSES

Committee met at 9.34 am

CHAIR (Mr Craig Thomson)—I declare open this public hearing of the inquiry by the House of Representatives Standing Committee on Economics into raising the rate of productivity growth in the Australian economy. To date the committee has received 27 submissions to this inquiry. Submissions have been comprehensive and have raised numerous issues. Today is the third public hearing of the inquiry, to allow the committee to consider these issues in more depth. As part of the inquiry's terms of reference, the committee will investigate the productivity growth trends in Australia and other OECD countries over the last 20 years, the adequacy of investment levels and physical capital in infrastructure, the levels of resources devoted to human capital and research and development, and strategic reforms and measures that could be undertaken to lift Australia's productivity growth. We will also consider the appropriate measurement of productivity growth. Today we will hear from Dr Lee and Professor Quiggin, both academic economists. The hearing will be conducted via teleconference and audio broadcast on the parliamentary website.

[9.35 am]

LEE, Dr Boon Liat, Private capacity

Evidence was taken via teleconference—

CHAIR—Welcome to today's hearing. Do you have any comments to make on the capacity in which you appear?

Dr Lee—Yes. I am an academic, a lecturer at the School of Economics and Finance at Queensland University of Technology.

CHAIR—Thank you. Although the committee does not require you to give evidence on oath I should advise you that these hearings are legal proceedings of the parliament and therefore have the same standing as proceedings of the respective houses. We have received a written statement to this inquiry from you. Do you wish to make an opening statement to the committee?

Dr Lee—Yes. Thank you for the opportunity to appear before the committee today. I will make some comments which will address the following terms of reference: firstly, the adequacy of resources devoted to training and development of the labour force; and, secondly, the key reforms and measures that can be undertaken to lift Australia's permanent rate of productivity growth.

I am sure most of you are wondering about my one-page document. My reasons for this are simple. Numerous studies on Australia's productivity growth have already been done, and the committee would have gone through numerous detailed empirical studies on Australia's productivity growth, based on the current list of submissions. Hence, my aim is to focus on identifying the underlying problem and what needs to be done.

A study by Parham in 2004 noted that a review of studies on Australia's productivity surge reinforced the importance of investment in physical and human capital to long-term productivity growth and pointed to three underlying factors—research and development, openness to trade and the use of information, and communications technology—as having a specific influence on the 1990s surge. Moreover, the review of studies suggested that these factors are not unrelated and appear to be linked to a number of government induced reforms in the policy and institutional environment. Note that the reforms in the institutional environment will play a major role in long-term productivity growth in a country, an example of which I will mention shortly.

It just so happens that the recent nation-building plan, the Building the Education Revolution program, focuses on the building and rebuilding of primary and secondary school infrastructure and maintenance in Australia's schools. This is the first step that needs to be addressed and in an appropriate manner which must be efficiently coordinated with human capital development. Simply improving and enlarging a building will not suffice. Nonetheless, this aspect addresses the weaker capital deepening—that is, the reduction in the capital/labour ratio—as noted by

Parham in 2005. However, even with greater capital deepening, the level of investment in physical capital is a short-term solution as diminishing marginal returns will eventually set in.

What we can see here is that we have in place an investment in physical capital but it is lacking in human capital development. From my own personal experience as an economics lecturer teaching first year economics from 2001 to 2007, I have realised that many of these students have limited critical thinking abilities and below average numeracy skills. What is more alarming is that we, including some of my colleagues, now provide basic maths skills to these students at the university level which should have been provided at high school—or, just from my personal experience, are they not taught effectively enough? This is very worrying, as these students will eventually become Australia's future leaders. I see that this is where the problem lies: the education system of Australia needs a major overhaul and a reassessment of Australia's workforce.

While I admit that there is currently no empirical evidence to show that the reform in Australia's education system and workforce will result in long-term productivity growth, a study by Kuruvilla, Erickson and Hwang in 2002 entitled *An assessment of the Singapore skills development system: does it constitute a viable model for other developing countries?*, published in the journal *World Development*, indicated that the Singapore skills development system, in short SSDS, had been rather successful in improving the education and skills of its workforce. One of the main reasons these authors used Singapore as their case study is that Singapore is the best known example of a country that has successfully and continuously upskilled its workforce over a period of 40 years.

In addition they noted that SSDS was a major contributing factor to Singapore's consistent top ranking in comparative surveys of human resource development. In *The global competitiveness report 2009-10*, under the category 'higher education and training', which measures secondary and tertiary enrolment rates and quality of education assessed by the business community and includes staff training and upgrading of skills, Australia was ranked 14th while Singapore was ranked fifth. The year before, Australia was ranked 14th and Singapore was eighth. The year before that, Australia was 14th and Singapore 16th. So you can see there is some catch-up on Singapore's part.

