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Does income inequality hinder economic growth? New evidence using Australian taxation statistics☆

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ABSTRACT

Using taxation statistics, we first derive consistently defined Gini coefficients for the period 1942–2013 for Australia as a whole as well as its eight states and territories. While income inequality exhibited a downward trend until 1979, it has since been on the rise not only over time, but also across states and territories. We then proceed to examine the effect of inequality on economic growth after controlling for changes arising from investment in physical and human capital using available panel data across all states and territories (1986–2013). We find that inequality adversely affects economic growth with a couple of years delay, an outcome consistent with similar studies undertaken in the United States and Europe. Our findings suggest that policymakers can address rising income inequality by implementing measures that support, and enhance, human capital accumulation given its long-run economic and social benefits.

1. Introduction

The relationship between income inequality and economic growth carries important policy implications. If inequality enhances (hinders) economic growth, this would provide a strong argument against (in favour of) redistributive policies. However, the inequality–growth nexus remains open to debate. Proponents of a positive nexus argue that inequality creates incentives to work harder and accumulate savings necessary for investment (Cingano, 2014; Mirrlees, 1971; Shin, 2012). In contrast, negative relationships arise when inequality forces governments to invoke growth-distorting taxation polices, under-invest in human capital or contributes to financial and credit market imperfections (Agnello et al., 2012; Esarey et al., 2012; Lim and McNelis, 2016).

One reason for these conflicting viewpoints is that most studies have relied on cross-country data over a short time span, neglecting heterogeneity of data and measurement standards, aggregation problems and cultural and institutional differences, among others. For these reasons, there have been increasing calls to examine this nexus using sub-national data (De Dominicis et al., 2008; Naguib, 2015).

In response, a relatively small branch of the inequality-growth literature has emerged over the last fifteen years or so that uses sub-national state or regional data. For example, several studies have analysed panel data for US counties or states (Fallah and Partridge, 2007; Frank, 2009; Partridge, 1997, 2005) or regions in Europe (Asteriou et al., 2014; Perugini and Martino, 2008; Rodríguez-Pose and Tselios, 2010; Rooth and Stenberg, 2012). The issue, however, is that the lack of observations has meant that average inequality, often for 10-year intervals, is used as the dependent variable, creating "short-and-wide" panels with large-N and small-T (see e.g. Panizza, 2002; Partridge, 1997, 2005). Frank (2009) is one of the few studies to use a panel with annual data on inequality for 48 US states over the period 1945 to 2004.

State- or regional-level data has several advantages over cross-country aggregates when investigating the relationship between inequality and income. First, the data are compiled using the same collection standards and methodologies. Second, within-country studies share the same political systems and institutions, which helps to minimise cultural differences inherent in cross-country studies (Barro, 2000; Frank, 2009). Third, large factor flows between states should magnify how relatively small disparities in initial conditions influence economic growth (Partridge, 2005). In addition, if the panel contains annual inequality measures for each state or region the inequality–growth relationship can be more reliably tracked over time compared

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with using data at periodic intervals that produce more of a snapshot in time.

Australia makes an interesting country to study the effect of income inequality on real economic growth. Despite being a country that prides itself on egalitarianism, it has become increasingly unequal in terms of both income and wealth distribution (see Greenville et al., 2013; Leigh, 2004; Wilkins, 2014, 2015). In this sense, rising income inequality in Australia is representative of trends in Europe and the US (Piketty, 2014) and across the OECD more generally (see e.g. OECD, 2014). But Australia is also interesting in that the resources boom commencing from the late 1990s has benefited some regions more than others, contributing to growing disparities in income distribution across states and territories.

Until now concerns over data quality and the lack of long-term official inequality statistics have prevented a robust study of Australia's inequality–growth nexus (Leigh, 2004). Our study contributes to the extant literature in three distinct ways. First, we construct a national income inequality series for Australia by calculating Gini coefficients based on individual taxation statistics released by the Australian Taxation Office (ATO) for the period 1942–2013. This series is considerably longer than the biennial inequality statistics released by the ABS since 1995 (ABS 2015, Cat. 6523). Our study differs from Leigh (2004) in that we use data on all, rather than only male, taxpayers to calculate Gini coefficients for Australia. Second, we calculate Gini coefficients for all eight Australian states and territories (Victoria, New South Wales, ACT, Queensland, Northern Territory, Western Australia, South Australia and Tasmania).[1] To the best of our knowledge, this is the first attempt to provide disaggregated, long-run Gini coefficients for Australia and its states and territories. Third, using these state- and territory-level Gini coefficients, we undertake a state-based panel study of the inequality–growth nexus. While we compile Gini coefficients from 1942 to 2013, state-level data on economic growth, human capital and fixed capital formation have only become systematically available from 1986. Hence, our panel data analysis is restricted to a shorter time span.

