

Can Measurement Error Explain the Stagnation of Productivity Growth in the Canadian Construction Industry?

Peter Harrison (Centre for the Study of Living Standards)

Abstract

According to official Statistics Canada productivity estimates, the rate of growth of real output per hour in the construction industry in Canada over the 1981-2005 period was 0.27 per cent per year, less than one-quarter of the of the business sector average. This paper examines evidence for and against the hypothesis that Statistics Canada is mismeasuring construction industry productivity.

The strongest evidence in favour of a measurement problem is the use by Statistics Canada of input-cost indexes to adjust nominal (current-dollar) output to real (inflation-adjusted) output. We believe the current methodology underestimates productivity growth by as much as 0.45 percentage points per year between 1981 and 2002, a significant amount over such a long period. Other evidence supporting the idea of measurement problems is strong construction productivity growth observed in some other countries; significant gains in construction productivity when measured on a task basis; failure to adequately adjust construction output for quality improvements; and strong growth in the construction capital-to-labour ratio, which would normally imply strong productivity growth.

On the other hand, we also uncovered some evidence that measurement issues may not fully explain the gap in productivity growth between the construction industry and the business sector average: some other countries have also experienced weak productivity growth in construction; in earlier periods Canada has experienced strong construction productivity growth; there have been large productivity growth differences across provinces; there is a lack of evidence that Statistics Canada is failing to capture underground economy; and we failed to detect an effect from prework on construction industry productivity.

It seems likely that mismeasurement explains some, but not all of the gap in productivity growth between the construction industry and the business sector.