You will be wondering what SSDS is. To explain in detail would take some time, so I will do it simply by identifying the salient features of it. Firstly: structure of the institutional environment. The Ministry of Trade and Industry in Singapore is responsible for broad economic development policies. A semi-autonomous agency known as the Economic Development Board supports the Ministry of Trade and Industry, with the primary function of attracting foreign direct investment and meeting foreign investors' demands for the required skilled personnel. Here we can see the linkage of economic development and skills. The National Manpower Council has overall responsibility for matching the demand for and supply of skills in the economy. Based on existing levels and estimated future needs, this body works together with the universities, polytechnics, schools and skills development institutes to ensure the supply of sufficient numbers of workers with the desired level of skills for industry requirements.

The second feature, which is technology transfer, is the provision of incentives for foreign investors to set up training centres in collaboration with the state while guaranteeing the foreign investors the right to hire a portion of the graduates from these training centres. Doing so ensures

that foreign investors will not face skills shortages in a tight labour market, given that they have some control over the supply of skilled people. This is an example of the state being able to play a leading role in providing incentives to foreign investors to invest in skills development in a way that benefits both foreign companies and local workers. This demonstrates the potential value of linking national economic development policy to skills development policy.

Third is education reform. Since 1990, the education policy in Singapore has changed, focusing on increasing creativity in schoolchildren. This approach was aimed to address the perception that Singapore graduates, while analytically sound, lacked creativity. The Ministry of Education targeted five areas for redesign and improvement: firstly, a conducive school environment; second, the curriculum and assessment system; third, teacher development; fourth, pre- and post-education offices, developing Singapore as an education hub.

Why did the Singapore government put so much emphasis on changes in education policy and the upgrade of working skills? The well-known arguments of Krugman in 1994 and Young in 1995 that Singapore's growth was more perspiration than inspiration would no doubt have spurred the Singapore government to address this issue. Kuruvilla, Erickson and Hwang in 2002 noted that before 1996 growth in Singapore was the result of more inputs of capital and labour and not of productivity growth, but thereafter productivity growth in Singapore has been high, largely due to the establishment of the SSDS. It is important to note that the study by Kuruvilla, Erickson and Hwang identified that Singapore's model may not easily be replicated by others, but that should not be a hindering factor. In fact, one should attempt to learn from Singapore's experience and adopt policies or methods appropriately and where applicable.

I thank the committee for allowing me to make these opening remarks.

CHAIR—Thank you for that. In your opening remarks you indicate that Building the Education Revolution is a positive thing in terms of productivity growth but just a short-term issue in relation to what you think needs to happen in the education system as a whole. Is that a quick summary of what you just said to us?

Dr Lee—That is correct.

CHAIR—In relation to investment in human capital, you set out a pretty comprehensive plan looking at teacher development, but I think the most interesting aspect of what you said is looking at changing our curriculum so that creative thinking is part of it. Is that what you evidence suggests?

Dr Lee—That is only one of many aspects in terms of the education policy that needs to be looked at in detail.

CHAIR—Is there a particular age that we should be aiming at? We have had some evidence about the importance of investing in human capital particularly at a very early age.

Dr Lee—Yes.

CHAIR—I gather from what you said that the change needs to be comprehensive across all levels. Is there any particular area that we need to start with in terms of your suggestions?

Dr Lee—I guess the one very important area which I feel really needs to be addressed is the standard of numeracy skills—basic maths. Students coming to university just cannot grasp basic maths. That is a bit of a surprise not just to me but also amongst my colleagues. I think that is something that needs to be targeted at a level before university, so that would be junior high to high school level. That needs to be addressed as soon as possible. Wherever they go, when these students graduate and go to the workforce, maths is fundamental; it is needed. Of course, there are other areas where there is potential for development before junior high, at primary level. After all, whatever level we are at we are always learning, but I think the most important thing is the level just before university.

CHAIR—Is there a particular level in relation to creative thinking? In your opinion, if we do not change the curriculum, will the existing system drum that out of children before a certain level? Is junior high school the area that we should be concentrating on for creative thinking as well?

Dr Lee—It would probably be at a young age, because when students are at primary school level they are very curious and they ask a lot of questions. I have nephews and nieces at that age and they ask a lot of curious questions. We do not want to stifle that curiosity; we need to nurture it, but appropriately. At that level in schools, rather than just saying to them what science is, maths is and other subjects and having them regurgitate it, we need to reassess what they have learnt and how they can answer specific questions in a more creative manner, basically giving them projects and thinking-outside-the-box questions. My own experience is that my nephews brought back their exam questions—they were then attending primary school in Singapore—and the maths questions were set in such a way that even parents could not answer them; it was very applied even at primary 3 level. It would have to be targeted at a very young age and nurtured throughout their pre-university education levels.

CHAIR—You also mentioned teacher development. Is there anything from the international experiences that you have taken us through that we should be looking at in terms of the emphasis on teacher development?

Dr Lee—I cannot really give much emphasis because I have not done much research in teacher development in Singapore, but I have a former classmate who is a teacher in Singapore, and from my understanding, in terms of maths, for example, she had to retrain herself in the way maths is taught and how to do certain calculations, and it is not the way I was taught. I cannot give you specifics now because it has to be hands-on experience. If you are curious, I could try to gather some information and send it to you by email.

CHAIR—That would be appreciated.

