IVMA INSTITUTE OF VALUE MANAGEMENT AUSTRALIA

Ensuring better value for money

THE VALUE TIMES

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Value for Money

This is a summary of the paper presented by Dr Roy Barton at the Procurement in Infrastructure and Capital Works Conference 2015 held in Sydney on 11 – 13 August

Roy set the scene for his presentation by highlighting a few items from the week's news, all of which referred to 'value for money'.

These newsworthy items included the decision to build the new warship fleet in South Australia, the effect on electricity prices of renewable energy projects and, proposed new light rail schemes for Sydney and Canberra.

'Value for money', it seems, is on everyone's wish list and, in project briefs and major procurement specifications is likely to be made quite explicit.

Also as a scene-setter, Roy briefly described a number of Value Management events that he had facilitated recently, emphasising the wide range of applications of Value Management in pursuit of best 'value for money'. These projects included:

- A new multi-billion-dollar liquefied natural gas plant where the exercise had been to help decision-makers choose between two strategic sites, seeking best 'value for money' outcomes.
- New multi-billion-dollar port facilities, selecting best 'value for money' from a range of infrastructure options.
- A multi-million dollar redevelopment of a Civic Centre where previous Value Management exercises had led to the development of three potential conceptual design solutions. This Value Management event helped the group choose one option (from amongst the three options) that delivered best 'value for money'. Roy said that it was significant that the group did not choose the lowest cost option but the one that, according to criteria defined in the Value Management process, offered the best 'value for money'.
- A new multi-billion-dollar integrated rail and bus stabling and maintenance facility - a highly complex entity, and, reputedly, the largest of its kind in the world - seeking improvements to 'value for money'.

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Procurement in Infrastructure and Capital Works Conference

The Institute of Value Management Australia (IVMA) was the event partner with Quest Events for the Procurement in Infrastructure and Capital Works Conference 2015 held in Sydney on 11 and 12 August.

The following day Dr Roy Barton held an in-depth, all-day session on the principles of Value Management and Practical Scenario Planning.

Participants in the conference included staff from a wide variety of public and private sector organisations with first-hand experience of designing, procuring, delivering and operating major capital works projects.

Four speakers from IVMA provided practical examples of where Value Management had been an essential contribution to delivering better 'value for money' to clients and the public.

Starting well, the first three speakers provided a focussed and relevant introduction to the content and flavor of the conference. They were:

World Bank Keynote Speaker

Christopher Browne, Chief Procurement Officer at The World Bank provided an excellent overview of the work of the World Bank in investing in developing nations.

At any time the World Bank has around $US40 billion in investments worldwide, chiefly in transportation, potable water, electricity transmission and solar power. The Bank has introduced a formal 'value for money' imperative into its investment strategy by the use of Value Engineering and life-cycle costing in the development and evaluation of Bank funded projects and programs.

Christopher Browne

The Bank has over 2,000 staff in 65 countries to manage this investment and, to ensure transparency, it has a suite of comprehensive iPhone, iPad and Android apps that permit the on-line tracking of expenditure and performance of investments.

The variation in scale of projects, the global distribution, overlap with conflict areas and the remote and hostile locations create what appear insurmountable challenges to the quest of better 'value for money', but Christopher is confident that's exactly what they are achieving.

Dr Roy Barton

Value for Money

Dr Roy Barton, President, IVMA provided a definition of, and process for defining 'value for money' that can be applied in any situation.

All stakeholders need to be involved at the outset or 'blank sheet of paper" stage of the procurement process. It is at this stage that the stakeholders need to clarify, define, share and agree the rationale for the investment in terms of useful purpose, important features, and beneficial outcomes – i.e. a Value Statement.

Further, value for money is best achieved at this early stage as there are no 'costs to change' or 'rework' involved and the most effective direction for the project is identified and agreed.

This valuable process for both private and public sector investments is described in more detail in the article on pages 1 and 4 of this edition of Value Times.

Fiona Stanley Hospital, Perth

Alan Piper, Former Chief Executive Officer, Western Australia Works and Services Agency, and Executive Lead for Construction on the Fiona Stanley Hospital provided an overview on delivering 'value for money' on this $2 billion, 160,000 square metre, capital works project.

