# 1 Introduction

## 1. Focus of the paper

This paper is about the sources of growth in income in Australia and their effects on structural change and the distribution of income between labour and capital.

The main objective is to find an explanation for the fall in the labour share of income in Australia in the 2000s.

A change in the labour income share is worth investigating. While the labour income share is not a ‘primary’ indicator of economic performance or economic wellbeing, a shift in the share can reflect underlying changes that can have important effects on employment, inflation and income distribution.[[1]](#footnote-1)

The labour income share has fallen in quite a few high-income countries over the 2000s, which raises a question of whether Australia’s fall reflects the same underlying causes as in other countries such as the US. This is also investigated.

## Approach

### Proximate explanations

The analysis in the paper looks for immediate or proximate explanations for changes in the labour income share. It deals only with the obvious underlying causes. The fall in the labour income share is examined in three ways:

* as a divergence in growth between labour income and capital income
* whether the changes in relative income growth reflect quantity changes (use of capital and labour inputs) or price changes (wage rates and rates of return on capital
* as a divergence in growth between the real cost of labour and labour productivity.

These three approaches can be applied at a macro or aggregate level. But it is also very instructive to examine them at an industry level.

A ‘growth accounting’ approach is used. This provides a statistical breakdown of contributions to changes in the labour income share and in other variables. It does not provide a causal analysis of relationships. For example, while a fall in the labour income share can be decomposed into contributions from growth in real wages and labour productivity, there are no means to tell the direction of any causal link between wages and productivity.

### Industry contributions

At an aggregate level, changes in the labour income share can reflect similar trends across all industries or large changes in some industries relative to others. The analyses in the paper pay particular attention to the industry sources of change in income flows. The idea is to keep a focus on what has happened to growth in income at the aggregate level, but to identify from which industries that growth has come. An industry contribution is the growth in income in an industry weighted by the importance of the industry in generating aggregate income.

The calculation of industry contributions uses ‘chained Tornqvist aggregation’, developed in Parham (2012). This method enables a high degree of precision in the calculation of industry contributions over an interval of years. The additivity in the approach also enables contributions to be disaggregated — for example, an income contribution can be disaggregated into a quantity component and a price component. The use of the method in this paper is laid out in appendix A.

### Comparison periods

Comparison of growth rates over two decades is key to understanding the factors behind the change in the labour income share in the 2000s. The analysis compares the 1990s (1989-90 to 1999-00) to the 2000s (1999-00 to 2009-10).

These periods are arbitrary, but they do allow a comparison between a period dominated by productivity growth (the 1990s) with a period dominated by a terms of trade shock (the 2000s). However, these decadal periods do not correspond to productivity cycles, as used in determining underlying productivity trends, nor to turning points in the terms of trade.

### Data sources

Nearly all data are sourced from the Australian Bureau of Statistics (ABS) Australian National Accounts. The productivity database within the national accounts is used extensively. This means that the analysis is confined to the market sector of the economy, rather than the economy as a whole. And, since data for the 16-industry market sector do not span the whole of the 1990s, data for the 12‑industry market sector are used.

Some caution is required in taking firm conclusions from some aspects of the analyses. The national accounts data are used in this paper to derive wage and rate of return estimates, a purpose for which they are not primarily designed. Greater caution is required in regard to industry estimates. They have not been separately cross-checked against direct survey estimates.

## What the paper does

Although the paper is about how the income ‘pie’ has been sliced, it is important to keep in mind how rapidly the ‘pie’ has been growing. The next chapter outlines the trends in income growth over the 1990s and 2000s. It also highlights changes in the sources of growth in income over the two decades, in the first instance, in terms of productivity and terms of trade determinants, and then in terms of changes in the industry sources of income growth.

Chapter 3 presents definitional, historical and international perspectives on the labour income share as a prelude to delving in later chapters into the explanations for the recent fall in Australia. It also includes a comparison of economic developments in Australia and the US in the 2000s as a way of addressing the question of whether the fall in labour share in Australia reflects the same developments as those that have occurred in other countries.

Chapter 4 deals with the decline in Australia’s labour income share from the three perspectives set out above at the aggregate level.

Chapter 5 starts the industry analysis. It examines the industry sources of factor income growth and undertakes ‘shift-share analysis’ of the contributions of shifts of income between industries and shifts in labour shares within industries. It finds limitations in this approach for the current purpose and puts forward an alternative analysis based on industry contributions to the disparity in growth between labour income and capital income at the aggregate level.

Chapter 6 continues the industry analysis. It examines industry contributions to the changes in factor proportions and factor rewards (or ‘quantity versus price’) explanation for the fall in the labour income share. It also examines the industry contributions to the relative growth in productivity and costs.

Chapter 7 investigates another implication of the shift in the terms of trade. It drove a wedge between prices of the goods and services produced in Australia and prices of the goods and services consumed in Australia. This in turn drove a wedge between growth in real wages as a cost to producers and growth in real wages as income to labour.

1. The labour share of income is quite different from the distribution of income (the distribution of income from all sources and after redistributive action is taken via the tax and transfer system). A recent paper by Commission staff (Greenville, Pobke and Rogers 2013) found that there had been a widening in the distribution of market incomes in Australia. However, the effects on the personal and household distribution of income have been mitigated to a large extent by movements of the population into employment. [↑](#footnote-ref-1)