VALUING THE FUTURE - EVENT SNAPSHOT

Would you choose one lolly now, or two tomorrow?

Centre for Policy Development Seminar Series, 26th May 2014, Melbourne

A select audience and four prominent panellists discussed the hidden choices we make when selecting a discount rate for long-term investments. This snapshot summarises the discussion. A full video recording is also available on the Centre for Policy Development website.

Context

Valuing the future is central to many contemporary debates. For example, how do we consider the welfare of future generations? Who decides what society values, now or in future? Where will future growth come from?

Discount rates allow us to compare the future valuation of something to its valuation in today's currency. They are used to weigh up costs and benefits at different points in time. They can also reflect how much a society is willing to invest for the future, and how much to consume today.

Governments make implicit judgements about the value of current relative to future benefits when they select discount rates for evaluating investments. This seminar aimed to make explicit the choices that are made when we select a discount rate for evaluating long term investments.

Key ideas

- We can't avoid making ethical choices when selecting discount rates. However, democratic institutions may need to evolve so collective decisions reflect the values held by many citizens.
- We benefit today from investments made by previous generations. Yet similar investments – say in infrastructure - may not be made today unless governments take a more considered approach to how high or low to set discount rates.
- Governments today also need to base long-term investment decisions on rational analysis, rather than politics. An informed, independent, centre of civil society may be the best mechanism to drive government accountability for decisions in a democracy.
- We also make assumptions about expected future growth when selecting discount rates. If future growth is increasingly risky or just uncertain, the payoff from saving more now to avoid or insure against declines in welfare will increase the further forward we look. This means discounting long-term payoffs less than short-term payoffs.

FAQ's

Discount rates are mechanisms to…

- compare the future value of something to value in today's currency
- weigh up costs and benefits at different points in time
- reflect how much society is willing to invest for the future, and how much to consume today.

High discount rate = consume more now, invest for short-term

Low discount rate = save more now, invest for long-term payoff

They can be estimated using….

Ramsey formula

Discount rate
The rate at which society discounts future benefits or costs in year t

Growth rate
The growth rate of per capital consumption between now and year t

$$\rho_t = \delta + \eta g_t - \textit{precautionary term}$$

Pure time rate of preference
The rate at which society discounts future consumption – within a generation or between generations

Elasticity of marginal utility of consumption
Society's willingness to redistribute consumption between current and future (richer) times

Extensions for uncertainty
Uncertainty about future growth leads to uncertainty about discount rate in year t

SUMMARY OF SPEAKERS' MAIN POINTS (SELECTED VERBATIM QUOTES)

Pascal Lamy

Chair of the Oxford Martin Commission for Future Generations, Pascal Lamy began by explaining why the Commission focused on discount rates.

"Whether you look at the private sector or government, the range of discount rates used is pretty wide. In the Commission's discussions, it became apparent that a number of issues that have to be dealt with collectively are very hard to address if you have such a difference in discount rates."

"Roughly speaking, if you take the two extremes, the Indian Government uses 12 per cent, the US Environmental Agency uses 2 per cent. China is 8 – 9 per cent, Germany is 3 – 4 per cent. This very wide range is representative of a wide range of preferences for the long-term vs short-term."

"We all know that the lower the discount rate, the higher the preference for the future."

Pascal noted that while the Commission tried to agree on a single global discount rate, that wasn't possible. So they decided to send a signal that "the lower, the better". This is consistent with the idea that both public and private entities need to pay more attention to the long term.

In the panel discussion, Pascal expanded on the need to make value-based decisions about future welfare.

> "*Whatever approach you take, you can't avoid having to qualify the 'well' of welfare….So the notion that there would be a miracle formula of a discount rate that would avoid expressing collective preferences for things which are value-based is a dead end."*
>
> *"So we probably need, at a global level, more of what has been tried in some countries in having a public debate about discount rates.*"

Explaining how discount rates influence long-term welfare, Pascal gave the example of children asked to choose between one lolly today or two tomorrow.