Value Management studies at the brief development and concept design stages and at the early stage of the construction contract promoted a positive shift in design paradigm for the hospital, promoted flexibility and innovation in building planning and this collaborative attitude was reflected in an innovative construction contract structure. The client, designers and builder participated in these studies as 'one project team'.

This approach permitted the building to adapt to significant design changes to incorporate the integration of the evolving technology and innovation in healthcare including automatic guided vehicles, provision of food services and types of operating theatres plus incorporation of broadband and wireless technology throughout.

Despite the accommodation of considerable scope changes and variations, the emphasis on being 'one project team' and on all project team members being responsible for delivering 'value for money', resulted in the 6–year project actually being delivered on time and within the original budget.

Lessons Learned from the Conference

The conference presented a wide range of academic research, experience of successful projects and 'learnings' from projects that have encountered problems.

Three questions were posed at the commencement of the conference and the IVMA and conference participants summarised the 'learnings' from the conference - in terms of the three questions - as follows.

What are the key messages from the conference?

- Strong consistent LEADERSHIP is essential
- Have a VISION, communicate the VISION and engage stakeholders in achieveming the VISION
- Build-in VALUE FOR MONEY from project inception by constructing a 'Value Statement' to assess alternatives or options
- Effective COMMUNICATION through the project life
- Build an ENVIRONMENT OF TRUST within the project TEAM members and associates
- Build a CULTURE of COOPERATION within project stakeholders
- Build an effective and consistent PROJECT TEAM for the project life
- Integrate PEOPLE and organisations into the TEAM
- Build a SAFETY CULTURE
- Ensure that RISK MANAGEMENT is the responsibility of the organisation best able to manage that particular risk
- Ensure that LESSONS LEARNED are distributed to those who need them and are acted upon

What are the key opportunities for the Australian infrastructure and capital works sectors to deliver better 'value for money' in capital investment?

- Build in a culture of VALUE FOR MONEY from project inception
- Establish effective policy and processes to give focus to VALUE FOR MONEY in the assessment of options
- Ensure TRANSPARENCY in all stages of the procurement process (Inquiry into Public infrastructure – Productivity Commission, 2014)
- Ensure that all stakeholders jointly own a PROJECT PLAN developed from the outset

How can planning, procurement and project delivery be effectively linked to ensure value in infrastructure and major projects?

All of the learnings above need to be circulated and implemented to ensure better 'value for money' is achieved in infrastructure and major projects.

John Bushell
Chair Publication and Events Committee, IVMA
Director, John Bushell Value Management P/L

Value for Money

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- Selection of route options for multi-billion dollar road infrastructure, based on 'value for money' criteria.
- Establishing 'value for money' principles at the commencement of planning and design for a new hospital and then seeking best 'value for money' decisions through the life of planning, design, construction and commissioning.

These examples helped to show not only the wide range of potential applications of Value Management in the procurement of infrastructure, but also to show how far modern Value Management has moved away from its conventional reputation as a cost reduction exercise.

In presenting these examples, Roy emphasised IVMA's recently declared focus on helping people achieve best 'value for money'. This is what the institute is primarily about.

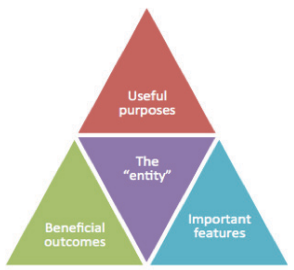
Roy then went on to discuss the definition of 'value' and 'value for money', explaining that the terms are used in so many different ways with so many potentially different meanings, noting that there are always numerous views about why a particular entity has 'value'. He said that the Australian Standard on Value Management seeks to provide a common language, as well as a consistent process to achieve better 'value for money'.

A crucial step in any Value Management exercise is building shared knowledge and understanding of where the value of the 'entity' being studied (the LNG plant, the port, the Civic Centre etc.) actually lies.

In his presentation, Roy showed how this can be done, using the Australian Standard on Value Management definitions. "Why does anything have value?" asked Roy, who then explained that we can define the value of anything, literally anything, by using three factors, which are:

- The useful purpose(s) of the 'thing'
- The expected benefits from fulfilling that useful purpose(s); and,
- The important features of the 'thing'.