Mr FITZGIBBON—If I were to bump into another committee member who was not able to make the hearing today and he asked me what you said, and I had to give a 30 second answer, I would probably say that you suggested that raising Australia's productivity would be a multifactorial approach, but you put a very heavy emphasis on a greater, more efficient and effective investment in human capital and then went on to give a fairly damning critique of Australia's education system. Would I be misrepresenting you?

Dr Lee—I would not say that 'damning' is the word I used. If we are focusing on the status quo and are happy to go along with the current curriculum, that is fine because to some extent I am a strong believer in the fundamentals, like understanding the basics of maths, science and so on and so forth. If we need to go beyond, to the next level, we have to be creative, whether it is change in teacher development, curriculum assessment or how we coordinate resources in terms of physical capital and human capital, or a combination.

Mr MORRISON—When you are referring to the Singapore experience and talking about junior high school and arguably lower than that, what sorts of time lags in the impact on productivity did the Singapore government anticipate where that policy would pay dividends?

Dr Lee—This one is a tough question because, from what I understand about the Singapore system, the skills development program, it was initiated a few years after the recruitments commenced. So think back to the mid-nineties, now it is 2009 and we are talking about nearly 15 years already. If we are thinking in terms of students who have just entered school at primary 1 or primary 2, they are now probably ready to enter the workforce, which means that most of these students are about to graduate from university or, if we have to take into consideration those who are doing national service, they are not in the workforce yet. What you have mentioned intrigues me because it is a study I would like to undertake to analyse the actual empirical outcomes of this system, what is going to happen in Singapore's productivity growth in the next 10 to 15 years. That would be a very interesting study. Back to your question: I cannot give you any empirical evidence as such.

Mr TURNOUR—You are focusing the building of human capital and very much talking about education. I have an electorate with a lot of unemployment at the moment and when you talk to people in the business community and others, there is quite a large section of my community who have not necessarily achieved grade 12 or have higher qualifications. We could talk about the education sector but have you looked at some of the other social determinants in terms of people's micro reform in relation to the social security system, the housing system? Are they systems which lead to pockets of disadvantage around the country and what impact does that have on people's aspirations and expectations in life because schools do not operate in isolation—they are part of the community? I suppose I am asking you more about the broader community issues in relation to productivity.

Dr Lee—I want to clarify your question. Are we referring to the unemployment issues within your—

Mr TURNOUR—No, I am not specifically asking about that. I just used that as an example. The issue is that you can have some fantastic schools and some fantastic educators and they can make a difference but you can also have some issues in relation to intergenerational welfare dependency or people in other areas who have not had educational opportunities and the like. Is there any working being done on the issues in terms of the demographics of Australia and the potential to uplift people who may not have such a good education? That is about schools but it is also about some of the other social determinants—availability of good quality housing or support services in the welfare sector and whatnot?

Dr Lee—Let me just refer back to the Singapore system. It works for them simply because Singapore being a small country it is easy to manage. But Australia poses a much more complex

situation because of, as you say, the regional areas being further away from access to schools. Even if one wants to build a school in a region, it takes time, it takes money. I will not be able to address that issue because I am not familiar with the social welfare aspects. Rather than me trying to conjure up reasons, the truth is that I am not able to address that question.

Mr TURNOUR—But would it be fair to say that people's education can be influenced by the housing they live in, the support they might get through social services and the like and their capacity to get a decent education and the delivery and quality of those services would therefore impact on productivity and will also directly impact on educational outcomes?

Dr Lee—If you are referring to education which results in the improvement of one's welfare—it may not be in monetary terms—yes, because a happier worker will be willing, will voluntarily work harder and be happier. Yes, I believe that education does serve a good purpose in that sense. It is often just finding the right people and being in the right place, yes.

Ms OWENS—I am not quite sure how to phrase this question so it might make it a bit of a statement and then ask for a response. As a person who comes from the highly creative industries, I find the notions of productivity really quite narrow. As I go through this process, I find that the areas we talk about in terms of improving productivity tend not to be areas that are covered by measures of productivity. We talk about health, education and creativity as elements that improve the human capacity—I call it 'human capacity' not 'human capital'—yet none of those are measured within the realms of productivity. It seems to me quite contradictory or it seems to expose serious flaws in the way we measure the movement of our economy. Does that make sense?

Dr Lee—I would need to hear again what you just said because half way through there was a bit of noise along the corridor. Could you please repeat what you said? Sorry.

Ms OWENS—Maybe. It seems that when we talk about productivity growth, then a lot of the areas that we talk about in terms of human capacity—health, education, creativity—are areas of the economy which are not covered by the measures of productivity, that they are outside the market sector. So when we start to talk about productivity we immediately start to talk about things that are not covered. That seems to me to expose flaws in the way we measure our output. Does that make sense?