> "*If you take a sample of kids and offer them choice between one sweet now and two sweets this afternoon, roughly 80% will take one now. If you follow their education, the 20 per cent who waited until the afternoon are doing much better – so in a way they are more clever, by the standards of an education system that decides what 'smart' is. So there is something of rationality there. That's the way I would sell the idea that this is a collective rational approach.*"

He also highlighted the importance of independent institutions in public decision making.

> "*The view of the Commission is that independent institutions – public institutions independent from the political cycle – are a necessity. Where they exist, (decision making) works better than where they do not exist. Not least because where they have credibility, their participation in public debate has a high value.*"

Finally, Pascal noted that, while we need to enhance rational decision-making about investment for collective well being, society and governance haven't caught up with global nature of the economy.

> "*If democracy is a system for properly aggregating individual preferences into collective preferences, then institutions of this kind can help framing these collective preferences because they provide an input that is politically unbiased.*
>
> *But [the] problem is when you move to global issues. Because what bounds people at a local level is that they have to take these decisions in the name of the community they belong to, and which they depend on from time to time.*
>
> *But (we have) nothing like this at a global level. (We) Have global institutions, but we don't have anything like a global community. The notion that the G20 is a proxy for that doesn't work. (When you attend) G20 meetings, what is striking is how these people are very good at avoiding anything like a value-based discussion. Values are outside the stream of considerations. And that's a big problem. As long as they don't have a proper exchange on what scale they have in mind, they just talk past each other."*

Ross Garnaut

Professor Ross Garnaut AO is a Professorial Research Fellow in Economics at the University of Melbourne.

Ross told two stories to explain why discount rates are important - using examples of transport projects in NSW, and his own review on the costs and benefits of mitigating Climate Change.

While having a drink with three young economists who were working on transport planning for NSW Treasury, using a discount rate of 8 per cent in real terms.

> *"Well I can tell you now the answer to every question you are working on. With an 8% discount rate no transport project in Sydney is worth investing in. The consequence of that is that Sydney would grind to a halt and there would be no economy worth having there in half a century's time."*

At the first meeting of the multi-party committee on climate change, Ross saw eyes glaze over when he mentioned the discount rate as something they had to consider.

> *"If you use the discount rate that equities markets use when thinking about climate change, the rational thing will be to do nothing about climate change - even if it leads to the extinction of the human species in half a century's time... Julia Gillard broke into a grin and said you've got us there, Ross...that's the first decision of our committee: we're against the extinction of the species."*

Ross explained the practical relevance of discount rates to long-term decision making on issues like transport planning and climate change.

> *"If you apply the sort of discount rates used in business investment evaluation, say around 8 per cent per annum, anything that happens in 4 decades time is not worth thinking about."*
>
> *"And that's of huge importance to public decision that involve investment where the*

consequences are felt some time into the future."

In his Climate Change reviews, Ross took an ethical approach, deriving a discount rate from consideration of the ethics of future welfare and social transfers.

> *"You do have some people saying we should use equity market type discount rates. Then you have another view – the majority view among economists who think from first principles – that you should build up discount rates from first principles."*

In establishing a discount rate from first principles, Ross noted that you can't avoid evaluating two alternative future states of the world by reference to a fundamental valuation of human welfare in different periods of time.

> *"When you ask most people my age whether they value the welfare of their children's lives as much as their own, very few will say they don't. When you ask if they value their grandchildren's welfare as much as their children, they say of course we value our grandchildren more than our children!"*

> *"So there is a link that connects us to every future generation of humanity. We have no reason to think our grandchildren will value their grandchildren less than we do. That takes away the reason for valuing things any less in future, simply because they are in future."*

Yet even working from first principles you may decide to discount if people in the future may be richer than today.