These factors are shown in the following diagram where the 'thing' is represented by the "entity" as described in the Australian standard on Value Management AS4183:2007.



The concept of "value" as defined in AS 4183

In Value Management workshops, we capture these three factors in a 'Value Statement' that will then serve as a primary reference source for decision-making in planning, design, construction, procurement and operations.

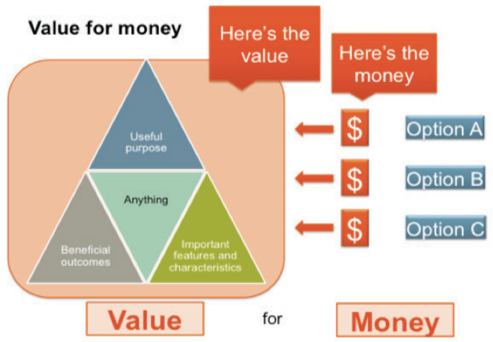
It is important to recognise that the perceptions of purpose, benefits and importance differ from person to person and, from organisation to organisation and so one task of Value Management workshops is to capture and record those various perceptions, helping groups of stakeholders/decision-makers to build shared knowledge and understanding across disciplines.

Roy explained that it is this process of "building shared knowledge and understanding" that is, in his opinion, the most valuable part of any Value Management exercise.

He also explained that this takes time and intentional effort.

In the discussion forum that followed, Roy said that in his experience, Project Managers, in particular, wanted to "skip over" this time of "building shared knowledge and understanding" failing to realise that it is in this process that 'learning' takes place amongst stakeholders/decision-makers/team members and, in the process of learning, we establish the basis to identify and explore opportunities to achieve best 'value for money'.

Having established a definition of 'value', Roy moved on to explore the notion of 'value for money'. He explained that the key to understanding 'value for money' is the separation of 'value' (as defined above) and 'money' (being the total cost of any particular entity). This is shown in the following diagram.



Once we separate 'value' and 'money', we establish the basis upon which we can, for any particular entity (the LNG plant, the port, the Civic Centre etc) establish all requirements in terms of 'value', then identify options available to us and then consider the total cost of each of those options.

During this process, we note the relative performance of each of the options in terms of the 'value statement'. There may be options that provide exactly what the 'value statement' calls for; no more and no less.

However, for the most part, we find that options satisfy the 'value statement' to a greater or lesser extent. The 'value for money' decision always considers, amongst the options, the extent of 'value' provided for the amount of money to be expended.

Ultimately, we are looking for the best ratio of 'value' to 'money'.

Roy emphasised that 'value for money' decisions always involve judgement and comparison. There is no exception to this.

In illustrating all of this, Roy shared the following personal story:

"A few weeks ago, I was sitting in a café having breakfast. On the opposite side of the street was the hotel where I was staying. The hotel offered a dazzling array of options for breakfast including many types of cereal, yoghurts, fresh fruit, cold meats, cheese and many hot breakfast options satisfying Eastern and Western palates, all nicely displayed in buffet style.

I could easily have eaten in the hotel, and saved myself a walk across the road to this café where I was seated, but I preferred to eat there. I preferred the personal service, individually made and served hot breakfast and certainly the barista-made fresh coffee and, surprisingly, the breakfast there cost less than half the price being asked in the hotel.

To me, the café offered much better '*value for money*' than the hotel. It provided me with *exactly* what I wanted for half the price of the alternative. In a short while, I was back at the hotel where I was involved in meetings about achieving best 'value for money', not for breakfasts, but for multi-billion dollar mining projects.

The point I am making is this: whether the subject of discussion is the breakfast or the multi-billion dollar mining projects, *the principles in determining best 'value for money' are the same.*"

John Bushell
Chair Publication and Events Committee, IVMA
Director, John Bushell Value Management P/L

Dr. Barton's value for money approach is particularly relevant with regard to the issues raised at the recent "National Reform Summit" as identified on page 10 of this Value Times.