Dr Lee—I think I understand what you wanted to say. The first thing to mention is that economists, like scientists, always focus on a quantitative aspect in terms of measurement. When we talk about measuring productivity, it is the basic approach of the amount of inputs and what outputs we get from that. It is an unfortunate approach, because it is usually difficult to capture the qualitative aspects of productivity. But I guess one would consider that maybe productivity has this intangible aspect, the welfare aspect, and that that is not being captured. It probably was captured initially in the learning process in terms of creativity. How do you measure creativity? That is very difficult. But, through creativity, the individual will eventually develop and, in the future, could become more efficient in the sense of taking fewer hours to produce more outputs. This is a very simplistic explanation. If you have a healthy body, you do not need to see doctors very often. If you have a healthy mind, it stimulates a sense of euphoria and you are able to work better. While those things are not quantifiable they would, in a sense, still be inputs and result in greater outputs. They are still captured but that are not tangible in that sense.

Ms OWENS—They are interesting, aren't they?

Dr Lee—Very interesting.

Ms OWENS—I am also quite intrigued by the intangibles that cause lost productivity and the things that we do in order to minimise those losses. We talk about 'preventative health' which minimises the lost productivity of a person as they go downhill physically. We talk about 'community' which recognises when a person starts to fall and the community may provide a safety net. We even talk about 'crime prevention'. These things actually minimise lost productivity. I do not think we have talked much about them at all so far in this inquiry.

Dr Lee—No. Once again you have raised an interesting issue. You talked about crime prevention. Things such as that are not captured. It is interesting to look at them and to see whether there have been studies in this area. I have been taught so many ways to look at productivity but not once has anyone mentioned this aspect of productivity and whether it has a negative impact on productivity. It is worth while to venture into this area of research.

Ms OWENS—Another issue came up very briefly when we were talking to the food industry—and I want to ask you about this because you seem to be very interesting—which is that some sectors go through one cycle of production and effectively exhaust their contribution. Others feed back into the capacity of the population or the economy. ITC does that, for example. It measures the productivity in that sector itself but then its outcomes feed back into the productive capacity. So to measure its output is not necessarily the end of the story. Some cycle around, over and over again, and some stop. Is there a model that looks at the differences?

Dr Lee—When you talk about models, are you talking about statistical models and things like that?

Ms OWENS—Yes.

Dr Lee—I have always used models that measure production—things like stochastic frontier—that are all standard measurements. It is usually about input into outputs. You have mentioned something that many, many economists and researchers have identified, which is that some outputs become inputs which then result in outputs. But there is no model that does that. They only do it with a very static approach, which is one stage to the next—and that is it. Until a model is developed to address this issue, there will be a lack of knowledge of how to quantify information. Once again, it is an interesting area and I can probably raise it with some of my colleagues and try to conjure up a model for it. It is a complex but valid question. These are real issues and we need to address them. Further to your comment, what you just said sounds like a recycling process, and it addresses any negative environmental issues. If we can create outputs that eventually come back as inputs then they are self-sustaining. I think that is a worthwhile issue to look at.

Ms OWENS—Thank you.

CHAIR—Dr Lee, thank you for your evidence today. It has been a very important contribution to our inquiry. I think there was one piece of additional material you suggested that

you would be able to provide to us by email. If you could be in touch with the secretary about it, that would be most appreciated.

Dr Lee—No worries.

CHAIR—You will be given a copy of the transcript of evidence. If there are any corrections of gramma or fact that you want to make, could you get those back to us as soon as possible. Once again, thank you for your contribution today.

Dr Lee—I am glad to provide feedback. Thank you.

[10.06 am]

QUIGGIN, Professor John, Private capacity

CHAIR—Welcome. Do you have any comments to make on the capacity in which you appear?

Prof. Quiggin—I am a Federation Fellow at the Schools of Economics and Political Science at the University of Queensland, and I am appearing as a private citizen.

CHAIR—Thank you for that. Although the committee does not require you to give evidence on oath, I should advise you that these hearings are legal proceedings of the parliament and, therefore, have the same standing as proceedings of the respective houses. Would you like to make an opening statement?

Prof. Quiggin—I will make a brief statement. The debate about productivity has for a long time been cast in terms of a policy agenda that was dominant during the 1980s and that centred on issues of microeconomic reform. There is a long statistical debate about the extent to which any increase in productivity in the mid-nineties was a genuine outcome of those reforms or merely a statistical blip. I have taken the view in my evidence that the evidence is not really sufficient to determine whether there was an upsurge in productivity followed by a slump or whether that was merely the product of seeing patterns in the data. Regardless of that issue, it is my view that the 1980s agenda of microeconomic reform has been exhausted and that we need to look in new directions for increased productivity that particularly focus on expanding participation in education and also on new policies designed to take advantage of the information revolution. That is my statement. I have also submitted a brief response along those lines to the terms of reference of the committee. I hope you have received that.

CHAIR—We have not received that yet, but the secretariat will be in touch with you to make sure that we do. We will go to some questions now. I think in your 2001 paper, *The Australian productivity 'miracle': a sceptical view* that one of the key reasons that you were sceptical of the so-called 'miracle' of productivity growth in the 1990s was measurement errors in productivity. Would you like to elaborate a little on that?