> *"In my modelling, I assumed there would be some continuity in growth in incomes in Australia. So I used a growth in income of 1.4 per cent per annum per person. What comes out of the arithmetic, leads to a discount rate of 1.4%. If you went to an extreme, then the discount rate comes out at 2.8%."*

As an aside, Ross noted that people in developing countries may rationally value the future less highly than the present because many people are so poor today.

> *"That's why, to persuade them to participate in a global mitigation effort, we may have to take some of the costs off them of the initial adjustment – otherwise they won't see a very good reason for making much sacrifice now."*

Alternatively, if you take the view that market reflects what people think, there is the question of what rate to use.

> *"I came to view that [the market rate] is not very relevant for climate change. We're talking here about social decisions of the government. It seems to me that the right discount rate to use, in country that has managed its finances reasonably well, is the sovereign rate."*

> *"The difference between public and private discount rates is not as big as you'd think. Investors want a 7 or 8 per cent return, but on average they don't get it. Over longer term, they get more like 4 per cent."*

> *"The average long-term rate for Australian sovereign borrowing is around 2.1 per cent. The US is 2 per cent. The rate was lower in Germany in the post-war period, but higher before."*

This insight led to Ross' recommendation in Dog Days for state government, and where appropriate private, use of the Government's sovereign discount rate and access to sovereign credit for part of the investment in long-term transport projects that are assessed as high priority by Infrastructure Australia.

In the panel discussion, Ross commented on the importance of independent institutions in public decision making.

> *"The decisions of governments can be influenced by a democratic process. [A large] contribution can be made to that by the independent centre of polity - people who separate themselves from vested interests, separate themselves from partisan political processes, but seek to take a view in some collective construction of the public interests."*

> *"A discussion within an independent centre of polity, informed by analytic units…think tanks or other kinds… can narrow the range of disputations so when (in the end) a political process takes a decision it is from within a narrower range of possibilities and more likely to satisfy a larger part of society's conception of the public interest."*

In summing up, Ross spoke about how to approximate rational decision making on long-term issues in a democracy. While this is difficult, having institutions with a mission to undertake independent assessment and transparent evaluation in the public interest is the ideal.

> *"In Australia, institutions like the Productivity Commission and the Reserve Bank show the influence such independent bodies can have."*

> *"We have to look forward to the day when Infrastructure Australia can play that sort of role. Not to always determine the outcome but at least to raise questions in a way that has a fair number of people in society asking - why not, what's the good reason for departing from that? - when governments take political decisions"*

> *"I had in mind an intention for the Climate Change Authority….to build an independent institution on the contentious question of setting targets. A government could over-rule it, but over time to build up the standing of institution that would establish a political cost of not taking its advice."*

Sir Rod Eddington

Sir Rod Eddington is non-executive Chairman (Australia & New Zealand) of J.P. Morgan and non-executive Chairman of Lion. He served as the inaugural Chair of Infrastructure Australia from 2008 until April 2014.

Rod explained how Infrastructure Australia's aim is to bring rigour to investment decisions.

> *"I've been particularly interested in trying to help governments and private sector understand some of the issues around infrastructure, particularly hard infrastructure.*
>
> *Recognising that governments, particularly in Western liberal democracies, are finding that the draw on the public purse from social infrastructure – health, education, welfare particularly – grows in some areas quite quickly and grows more quickly than GPD. So the amount of capital which governments over the past few*

decades have been prepared to commit to some of the hard infrastructure has been limited.

There have been a couple of consequences to that. One is that Governments look where they can to the private sector to drive infrastructure. I for one don't believe that governments should be in the business of owning airlines or airports. But I'm not one to believe that the privatisation of the army, the navy, and the air force would necessarily be a good thing.

So I recognise there are some really important areas in hard infrastructure where the government, the state, should be at the heart of the process. Not just the planning process where they decide what gets done, but also in helping form and formulate the analytical strategy that sits behind.

Because governments are increasingly having to make choices about which particular pieces of the infrastructure jigsaw they invest in. In doing that, they need the right analytical tools."