Establishing Infrastructure Victoria

Major infrastructure planning reforms are underway in Victoria with the Infrastructure Victoria Bill being passed earlier this month.

The following information is from the Victorian Government.

The new statutory authority will promote rigorous and transparent decision making, and improve public debate and consensus about priority infrastructure projects in Victoria. It will also support improved social, economic and environmental outcomes for the state.

Its priority functions include:

- preparing a 30 year Infrastructure Strategy to identify Victoria's infrastructure needs and how they can be met;
- providing advice to the government on infrastructure matters; and
- publishing research on infrastructure matters.

The establishment of Infrastructure Victoria aligns with a recent trend in other Australian jurisdictions to create bodies to advise governments on long-term strategic infrastructure planning.

Infrastructure Victoria will be led by a board of seven members comprising four members from the private or non-government sectors, and three from the public sector.

Victoria is growing at a rapid pace, and governments need to plan and deliver for the future needs of an expanding population and increasing constraints on existing infrastructure.

The Department of Premier and Cabinet is leading the establishment of Infrastructure Victoria.

The Government's media release stated:

The Victorian Parliament has … passed legislation creating Infrastructure Victoria, delivering a key election commitment from the Andrews Labor Government and giving certainty for our infrastructure pipeline.

A landmark reform, Infrastructure Victoria will take short term politics out of infrastructure planning, and keep our pipeline of major projects full to grow our economy and create jobs.

The new independent body will be tasked with ensuring Victoria's immediate and long-term infrastructure needs are identified and prioritised based on objective, transparent analysis and evidence.

Infrastructure Victoria will consult widely, consider the needs of the whole state and prioritise the projects that deliver the best results.

Premier Daniel Andrews said, "Infrastructure Victoria will ensure that despite whoever is in power, there is a pipeline of infrastructure meeting the State's needs."

"We're getting on with supporting Victorian jobs and making sure we stay number one, and we won't ask Victorians to support dud, last minute plans for projects that don't stack up."

Special Minister of State Gavin Jennings said, "For too long, evidence and transparency have been secondary considerations when it's come to Victoria's infrastructure decisions."

"The community expects that critical decisions on infrastructure should be based on priorities not politics and Infrastructure Victoria will do just that."

The new expert body will be required to publicly release a 30-year Infrastructure Strategy detailing short, medium and long-term infrastructure needs and priorities.

In response, the Government will be required to develop a five-year Infrastructure Plan outlining priority projects and funding commitments. Infrastructure Victoria will assess the Government's progress against this plan.

The expert body will also support government decisions by assessing business cases for major projects, and publishing research on a range of infrastructure issues from schools, hospitals, water, arts and cultural facilities.

Infrastructure Victoria will give the community and the private sector greater certainty about our infrastructure needs, and the Labor Government's strong plan to meet them.

Harry Gough Retires from IVMA

One of the longest-serving members of the Institute, Harry Gough, has recently announced his retirement from the Institute.

I have had the privilege of knowing Harry for many years, and deeply appreciate the contribution he has made to Value Management in Australia (particularly in Western Australia).

I also very much appreciate his ongoing personal friendship. Harry has faithfully served the Institute in so many ways over the years, through serving on committees, speaking at conferences, writing articles and promoting Value Management to politicians as well as public service officials.

He was instrumental in setting up Value Management in the Building Management Authority of Western Australia in the early 1990s and has been in active practice ever since.

He has been a regular contributor to the Hong Kong Institute of Value Management through its annual conferences and, through this participation, is well known in international VM circles.

Harry wrote to me recently, saying, *"Looking up at my original membership certificate signed by Eric Adam I realise just how long it has been since I qualified with several others in the inaugural VM Facilitation course delivered by you at the University of Canberra. It is a qualification I am very proud of and I remain chuffed that my representations to the Building Management Authority of WA and its boss at the time, Chester Burton, were successful in making training in VM a significant and worthwhile qualification for graduates and to raise the profile of VM across Australia.*

"… I have made many friends, both in Australia and internationally, through VM and the IVMA and will always remember with fondness the pleasure and respect this Institute gave me. Please to not assume that retirement from the IVMA makes me any the less committed to the Miles Methodology."