Prof. Quiggin—There are a number of issues. One, which in retrospect I think is probably most important, is the so-called productivity cycles. These were internal features of the productivity data; they were not related to the macroeconomic cycle. They enabled the Productivity Commission and ABS, who produce these things, to pick out a relativity short period of strong productivity growth and treat it as a separate event rather than doing what I would consider more appropriate, which is to view it—this is in the mid-1990s—in the context of recovery from the severe recession of 1989-91, which had a big negative effect, particularly on capital productivity. I do not think that idea of productivity cycles really stands up to economic analysis. Of course, I took that view in 2001 and the implication was that the productivity miracle of the time would not be sustained, as in fact it has not been.

A second important issue is that there was a strong phase of work intensification, increased working hours and increased work effort during the nineties. That remained in place to some extent but it certainly fell off in the 2000s. We saw people in various ways trying to take back time, and we are still of course debating those issues. But the real peak of work intensification took place in the 1990s.

Those two factors really suggested to me, at the time the so-called productivity miracle was being debated, that it would be at most a once-off blip rather than a move to a sustained new economy as was claimed, for example, by the Productivity Commission at the time.

CHAIR—In looking at ways of stimulating future productivity growth, you have mentioned expanding participation in our education system. What sorts of measures should we be looking at to achieve that outcome?

Prof. Quiggin—There are a wide range of measures. The first point, if we go back to 1990 and beyond, is that the microreform agenda as applied to education has really taken it to be a business supply and consumption good and sought to drive the usual kinds of efficiencies, cutting out gold plating and so forth. The evidence seems to be that those measures have really had the effect of depressing participation. First school reform depressed participation in the completion of high school, which had been growing very rapidly from the mid-1970s to the 1980s. I think we have not had the kind of growth in participation in the TAFE sector we ought to have had. And we also have had long periods of fairly stagnant participation of new undergraduates in higher education—domestic undergraduates, that is; universities have relied very heavily on foreign undergraduates both to keep themselves afloat and for growth in numbers.

So there are a wide range of measures that we need to look at, and some of them have been addressed in rhetorical terms in the current government's education revolution policies, but because of financial stringency many of those measures have not actually been carried into effect and backed up by funding.

CHAIR—Which of those in particular do you think we need to be placing a greater emphasis on?

Prof. Quiggin—Clearly, for example, the expansions in higher education funding that were promised have not been delivered. I think we really need to look hard at the way we are handling technical and further education. That is an area that is still spread between the states and the Commonwealth and between public and private providers in a mode that, again, is driven by 1980s notions of microreform rather than by the objective of expanding our skill base. We really should be integrating TAFE and other forms of higher education much more closely than we have been.

CHAIR—That was one of the important recommendations of the Bradley review as well, I think.

Prof. Quiggin—That is correct. It has been on the agenda for a long time but, as I said, we have not had the kind of attention to these issues that we really need. Instead, in a lot of economic commentary we unfortunately get a real focus on fourth order issues like, for example,

parallel imports of books. These kinds of issues are no longer very important. There are not many remaining interventions in trade that have a significant effect on the Australian economy. We really need to be looking forward rather than backward in terms of our productivity agenda.

CHAIR—You have given us some examples in post-secondary school education where there is a need for more resources and greater integration. There has been an international debate about starting ages for school and the effect on productivity growth of placing greater emphasis on early childhood development. Do you have any views about that, in particular?

Prof. Quiggin—I am not an education expert, especially in early education, but the evidence on the potential for beneficial interventions in early childhood seems to be pretty strong. I do not have views on which particular interventions are needed, but clearly these are issues that we need to be focusing attention on and not regarding as soft additional extras, which I think has been a significant view in the policy debate for a long time.

Ms JACKSON—I am very sympathetic about some of the issues you raise and I worry about the level of both public policy debate in Australia and the commentary on it. It seems to me that we have this chicken and egg situation where the focus is very narrow, partly because of economic measures like productivity, and yet the answer is often elsewhere. You want to have a public policy debate that justifies spending additional resources in higher education, vocational education, the creative industries and early childhood education, but frankly we have a policy debate and paradigm partly dictated by economic measures like productivity which do not justify it. I do not know if I am making sense.

Prof. Quiggin—You are. We see this even at simple levels where the economics profession is very strongly agreed that we have investment measures but those measures do not include investment in human capital. That is something which economists across the board would pretty much agree was a mistaken viewpoint. More generally, I am sympathetic to the points you raise about the creative industries and productivity.

I think that if we look at the sources of global productivity growth over the past 20 years, including in Australia, one thing stands out, which is the growth associated with the internet. That was not the product of large-scale investments aimed at increasing, for example, corporate output or measured productivity; it was produced initially in the university sector and then, more broadly, largely by the users investing in their own creative activities. We have certainly seen, later in the piece, some useful contributions from companies like Google but, broadly speaking, this has been a spontaneous development of a creative society. That is really now what business and governments, to some extent, are playing catch-up to in taking advantage of tools that have been developed outside the traditional modes of investment in physical capital. In this context I would commend the work of the Government 2.0 Taskforce which is currently looking at these questions.

Ms JACKSON—I agree with you in that regard, though again I think that, now the internet has reached a stage where we can measure it for productivity, everyone is beginning to recognise how spontaneous it is. I think we need to look responsibly at new measures of good economic performance that are not as narrow as the current measures we appear to be using on productivity.