Rod noted that many of today's benefits come from investments in public infrastructure made 50 or more years ago, yet the same decisions wouldn't be made with today's approach to discount rates.

"I agree with Ross that private sector rates on equity investment have little or no relevance to long-lived infrastructure. Much of the infrastructure that makes Melbourne one of the most liveable cities in the world was built well over a hundred years ago. The good infrastructure is as productive today as it ever was, if not more so."

He also noted that discount rates are only one aspect of failures in public or government decision making. We need a more rational (and less politicised) approach to decision making.

"Building infrastructure in successful cities like Melbourne is both expensive and disruptive. So the question then is what analytical tools do government and the private sector use to help formulate their priorities – in a world in which there are constraints around capital and construction availability important to get your priorities right."

"Absent quantitative measures, political leaders will make judgements around what they see as political priorities. That can mean building bridges over puddles and roads to nowhere, in marginal electorates."

During the panel discussion Rod commented that we should have business and academia involved in open discussion and dialogue about policy issues.

"With an evidence based approach the trick is to get the best narrative around that evidence base. To be open, and not to be doctrinaire."

"Only when we have a combination of business, political and academic leadership (not forgetting role of civil service), prepared to use their collective wisdom in a Socratic way to find the best approaches, will we get good outcomes."

Rod also commented on the role of independent advice in supporting rational debate.

> *"Infrastructure Australia was set up to provide the sort of independent advice that is needed. Think tanks perform a similar role. But the thinking has to be so persuasive that politicians can't ignore it."*

Rod noted however, that changing the way decisions are made in a democracy takes time.

> *"Nothing is so difficult as change… So we shouldn't expect to go from a situation where decisions are based on political interest and expediency to a rational basis. But one indicator that we are doing better is… the sort of questions people get asked about decision that are made. We're beginning to see politicians asked questions quite different from ten years ago…"*

Laura Eadie

CPD's research director for the Sustainable Economy Program, Laura Eadie discussed where the debate on discount rates is heading internationally.

> *"We've seen a big academic debate about how to consider the welfare of future* versus *current generations. This has focused on how high or low to set the discount rate – by considering weighting between generations, and social transfer between poor and rich.*
>
> *But this debate has largely ignored the 'growth' term in the discount rate. Uncertainty over growth raises the question of how the discount rate might change over time.*
>
> *The answer is, it's wise to use a declining discount rate in the face of uncertainty about future growth."*

Laura noted that lowering the discount rate in the face of uncertainty might sound unusual.

> *"This may sound counter-intuitive to anyone used to the investment approach to discounting. Don't you raise the discount rate to account for higher risk?*
>
> *The distinction to make is risk in the financial sense (volatility of returns)* versus *uncertainty about continuity of growth."*

She commented that we may be entering a 'new normal' where growth is more 'bumpy' than in the past few decades.

> *"The world is going through a lot of change, after a couple of decades of relatively low volatility in business cycles.*
>
> *Others have written at length about how monetary policy and structural economic change contributed to low volatility – and why this moderation seems to have ended.*
>
> *However, to my mind we also need to consider significant changes to the physical basis of the global economy that may make growth bumpier than in the past.*
>
> *Some of these are structural – the shift in the geographic centre of growth to Asia, increasingly integrated supply chains, new energy technologies.*
>
> *Others could be considered external drivers of volatility and change. Ageing*

populations, commodity price volatility (up 3 fold in last 15 years), climate impacts (weather related losses up in all countries – notably 4 fold in Asia and North America).”

This would have significant implications for investment.

“Globally, if uncertainty is the new normal, we need to think in a much more sophisticated way about:

- *What investments make sense if we apply declining discount rates?*
- *How to assess which investments raise long-term productivity and buffer against volatility (e.g. soil carbon)*
- *What stocks of capital we should accumulate to best support future welfare?*

In simple terms, we need to be far-sighted enough to put more away for a rainy day if the weather forecast is looking uncertain. We also need to invest in industries of the future.”