Harry turned 70 years young earlier this year, but says that he still feels no older than when we first met in 1990, even though his granddaughters and close family have noticed the years going by! On behalf of the Institute, I thank Harry most sincerely for his many years of service to the Institute and wish him well in retirement.

Roy Barton
President

Vale Axel Peter Ried

The Institute recently received news that renowned international Value Management expert, Axel Peter Ried had passed away recently. I was deeply saddened to hear this news, having fond memories of meetings with him and of his innovative presentations at the Hong Kong IVM conferences.

Peter introduced Value Management, Value Analysis and Engineering in Germany starting in 1961. He has applied VM/VA/VE in over a thousand companies of all branches of industry. Peter wrote 15 books on various subjects and has presented numerous papers at international Value Management conventions.

Axel Peter Ried will be sadly missed by the global Value Management community.

Roy Barton
President

The Higher Education Funding Council for England (HEFCE) describes VFM in the following way:

"Value for money (VFM) is a term used to assess whether or not an organisation has obtained the maximum benefit from the goods and services it both acquires and provides, within the resources available to it."

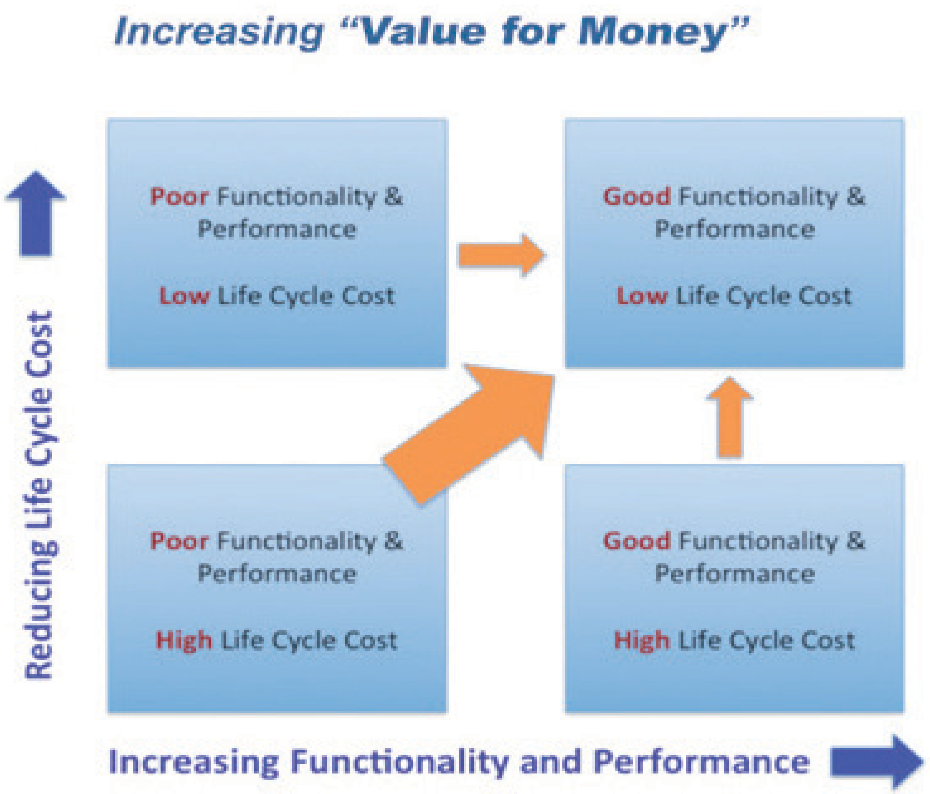
I like this definition because it embodies one of the basic tenets of Value Management (VM); namely, *'value for money is achieved when a project delivers the highest level of required output functions for the least investment of resources'.*

The Australian Standard for Value Management AS 4183:2007 expresses the term 'Value for Money' (VFM) in terms of cost or resources used. Essentially it can be summed up by three statements, all relating to levels of functional outcomes and input resources.

You can increase the 'value for money' of any project, process or thing by:

1. Providing all required functions and/or services for a lesser input cost;
2. Finding innovative ways to provide more required functions and/or services without increasing input costs; and
3. For a measured increase in input cost, provide disproportionally more required functions or services that comparably results in a better 'value for money' outcome.

