How useful are our productivity measures?

Key points
MBIE should maintain its focus on lifting productivity because:
- productivity growth is central to lifting incomes
- mismeasurement is estimated to have played a fairly minor role in the global productivity slowdown; the slowdown cannot simply be written off as measurement error
- the measurement challenges are unlikely to explain New Zealand’s consistently poor productivity performance.

What is happening with productivity?
Productivity growth has slowed worldwide. One possible explanation is that productivity is increasingly being mismeasured, ie ‘true’ productivity growth may be higher than measured growth.

New Zealand has seen this slowdown too. New Zealand has comparatively low incomes, driven by our poor productivity performance.

What is productivity?
- Productivity is a measure of efficiency.
- Productivity is defined as: ‘a ratio of a volume measure of output to a volume measure of input’.
- Productivity is about production. Outputs (goods and services) are produced using inputs (like workers’ time, effort and skills, and machines). Prices provide a way of adding up and weighting different outputs and different inputs.
- Productivity is a volume measure. Volume has a quantity and a quality component.

Why is productivity important?
- Lifting productivity means that New Zealand is making more of its limited resources. This increases society’s choices.
- Productivity growth is linked to wage growth.
- Productivity growth is a key driver of long-term per capita income growth. This improves material living conditions and contributes to overall wellbeing.

How is productivity measured?
- Measuring productivity involves dividing some measure of the volume of output by some measure of the volume of input.
- In practice, data on output tend to be available as dollar values rather than volumes. Adjusting for price and quality changes therefore plays a key role in measurement. An increase in the quality of output represents an increase in output volume, but pure price increases (inflation) do not.
- Consumers are willing to pay for higher quality goods and services, so prices and quality tend to move together. But this is not always the case. For example, the quality of computers has risen dramatically in recent years, while prices have fallen.

What are the measurement concerns?
Measurement concerns can be grouped into two broad areas.
1. Disentangling price and quality changes is becoming trickier
   - It is hard for measurement to keep pace with rapid changes in the quality of ICT and other digital products. The quality of services is also hard to assess.
   - The digital economy and services sector are a growing share of the overall economy. This means that the measurement challenges may be growing too. If so, analysing productivity trends will become more difficult.
   - Improving price and quality adjustment methods will therefore improve productivity measurement.

2. Productivity covers less and less of what matters
   - Productivity measures generally only cover things that are produced and consumers pay for. They exclude the unpaid-for benefits from the digital economy like free apps, Google and Facebook.
   - It is therefore important to recognise what productivity is and isn’t, and to improve methods of measuring the benefits from the digital economy.

What is the scale of mismeasurement?
Mismeasurement is estimated to play a limited role in explaining the global productivity slowdown.

Accounting for mismeasurement doesn’t change the story much
US labour productivity growth: official and adjusted (annual average percent)

Conclusions
- Productivity measures are still useful. They tell us something unique about how efficiently resources are being used.
- Mismeasurement appears to have played a fairly minor role in the global productivity slowdown.
- Many of the benefits of the digital economy fall outside conventional productivity measurement.