Income inequality is of great importance to policymakers given the potential economic, social and political ramifications. This article explores one of these dimensions by examining Australian income equality at the sub-national level and its relationship with economic growth. Additional insights into this nexus are invaluable in helping policymakers address rising inequality, particularly given the myriad ways inequality may affect growth (Forbes, 2000; Partridge, 2005). In general, we find that inequality has widened in all Australian states and territories since the late-1970s. Beginning from the mid-1980s, inequality has exerted a negative, and delayed, impact on the economy, whereas investment in both physical and human capital has positively influenced it. The positive relationship between human capital and economic growth is particularly important given evidence that additional investment in education and upskilling can also help to lower income inequality (Bénabou, 2002; Galor and Moav, 2004; Ostry et al., 2014).

While further investigation is required to determine what drives this nexus, these results still carry important policy implications. Specifically, we argue that an effective way for Australian policymakers to address rising inequality is through greater investment in human capital given the egalitarian and economic benefits. This would mark somewhat of a deviation from the conventional wisdom given the preference in Australia to address rising inequality through progressive taxation and transfers. Reducing income inequality through greater investment in human capital has the added benefit of avoiding the negative externalities associated with redistribution, such as diminishing economic incentives and lowering productivity (Alesina and Rodrik, 1994; Ichino et al., 2011; Partridge, 1997; Persson and Tabellini, 1994).

2. Measures of income inequality in Australia

There are five key official data sources for the study of income inequality in Australia; namely, the Household Income Surveys (HIS), the Household Expenditure Surveys (HES), the Household, Income and Labor Dynamics in Australia (HILDA) Survey, the Census and taxation statistics.[2] A major advantage of taxation statistics is that they allow one to investigate inequality in Australia using annual data over a much longer period, particularly at the state- and territory-level. Furthermore, unlike survey-based data, taxation statistics capture a greater extent of high-income earners, and thus, provide a more accurate indicator of inequality among the top-end of the income distribution. Based on these grounds, Leigh (2004) uses taxation statistics to calculate Gini coefficients for Australian male taxpayers over the period 1942–2002. Meanwhile, Atkinson and Leigh (2007) and Burkhauser et al. (2015) rely on taxation statistics to estimate inequality for the top-10% of the income distribution. Our series differ from Leigh (2004) in that we calculate Gini coefficients for all taxpayers in Australia as well as for each state and territory.

However, taxation statistics also have limitations in estimating inequality. First, income-distribution surveys allow greater freedom of responses and are better able to distinguish between sources of income growth than taxation statistics. Survey data is also more likely to capture non-taxable income, which by definition is not included in the relevant taxation statistics. Second, given that the Australian tax unit is the individual, taxation statistics may not fully capture inequalities across households. Third, since not everyone files a tax return, taxation statistics may not provide a complete picture of income distribution across the population (Leigh 2005). Using estimates of the size of the labor force published by the ABS, and ATO taxation statistics over the same period, we find that taxation statistics, on average, capture 87.7% of the total labor force for the period 1978–2013.

3. Alternative views in the literature

In theory, inequality exerts a positive impact on income through two main channels. First, inequality encourages savings, and therefore investment, since the rich have a lower propensity to consume (Bourguignon, 1981; Kaldor, 1957). This is especially relevant for poorer countries as it allows at least part of the population to accumulate the minimum required to invest in education and entrepreneurship (Barro, 2000; Ostry et al., 2014). Second, higher inequality creates incentives for individuals to work harder and invest given the ability to earn higher wages (Katz, 1986; Mirrlees, 1971). Individuals are also incentivised to upskill by investing in human capital or switch to more productive industries, both of which lift economic growth (Cingano, 2014).

There are three channels through which a negative relationship might exist. First, Hibbs (1973) argues that a high concentration of economic resources can create incentives for rent-seeking behaviors, which lead to the exploitation of political power. This fosters a general lack of trust in government, giving rise to civil unrest and disincentives to invest. Second, financial and credit market imperfections reduce the ability of poorer individuals to borrow freely against future income in credit markets. This creates a binding constraint on the household sector and limits the ability of low-income earners to invest in either physical or human capital (Banerjee and Newman, 1991). This can be detrimental to an economy given under-investment in human capital is

[1] Taxation statistics were published annually in the *Report of the Commissioner of Taxation* from 1942 to 1999. Since 2000 the ATO has published taxation statistics on their website.

[2] Taxation statistics are collected by the ATO, the HILDA survey is commissioned by the Department of Social Services and the remaining sources are surveyed by the ABS.