Demonstrating how 'value for money' can be improved is not easy. However, a simple chart may help to illustrate how VFM can be improved and how VFM depends on both output functions and input resources. It is relevant to projects and processes but for this short article I refer only to projects.



The chart is not meant to be used for locating any particular project in any particular quadrant but rather to illustrate where a project must move to, within the quadrants, to achieve a better VFM outcome.

Clearly, a project tending towards the top right quadrant must represent better 'value for money' because it will have high levels of required functionality and performance but lower input costs. It is this quadrant that all projects should aim for. Conversely, a project that 'sinks' into the bottom left hand quadrant is likely to represent poor 'value for money' because input costs are high and functional performance is low.

Irrespective of where a project may actually sit in the diagram, in order to improve 'value for money' you must clearly understand what level of functionality is required from the project, i.e. **'what must it do'** and also to know what the functions are going to cost.

Without exception, the primary functions of any project can be sorted into an order of priority. These functions need to be costed because at the end of the day the cost of a project should be directly related to functional outcomes. The big question for project owners is: 'do the costs allocated to the prioritised functions represent good 'value for money''?'

VM is able to assist in identifying required functions and to prioritise them. For the purpose of determining VFM, it is preferable that costs are allocated to **output functions** rather than to building elements because this will enable the cost and worth of prioritised functions to be tested against each other.

To demonstrate how the chart can be used, let us say a project is deemed to sit in the upper left quadrant, i.e. it has a low life cycle cost but poor functionality and performance. Why would anyone choose project parameters to put it in this quadrant you may ask? Well, in some cases projects are built down to a cost, even though the project owner knows they may not be getting all the functionality that will be required. A lower cost may be achieved but the project is unlikely to represent good 'value for money'.

So where do we want the project to move to? There is no point moving to the quadrant directly below because that would simply result in a more costly project with no improvement in functionality and performance and hence would represent worse 'value for money'.

Similarly, moving diagonally to the bottom right hand quadrant may provide better functional outcomes but it is also at the high end of the cost scale. Would this represent better value? It may, if the project owner is prepared to pay for a higher level of functionality.

As the 3rd point above suggests, it is possible to get an improvement in value through higher expenditure, provided the functional improvement is disproportionally higher than the cost and of course, it must be affordable.

The dotted arrows on the diagram indicate a **possible** increase in value though this would be sub-optimal when compared with moving the project to the top right-hand corner.

There is a proven option for steering a project to a better VFM solution through the use of VM. The VM method requires the analysis of functions from a cost and value perspective. It also harnesses the combined brainpower of a group of stakeholders to pull a project and its functions apart in a search for innovative ways of either lowering cost for no loss of functionality or increasing functional outcomes for less cost or for some measured additional cost.

A VM workshop is most effective in this regard and it is not unusual for a stakeholder group to come up with more than 200 value adding ideas. Moreover, the 80/20 rule generally applies, i.e. 80% of the ideas generated are deemed to be worth following up.

With the help of VM the project can and should move towards the lower right quadrant. This quadrant is the natural home for all projects that represent high value for money. It is the quadrant that provides all required functionality and services for the lowest input costs. Irrespective of which quadrant a project actually sits in, the arrows indicate the direction it should move to achieve increased value for money.

How can a real project be related to the VFM chart? An important project being debated at all levels of Australian society right now is the replacement program for navy submarines. No doubt most of the required functions would include terms similar to: 'stealthy, attack, deter, destroy...'

However, it is clear that some stakeholders want another functional outcome to be considered in the search for VFM and that is 'employ Australians'.

To determine where this and other functions sit in terms of cost and worth, in a prioritised list of functions, presents an opportunity to utilise the Value Management method.

One can speculate as to which quadrant this project may sit in at this stage of its development but it is at this early stage when the greatest improvements in value can be made.

An important challenge remains for the project owner to achieve all necessary functions of a new submarine fleet in a 'best value' way.

Using VM to shift a project into a better 'value for money' quadrant is not about cost cutting. It is a tried and proven method that has been successfully used in many progressive countries for at least 60 years to assist in delivering outstanding project functional outcomes that represent best 'value for money'.