Prof. Quiggin—I think it is partly a matter of improved measures and partly a matter of not getting hung up too much on the measures. As I pointed out, there is a great deal of noise in every statistical measure. They work well for certain purposes. For example, a measure like GDP is very useful in telling whether the economy is expanding or not, and that is very important for the government in deciding its fiscal policy. But it is not—and economists recognise this—a good long-run measure of whether the economy is delivering the kinds of goods and services that actually increase welfare. Certainly, it is not a good overall measure of how Australia as a society is travelling.

I think it is partly a matter of trying to improve the measures but it is also important not to accept that because something has been calculated as a number it is in some sense an objective fact that cannot be again assessed. There are numbers that rely on a supporting measurement theory and they are always surrounded by substantial errors. We really need to take a broader view, as I think you are saying.

Ms JACKSON—I agree. Just finally, I think one of the significant impacts on productivity is perhaps—as unfortunate a measure as it is—has been the increased participation of women in the workforce over the last couple of decades. I wonder if you would agree with me that tackling the barriers to women's increased participation in the workforce would be sensible economic policy to look at improving productivity.

Prof. Quiggin—A measurement problem is that the work that mostly women do in the home is not included in productivity measures.

Ms JACKSON—I agree.

Prof. Quiggin—The paid workforce is included so, again, we do not want to be misled by that. Certainly, I think what we need to be looking at is providing people with the kinds of flexibility that may enable them to make the most productive contribution to society, both in the workforce and out of it. Again, many of the measures promoted under the banner of microeconomic reform really have had the opposite effect. The difficulty, for example, of sustaining a core workforce full-time job has increased steadily, as we have seen, with the working hours associated with those jobs increasing, as we have seen, certainly in subjective perception, job security in many of those positions decreasing. I think we need to be looking at making available to people the opportunities to make the most productive contributions to society that we can. The removal of those barriers to women's participation is one, but we could also hark back to the questions of early childhood intervention, and making sure that as few as possible young people go off the rails and miss those chances that are crucial in a modern economy.

Ms JACKSON—Sure. Thank you.

Mr FITZGIBBON—Professor, just going back to your challenge to the accepted view of the productivity miracle of the early 1990s, I am wondering out aloud whether you would also therefore argue that, if you like, the broader consensus on those gains drove a complacency, both in government and in the broader community, that caused us to go to sleep. We were able to claim that we had done well, so there was no need to do more. Would you agree with that proposition?

Prof. Quiggin—There are elements of truth to it, but I think it can be overstated. As you see in my submission, I point out that the productivity miracle and the daydream is in the late 1990s. After that period we still saw a substantial number of the elements of micro reform agenda either come into effect or actually be adopted and implemented. So, left over from the Hawke and Keating Labor governments, the national competition policy agenda really did not take practical effect until the end of that period of the productivity miracle. The main institutions were set up in 1996. The reforms that they drove really took place largely from 1988 onwards, and they were quite extensive. The privatisation of Telstra was also seen as an important micro reform initiative and that took place after 1998. A series of labour market reforms culminating in Work Choices also took place then, also the creation of the Job Network to replace the Commonwealth Employment Service. So I think there certainly was some slackening off in the pace of microeconomic reform after 1998 but if you had accepted the analysis of the Productivity Commission that we really had transformed the economy and were continuing to transform it, I do not think we would have seen the kind of slump in productivity growth that actually shows up in the data.

Mr FITZGIBBON—You mentioned the Job Network which partly stymies my supplementary question. I think you would also agree that the next big gains will be in the area of human capital and it is fair to say that politically that is probably the most difficult area of all—not that some of the earlier things were not.

Prof. Quiggin—I absolutely agree with that. As I have mentioned in previous statements, I do not think that on the whole the micro reform agenda has been particularly helpful in that regard. As I have said, it really has largely treated education as if it is a government provided consumption good, that the driving force has been to drive cost efficiencies in that area rather than to look at the question of how we can best build human capital.

Mr FITZGIBBON—Can I invite you to expand a little bit more on your views on TAFE and integration with the rest of the system.

Prof. Quiggin—Again, I am not an expert on these things but it does appear to me that this is an area where clearly we are falling short in terms of the realised outcomes. It is one where we did not see the shift from state to Commonwealth funding that occurred at the university education level and to some extent the conversion of the old college of advanced education into universities has created more of a gap that needs to be filled and is partly being filled by the TAFE sector but without the kinds of changes in funding an organisation that I think we need. There are, of course, a bunch of useful measures about articulation and so forth but I really think we need a more comprehensive reform of the kind we will get if we adopt, as I have advocated, an objective that every child should both complete a high school education and go on to get some form of post-secondary qualification, whether that is an apprenticeship, a TAFE qualification or a university degree. Unfortunately, to some extent we have seen a commentary suggesting that really we only need to give a relatively small elite of people a university education and that other people would be better off leaving school at year 10 or perhaps year 12 and going straight into the workforce.