Laura also noted this would have implications for public policy and potentially government investment.

“The gap between social and market discount rates can lead to under-investment – leaving countries (or even whole regions) in a poverty trap.

So we need to rethink the role of public finance in steering markets to invest in good long-term bets. Markets alone don’t always direct capital to more productive investments even if real interest rates are low. So we need public finance to ‘crowd in’ private investment where it has clear long-term benefits.

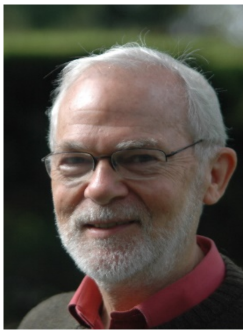
This could be by creating institutions or mechanisms to encourage private capital into investments with long-term benefits. The Clean Energy Finance Corporation is a good example.

It could also involve building buffering mechanisms to avoid failures in capital and insurance markets ‘crashing’ economies. For example, the Asian Development Bank recently suggested Asia-Pacific countries pool disaster risk insurance.”

[ENDS]

SPEAKERS' BIOGRAPHIES

John Langmore



Professor John Langmore is an international political economist in the School of Social and Political Sciences at the University of Melbourne, and Assistant Director Research (Security and Political Engagement) in the Melbourne School of Government.

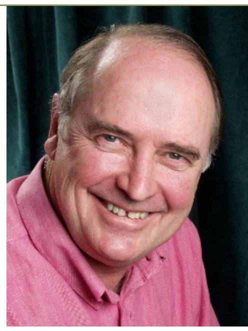
Professor Langmore teaches graduate subjects on the United Nations and on socio-economic development. He has authored, jointly authored or jointly edited five books; published chapters in over 35 other books and 65 articles in academic journals. His most recent books have been *Dealing with America: the UN, the US and Australia* and *To Firmer Ground: Restoring Hope in Australia,* both published by New South Press.

Pascal Lamy

Mr Pascal Lamy is the former Director-General of the World Trade Organisation. He currently shares his activities between the think tank Notre Europe, presidency of the World Committee on Tourism Ethics, presidency of the Oxford Martin School Commission for Future Generations, vice-presidency of the Foundation for European Progressive Studies (FEPS), and participation in the Global Ocean Commission and UNAIDS.

Pascal Lamy is author of various books and reports on global governance, Europe and international trade. His latest publications are: Oxford Martin Commission: *Now for the long term* ; *The Geneva Consensus*; *Quand la France s'éveillera*.

Ross Garnaut



Professor Ross Garnaut AO is a Professorial Research Fellow in Economics at the University of Melbourne (since 2008). Earlier at the Australian National University he was Distinguished Professor of Economics, and longstanding Head of the Division of Economics in the Research School of Pacific and Asian Studies.

Professor Garnaut is the author of numerous books, monographs and articles in scholarly journals on international economics, public finance and economic development, particularly in relation to East Asia and the Southwest Pacific.

Recent books: *The Great Crash of 2008* and *Dog Days: Australia After the Boom*.

Sir Rod Eddington

Sir Rod Eddington is non-executive Chairman (Australia & New Zealand) of J.P. Morgan and non-executive Chairman of Lion.

In addition to maintaining non-executive directorships with 21st Century Fox, China Light & Power Holdings and John Swire & Sons, Sir Rod also serves as a member of the APEC Business Advisory Council (ABAC), Chairman of Victorian Major Events Company and President of the Australia Japan Business Cooperation Committee.

Laura Eadie

Laura Eadie is the Research Director for the Sustainable Economy Program at CPD. Laura is a UTS Business School Associate and has qualifications in environmental management, finance and investment, and industrial chemistry.

She is the co-author of '*Stocking up: Securing our marine Economy*', '*Farming smarter not harder: Securing our agricultural economy*' and '*Going solar: Renewing Australia's electricity options*' published by the Centre for Policy Development.