Henry (Harry) Gough FIVMA; MHKIVM

The challenge of lifting productivity when you can't measure it

Few people emerged from yesterday's "National Reform Summit" talkfest with their stature enhanced. Reserve Bank governor Glenn Stevens was one — he criticised all the talk of "economic reform" as meaningless to Australian voters and argued that a conversation (his choice of words is instructive) about growth was necessary, not reform. "Over to you," was his "drop the mic" finish. His contribution was not warmly received.

Former Treasury Secretary, now company director, Martin Parkinson had a different approach. He wanted to talk about the opposite of growth: he had warned in an article in *The Australian Financial Review* and then at the summit that we face slowing growth in living standards unless fiscal reform and productivity were tackled in unison.

"If our potential growth rate was three per cent, and for argument's sake it's fallen now to 2.5 per cent, that's the equivalent of a loss in GDP over the decade of over five percentage points...or in other words ... it's akin to us willingly accepting the impact of a recession over the decade."

Much of the focus necessarily was, like Parkinson's, on productivity, although there remains a puzzling unwillingness — maybe because it doesn't fit with the "there's no economic reform any more" narrative — to recognise the performance of labour productivity in Australia in recent years, which, as the Productivity Commission recently noted, has been good. However, there was a recognition that poor management and board decisions within business are hampering Australia's multi-factor productivity growth. Commission chairman Peter Harris nominated poor decisions across a range of sectors. "Some capital investments are probably not going to get the return that was expected. It's not just mining. Electricity, gas and water have got the same problems."

Economist Ross Garnaut, among other things a Hawke-era economic adviser, was on a similar wavelength. "A very large part of a quarter of a trillion dollars invested in expansion of the resource sector since the China model changed in 2011 will never return the cost of capital."

Garnaut should know — he chaired Lihir Gold, which is one of the least efficient gold miners (it's based in PNG) in the Asia-Pacific. Newcrest Mining took over Lihir in mid 2010 for $A9.5 billion, and has been forced to write off most of that cost because of Lihir's inefficiencies and because of its difficult mining conditions and ore type.

But while corporate write-downs can give us an idea of the amount of capital being wasted, there are more substantial problems around productivity. As Fairfax's Ross Gittins noted in July, current productivity measurement only covers around 65% of the economy. Moreover, "a much more serious problem is that the measurement of multi-factor productivity is quite dodgy. It's measured as a residual, meaning that any error in measuring the three other items in the sum will (and does) make the measurement of multi-factor productivity wrong. More particularly, economists have no way of accurately measuring capital inputs. Just one of their problems is that they can't distinguish between more machines and better machines, meaning their so-called measure of multi-factor productivity excludes much of the technological advance it purports to measure.

> **Just one of their problems is that they can't distinguish between more machines and better machines.**

And two of our most important economic sectors, health and education, are particularly problematic when it comes to measurement. Quite apart from its importance in keeping Australians alive and well, the health and social-care sector has been the biggest employer in the country for several years now and is also one of the fastest growing sources of employment as a proportion of the economy. Nor is that just about the public sector: the boom in shares prices and corporate activity in the health sector confirms that it is the growth area of activity for business — Ramsay Healthcare, for example, is now the biggest private hospital operator in the country and an emerging force in Europe. Yet we struggle to measure productivity beyond the basic fact that we tend to spend a little less than the OECD average on health but are one of the world's longest lived peoples.

Education isn't a huge economic sector (though higher education is an important export), but its performance is absolutely critical to our longer-term economic growth. Again, productivity measurement is extraordinarily difficult (and all the more so given the Abbott government has stupidly abandoned the Gonski funding reforms, which would have established a per-student national funding model).

If we can't measure productivity comprehensively or accurately, how do we know if economic reform is successful, or what our reform priorities should be?

Unless, of course, as it undoubtedly is for many other attendees yesterday, "economic reform" is a mantra to cover self-serving policy changes, not to mention the obvious rent-seeking.

This article, written by Glenn Dyer and Bernard Keane, first appeared on www.crikey.com.au on 27 August.