Mr ANTHONY SMITH—I agree with everything that was said there. On lifelong learning more generally, I agree there has to be a big focus on what I suppose you would call the base structure of education and training, but what sorts of policy responses do you think can be

effected for lifelong learning? If you look at the last 20 years, we have really entered this phase where people going into the workforce will be dealing with monumental technological change in so many ways. If I can try to humanise that, my oldest friend who I grew up with lived in the street but he left school at year 10 to be an electrician—that is all he wanted to be. One of the reasons he left school was that he hated computers and now that is all he works with. He is quite successful but in an IT area, in a job and a career that no-one would have predicted 20 years ago. I have another friend with a similar experience in the car industry. He is a motor mechanic who said he hated maths and hated dealing with numbers and computers but now his whole place is automated and he cannot service a car with it. That has evolved, but how do we support lifelong learning?

Prof. Quiggin—I think an important basis for starting young was that we had—and to some extent again there was a push in this direction in the 1980s and the 1990s—very much a view that you get a ticket and you have a job for life. Particularly people in technical qualifications were streamed out of the school at the end of year 10 and there really was not much of an effort made to keep a large number of those students at school. If we are going to have lifelong learning, the first thing that is needed is the capacity to adapt and that means keeping people in general education for longer if possible because that provides the basis for being flexible, as opposed to having very specific skills.

In looking at lifelong learning, it goes hand in hand with a more general education approach. That in turn increases the importance of making school an attractive environment, and particularly in young males that is an area where there is a big problem. I do not have instant policy responses to that but it is something which we should as a community be paying more than the kind of relatively episodic attention we pay to it at the moment. We really need not to lose people at year 10 out of the school system, particularly if they are not going on to a skilled trade of some kind. But, even if people are going onto that, the more we can give them a base in general literacy and numeracy skills, the more easy they will find the adaptation that continues.

Both the TAFE system and shorter courses offered by other parts of the higher education system have a big potential role, and we are certainly playing much more of a role than in the past in terms of lifelong learning. But it is important to focus on getting the basics right, and the basics are to try and make sure that every child completes a good general education and then proceeds to the kind of training that will equip them for their first career.

Mr TURNOUR—On the issues in relation to education, I think we would all agree, and we have had other evidence this morning, on the value of education. Have you got any comments on some of the broader issues such as community renewal and revitalisation, and how those agendas should be picked up within a productivity debate in the community being important in terms of people's aspirations and expectations around education and lifelong learning or employment?

Prof. Quiggin—Of course there are a range of issues there and they are very different. For example in rural and regional communities, broadly speaking, you have a group of people who live and work more or less in the same community compared to the city areas where you have long distances between where people live, where people work and where people might socialise. The notion of community in urban areas where the majority of Australians live is a rather different one from the kinds of problems or opportunities that arise in more compact and

connected regional communities. I think there is too much for me to cover at this point, but I will stress again the important potential of online networks to provide both various forms of communities to support physical community and to provide more isolated people with the opportunities to link up with each other and also to drive productivity in the more traditional sense of the term.

All of the things we are doing now were developed largely not by people seeking to re-engineer production processes but by people like academics who naturally want to communicate with each other, send each other their papers and so forth. The networks were built up in the early days of the internet before even the world wide web had grown to give us these very powerful tools which are now driving productivity in the traditional sense. Clearly the central motive for participation in the internet is community. If you look at the top 10 sites they are all community sites of some kind or another, so that those kinds of interactions I think are crucial. That is not to suggest that online kind of interaction can displace real physical communities.

Mr TURNOUR—I have one other question on a different topic. I heard your comments earlier on in relation to microeconomic reform. What about the issues in relation to the COAG agenda and the different business environment across the different state boundaries? For example in relation to education I get people coming to see me, and it is mainly a state issue about not being able to use one form of electrical qualification in Queensland because you were educated in New South Wales. What about some of those sorts of issues in terms of a national economy across the range of different areas and the impacts or the benefits that might have on productivity?

Prof. Quiggin—I think there a range of potential forms and we do not want to have arbitrary differences between states of the type you have described, and the COAG agenda has done a significant amount of good. There are certainly more things remaining to be done in ensuring that we do not have different states making up different rules just because that is the way they have always done things. On the other hand I think it is important to avoid centralisation for its own sake. Each of the capital cities and the rural communities that support the cities in each state is different and has its own circumstances. There is sometimes a tendency on the COAG agenda to seek uniformity for its own sake. We need to strike a balance between dealing with the kinds of policies which made sense in a less mobile period of letting each state set its own standards for all sorts of things and not really seeking to harmonise those standards without having federal government ministers trying to make decisions that could me made, perhaps, at a state or local level.

Ms OWENS—Could I go back and talk a bit about creativity. For many decades there were theories that it was not possible for the performing arts industry to increase its productivity for extant works—Baumol and Bowen did endless texts on it—yet the industry has improved its productivity in other ways. It created the big band, for example, so it did not have to use the orchestra and then it learned to amplify it. It did all sorts of things that improved its ability to communicate with its audience. None of those things happened in the work context, because none of those advances can actually be owned. There is no copyright or patent law that allows you to own a different way of doing things. So most of it happened well below the bottom line, out of the workforce, with people who were essentially doing it for reasons other than work. The internet is another example, which we talked about earlier, of something that has emerged from totally outside the sector we normally see as driving productivity. When we talk about creativity,

to what extent are you talking about pure creativity and to what extent are you talking about practical creativity? I could draw the same parallel with scientific research, actually, and probably with academic research.

