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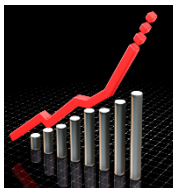
What exactly *is* productivity?



Why do governments, economists and policy-makers need to talk with businesses and communities?

What exactly *is* productivity?

In the ongoing debate by governments, economists and policy-makers on growing national productivity, it's easy to assume we're all talking about the same thing.

But how many of us have examined what we really mean by the term 'productivity'? There is a vast array of sectors and occupations, paid and unpaid, to which it might be applied. How would we actually define productivity in measurable terms that relate to what we ordinary people do with our time?

Prejudices and perspectives

'Productivity is a driver of innovation that will deliver profits and wealth.'

'All they care about is wringing the last drop of blood out of already over-stretched staff.'

'We need more productivity to boost our economic performance and international competitiveness.'

'Why would staff want to work harder to earn more money for overpaid CEOs and overseas investors?'

It's difficult to have a constructive debate if we're all using the word to mean different things. But could we ever reach agreement on what it means if we come from such different points of view? And let's face it, we might talk about quality of life and the best cities to live in, but when push comes to shove, governments and the financial sector default to just one measure of wellbeing: GDP.

This article looks at how this has come about and why we need to talk some more about productivity.

For most of us, the word 'productive' has beautiful connotations of fruitfulness and abundance. But it's used differently by people in many different professions: let's look at productivity through their eyes.

Economists typically define productivity as the quantity and quality of units produced per unit of labor per unit of time.[1]

Businesses might define it as a relative measure of the efficiency of a person, machine, process or factory in converting inputs into useful outputs. Dividing average output per period of time by the total costs incurred or resources such as capital, energy, materials or personnel consumed in that period also allows us to measure cost-efficiency.[2]

Farmers define the productivity of their land in tons yielded per acre or tonnes per hectare.[3]

Ecologists use the term productivity to refer to the rate at which biomass (the amount of plant, insect, animal and other living matter) is generated in an ecosystem, often measured in units such as grams per square meter per day. Biomass is generated when carbon dioxide and the energy in sunlight are converted into living plants and then into the bodies of living things – including people![4]

Confucius (pictured above right) was once asked what would be the first thing he'd do if he were ruler of all China. He said he'd embark on a program of 'rectification of terms' because if we could make sure that every time a word were used it always meant the same thing to everyone, we could avoid much confusion, misunderstanding, wasted time and even wasted life. What a great step towards raising productivity! But can we reconcile so many diverse perspectives on productivity? Or should we even try?

We live in a world that is vastly more complex than the one Confucius lived in. We must grapple with complexity – and learn moreover to celebrate the opportunities it gives us. If we take too narrow a definition of productivity, we won't be able to manage the system with the precision we need in

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order to increase it. If we over-simplify our definition, we run the risk of leaving people and their personal wellbeing and happiness out of the equation – and at the end of the day, it's all about us, isn't it…?

Questions about productivity

To start our investigation into how to celebrate and manage the complexities of productivity, let's take a look at some common measures of productivity in a work context at different scales:

- micro: the scale of the individual human being – e.g. widgets per worker
- meso: the organizational scale – e.g. efficiency, profits, earnings per share and the like
- macro: the national and global scales, where GDP pretty much dominates the discussion.

GDP, or gross domestic product, is the total market values of goods and services produced by workers and capital within a nation's borders during a given period such as a year or a quarter[1]. How much it grows from one period to the next is taken as an indication of a country's economic health[5] and it's built up from lots of indicators such as the micro and meso indicators listed above.

The problem with GDP is that it only measures the flow of money through an economy, or the size of the monetized economy. It's a great indicator of those two things – if they are what we want to measure. However, if we take a wider perspective on productivity that includes overall wellbeing, it becomes more and more clear that GDP can't tell us everything we'd like to know. It's only one indicator, and not necessarily a target in its own right, as its originator Professor Simon Kuznets warned since the 1930s until his death in 1985. A key consideration is that it doesn't measure the human and environmental capital on which financial capital depends.

Moreover, using only GDP means we measure the depletion of natural resources as if they were an economic gain.[6] So for example, oil spills like those from the Exxon Valdez or BP's Deepwater Horizon well are indisputably a bad thing, but they boost GDP. Why? Because GDP measures the apparent economic productivity gain from inputs of money for clean up and recovery, but doesn't measure the depreciation of natural capital by damage that reduces the productivity of ecosystems.

And of course, many or our economic activities depend on healthy ecosystems for their survival. So if we are looking at improving productivity, we need to ask a lot more questions. Here are some to start with:

- what is productivity and why do we want it? What is the difference having more of it will make?
- how are we going to define it, and will we have one definition or many, for different sectors?
- how much do we want – that is, how high will we set our targets and over what timeframes?
- how do we measure it? What indicators will we use to tell us if we are reaching our targets?
- where does it come from? That is, what are the causes of productivity losses and increases?
- how can we overcome causes of low productivity and enhance things that cause it to increase?
- who will benefit, and will we all be better off in the end, at the micro, meso and macro scales?

Choosing timeframes is all-important. For example, farmers can intensify their operations and extract bigger yields from their land in the short term, but if after 30 or 80 years, their soil is eroded and impoverished, their underground waters overdrawn and their surface waters polluted, their productivity – and income – will inevitably plummet and will not recover for many, many years. There be knock-on effects on companies based on primary production in terms of reduced income, and there may also be costs to the wider community associated with restoring water and soil resources to their former abundance and fertility. So over what timeframe should we measure agricultural productivity?