Prof. Quiggin—Certainly, I am trying to use as broad a term of creativity as possible, so not merely the creation of new artworks in the traditional sense of the term, important though that is, but really creative innovation, particularly in the context of productivity—creative responses to the possibilities generated by new technologies. I think that has been an absolutely critical component of improvements in living standards over time.

You pointed out intellectual property. It is my view that on the whole in this kind of area intellectual property is an obstacle both to creativity and to productivity growth and not really a mechanism that helps to encourage innovation. The typical mode across a wide range of creative activities, in particular software programming and so forth, has been that the protection of patents has been used more as a device to stymie competitors, extract rent and so forth than as an incentive to innovate in new things. Certainly, what we want to do is to encourage creativity, and within large organisations that entails a shift away from the tightly incentivised focus that, again, has been driven by the 1980s agenda. We really need to give particularly creative professionals, which certainly includes academics, room to do things outside tightly defined systems of measurement, accountability and so forth, because in some of those things will be found the real source of progress.

CHAIR—Would you like to comment on the impact on productivity of the relative change in the industry sectors that we have had—for example, the great increase in the service sector—and how we measure it?

Prof. Quiggin—I would. I have covered this in my submission to some extent. The first thing of course is that the existing GDP measures we have, the system of national accounts, are designed for the kind of primary, secondary, tertiary system of production that certainly I learned about in school—I think most people of a certain age did—where the typical output of the economy starts with a primary product, that primary product is processed in the manufacturing sector and then retail services and so forth are added on to that. There is a very elaborate and very sophisticated network of netting out the value-added at each stage in that production process. It certainly is a very powerful way of looking at that productive process but it is not nearly as satisfactory in looking at the kinds of directly delivered services—education, health services, even a lot of recreational services—that really dominate larger and larger parts of the economy. My view is that the microreform agenda of the 1980s very much focused on those sectors of the economy that are now shrinking in relative terms and used terms that are appropriate there but it was much less successful when applied to sectors like health, education and other services.

CHAIR—In international comparisons and the comparison with the United States, it is often said that the reason for higher productivity figures from the United States is economies of scale and the much larger population compared with our isolation geographically and the sparsity of the population on a big continent. Does that explain all of the differences in productivity or are there other factors in play in your view?

Prof. Quiggin—Yes. It is important to remember that the US is not, in terms of these productivity measures, the highest measured country in output per hour. Some European countries are significantly higher. To my mind, I do not think that says that those countries are for example technologically ahead of the US. It is just a reminder that that productivity data, especially in the context of international comparisons, needs to be taken with a grain of salt. Certainly I think there are significant events of scale economies that are of benefit to the US and many of those can be captured. Although European national economies are not all huge, the market as a whole is large and permits significant economies of scale. There are almost certainly areas where we could improve looking at other countries. I prefer to look at specific instances of other countries doing things better rather than focusing too much on these kinds of league table comparisons, which I think tend to be misleading. You see, for example, in the data that countries which score very well on productivity numbers often do not do so well on employment. What that suggests is that some of the more problematic participants in the labour force in all countries tend to be shunted out of the workforce. The more that happens, the more your measured productivity can increase, but that is obviously not a socially desirable way of proceeding.

CHAIR—And then you have countries like Finland where there is high productivity, but also people have made the link in these hearings to investment in education.

Prof. Quiggin—I think that is clearly the case, that investment in education is critical, that if you rely indefinitely on luck of one kind or another, in the end that is going to catch up. So it is important to have a skilled and educated workforce and ideally one that is resilient, which has the capacity for the lifelong learning which has already been mentioned. For a long time the US was easily the world leader in terms of education and its longstanding lead in that respect is still evident in the productivity statistics but there have been some significant problems emerging in the US, particularly in terms of access to higher education and so forth in recent years. That is a concern I know for many of the American economists I talk to. In terms of the merits of education, I would certainly point to the huge expansion in participation in college education in the US in the post-war period when really it very much led the world, and it is still reaping the benefits of that. I would also stress that we do not want to get obsessed with numerical measures because there is a huge range of complexity, even, for example, in the exchange rates we use to convert from one currency to another.

CHAIR—Thank you, Professor, for appearing today. It has been very informative. The secretary will be in touch with you about your submission because we do not have that yet and we are very keen to read it. Notwithstanding that, you gave us a very thorough explanation of some of your views in relation to productivity in Australia. Thank you for your participation in this inquiry.

Prof. Quiggin—Thank you for the invitation to appear. It has been very useful.

Resolved (on motion by **Ms Owens**):

That this committee authorises publication, including publication on the parliamentary database, of the transcript of the evidence given before it at public hearing this day.

Committee adjourned at 10.45 am