Similar considerations apply to other sectors: we've seen owners, shareholders and staff of all kinds of organizations rally to stay afloat since the 2008 financial crisis. Productivity in many factories and offices has gone up as a result. But people can't work at fever pitch forever. There is plenty of evidence that consistently overworked, undervalued and cynical staff become disengaged and their productivity drops significantly.[7] Moreover, working desperately hard means we don't have the time and space that allows the sort of thinking we need if creativity and innovation are to emerge.[8]

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Engaged staff with time to think, reflect and improve or even totally transform their workplaces are the ones that will deliver more productivity, whatever sector (paid or unpaid) they work in. How could a productivity program address these individual and organizational scale issues?

And there are wider global issues that also affect productivity at the macro scale, raising still more fundamental questions.

Productivity in a slow or no-growth world

Commentators from many sectors are picking a U-shaped recovery from the 2008 financial crisis rather then a W-shaped bounce and recovery. They're saying the base of the U may well have a series of smaller peaks and troughs, but is likely to last a very long time.[9]

Consider also population. Net economic growth since World War II has delivered prosperity to the developed world, and more recently to the larger emerging economies. Higher prosperity produces lower birth rates: those in many of the wealthier nations are now below the replacement rate, resulting in shrinking – and aging – populations. These shrinking and aging populations in turn depress economic growth rates. And migration from places with growing populations is only a temporary solution, as prosperity grows in the source nations and their population also starts to decline.

What value could increased productivity deliver and what form could it take in stagnating or contracting national and global economies in a world that desperately needs to contain its population growth, yet must manage the effects on its economies of lower, older populations?

Many commentators also note that per capita levels of consumption pose a more serious threat to ongoing growth than a high population.[10] We are already seeing scarcities of key elements such as the rare earths needed for many important health and communication technologies, as well as humanitarian and geopolitical problems associated with food and water security. So while prosperity brings low birth rates, it also brings higher levels of resource consumption which are becoming more difficult to meet.

Consumer demand in many countries remains slow as people grapple with ongoing economic uncertainty, and sooner or later governments will run out of money for publicly-funded infrastructure and other projects. Emerging economies can promote their own internal demand, but real issues of scarcity of both money and resources to feed increased consumption remain.

Moreover, we have an urgent need to address the suffering of people all round the world who live in poverty: they desperately need to consume more to achieve even a basic level of wellbeing, as the Millennium Development Goals acknowledge. Research[11] also highlights that inequality within and between nations is associated with political instability and is reflected in many social indicators such as rates of illiteracy, imprisonment, unemployment and ill-health. The tragic waste of human potential represented in such statistics significantly depresses per capita productivity.

In order to promote our common welfare and security, productivity at the individual, organizational and national scale must make a significant contribution towards enabling the world's poor to meet their own needs.

So what role does increasing productivity play in increasing the prosperity of the world's poorest people in developed and developing nations alike, in an increasingly resource-scarce world?

What would a strategic approach to productivity look like?

What things promote or inhibit sustained productivity in the primary, manufacturing, service, government and voluntary or not-for-profit sectors? What can we do to manage these very different sectors for the long term wellbeing of our own nations and the people and economies of the world?

At the macro scale, several countries round the world, the European Union and parts of the USA are looking at productivity. Two approaches in particular are instructive:

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- the Australian Government's Productivity Commission is an independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians in order to help state governments make better policies in the long term interest of the Australian community[12]
- the New Zealand Productivity Commission aims to improve public and private sector productivity in a way that is directed at supporting the overall well-being of New Zealanders.[13]

So while GDP is still seen as an important measure of productivity, agencies agree it's not the only one.

Many sector organizations are also focused on productivity, and one I've looked at recently is the globally significant civil engineering and contracting sector.[14] The sector has come up with its own indicators of productivity and its own analysis of the causes of reduced productivity. These 30-odd indicators include absenteeism, accidents, bad weather, difficult sites, fatigue, lack of skilled labour and poor morale and project management. It's easy to see:

- firstly, that some are unique to civil construction projects
- secondly, that others like project management skills, are common to many sectors, and
- thirdly, that addressing them all in a systematic way would improve the wellbeing of individual people at the micro scale, as well as organizational and national (meso and macro) productivity.

Other sectors can similarly analyze the structural or systemic causes of their own productivity drainers.

A macro-scale risk assessment approach could help work out where a country as a whole could make the best gains at all scales. Factors to be weighed up together could include, for example, the:

- percentage of people employed in various sectors or professions
- value of the sector or profession to the nation or particular regions
- extent to which productivity is impaired by factors that are clearly identified and benchmarked
- cost-effectiveness of interventions to overcome identified impairments
- number of impairments that are generic across sectors, enabling more cost-effective interventions
- presence of sector or community associations that can help build capacity to raise productivity
- threat posed by unproductive practices e.g. to availability or quality of environmental resources
- ability of an intervention to deliver multiple other benefits e.g. to health, education or environment.

Once we start thinking and talking, the ideas will flow!

A compass point to head for

The capacity-building that is needed to identify and address the diverse causes of low productivity and to monitor the outcomes over what may be generational time-spans will help build the much sought-after knowledge economy, where introspection and collaborative action foster creativity, innovation and productivity.

We can also think of productivity in transboundary terms, where for example research in one country delivers effective control of debilitating diseases like malaria in other countries, enabling people to fully participate in their local and national economies.

Celebrating the many different definitions of productivity will help us promote human wellbeing, enabling all of us to lead a happy, meaningful, creative and productive life in the ordinary sense – while contributing to the vitality of local communities and economies all round the world.

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