Public Policy and the Economics of Inequality

Case study prepared for Economics of Government

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Chapter 1: Introduction
Economic inequality refers to how evenly income, wealth, or other quantities of interest are distributed between individuals within a population. In the popular discourse, the level of equality in a given society is sometimes seen as an indicator of how fair that society is. Economists have been thinking about inequality for as long as economics has existed as a field of study – at least since the 1700s. Widespread inequality in human society has existed for much longer than this – probably since the Neolithic era which began around 12,000 years ago.

Recently, inequality has become an especially politically charged topic, with prominent figures on all sides of politics voicing strong opinions, and social movements against inequality emerging such as Occupy Wall Street in 2011. Despite this renewed focus, there is a general lack of clarity among citizens about what inequality is, how it has been changing over time and how it affects us (Gimpelson & Treisman 2015).

Even among economists, there is a broad divide regarding whether inequality is good, bad, or simply not worth worrying about. This is due not only to underlying differences in ideology which are revealed by contemporary political discourse, but also different ways of measuring inequality, the time frame considered, the overall level of economic development of a country, the political system in a country and, overall, to a lack of clear evidence. Ideally, these methodological issues should be kept separate from ideology, with value judgements about inequality only being made after the objective assessment of available evidence.

In practice, inequality is often taken into account as a factor in government policy decision making, but inequality objectives are not usually seen as ends unto themselves. There are many potential ways to reduce inequality, such as through the tax and transfer system, social security policy and other forms of government spending. However, the fundamental aims of these policies are typically broader than inequality reduction. This may in part reflect the ongoing lack of consensus on the instrumental impacts of inequality, especially when compared with other related policy problems such as poverty or the need to sustainably fund and provide essential government services.

The intention of this case study is to provide an accessible introduction to the concept of economic inequality and thereby promote greater clarity around this broadly misunderstood yet politically charged topic. We examine theory, historical perspectives
and evidence relating to inequality, with implications for navigating the trade-offs involved in designing government policy.
Chapter 2: The Nature, Positives and Negatives of Inequality

Inequality research in economics has a long history, but the topic has recently been subject to renewed focus, both academically and for policymakers. The nature of the relationship between inequality and economic growth is an active area of debate, as are the implications of this relationship for assessing whether the level of inequality within an economy is appropriate.

Setting up the inequality debate

This chapter focuses on in-country inequality rather than cross-country inequality, with emphasis on developing countries, where inequality is more pronounced. We also focus mainly on income and wealth inequality rather than consumption inequality, reflecting this emphasis in the literature. In Chapter 3, we will explore the differences between each of these concepts, and expand upon the idea of how inequality can be measured.

We are predominantly interested in vertical inequality – that is, the shape of the income distribution and how that affects economic and social outcomes. Vertical inequality is distinct from horizontal inequality, which focuses on whether outcomes are skewed based on criteria considered to be improper determinants, such as sex or ethnicity. On horizontal inequality, there is broad agreement that equality of opportunity is a justified goal and that ‘perfect equality of outcome’ is not desirable (Atkinson 2015, Mankiw 2013). The desired amount of equality of outcome to be targeted from a policy perspective is a subjective judgement. It is broadly agreed that policies that eliminate incentives to achieve are too highly redistributive, whereas policies that fail to provide enough insurance against bad outcomes, particularly poverty, are not redistributive enough. We further explore ideas relating to policy interventions in Chapters 4 and 5.

A further issue in the inequality debate is whether equality should be considered an intrinsic good (Mankiw 2013), or whether it matters only in terms of its impacts. Starmans, Sheskin and Bloom (2017) find that many people prefer unequal societies (up to a point) because they prefer what they perceive to be a fair distribution of wealth over unfair equality. Here, we focus primarily on the instrumental aspects of inequality.

It is important to clarify the distinction between inequality and poverty. Income inequality refers to the level of dispersion in the income distribution. Poverty refers to the rate (or number) of people whose living standards are below some absolute level. Hypothetically, a society could be perfectly equal and entirely in poverty, or extremely unequal and
without poverty. In a society which is not generally impoverished, a policy intended to reduce the poverty rate will likely have the effect of reducing inequality. In this case, the poverty reduction strategy is the causal agent, with reduced inequality being a by-product. In the public debate, inequality is sometimes used as a blanket term where poverty is really what is being referred to.

Reasons why inequality might be good

Inequality might be a sign of economic growth. Kuznets (as cited in Chang 1994, pp. 1-2) argues that national income inequality evolution follows an inverted ‘U’ curve, where as a nation undergoes development, inequality at first increases, but is followed by reductions. This theory may be too stylised, as it is seemingly unsupported by data over the recent past, as outlined by Milanovic (2016). Similarly, Cingano (2014) notes that higher inequality fosters aggregate savings which permits capital accumulation because the rich have a lower propensity to consume. Inequality therefore increases the potential for the rich to invest their capital into the economy and create further opportunities – “a rising tide that lifts all boats”. However, this effect may not be observed in practice, as the rich may instead store their wealth in tax havens, or invest their wealth in some other way that does not contribute to economic growth.

Economic growth relies on individuals’ incentives to work. Depending on which part of the income distribution is affected, policy measures intended to reduce inequality may result in decreased work incentives. In this scenario, more equality now is traded off against worse outcomes for those not yet born. This point highlights that the extent to which lower inequality is a problem may depend on the reason why it is lower.

Reasons why inequality might be a problem

The negative instrumental impacts of inequality may include reduction in economic growth, and reduction in wellbeing determinants such as health problems, social problems and political instability.

Several economists have identified a negative correlation between inequality and economic growth (Stiglitz 2013 and 2015, Persson & Tabellini 1994, Cingano 2014). Further refinements include evidence that the duration of a growth phase is negatively correlated with inequality (Berg & Ostry 2011, pp. 8-9) and that the long-run growth rate is associated with equality in the income distribution (Persson & Tabellini 2011).
However, these studies have been subject to criticism. Breunig and Majeed (2016) replicate and extend Cingano’s (2014) findings, demonstrating that they are very fragile and depend upon sample composition and which control variables are included in the model. Their results suggest that inequality is only bad for economic growth when poverty is high. Several studies point to corruption as a key driver of inequality and reduced economic growth simultaneously in developing countries (Li, Xu & Zou 2000, Gyimah-Brempong 2002), again implying that inequality may not be the causal agent.

Any perceived negative impacts of inequality may result in a political-economic effect that could explain the negative correlation between inequality and economic growth – the ‘endogenous fiscal policy’ theory – as inequality rises it becomes unacceptable to voters. This results in demands for tax and transfer policy changes and regulations, which may reduce the incentives to invest (Persson & Tabellini 1994).

Several studies suggest that inequality leads to health and social problems. For example, Wilkinson and Pickett (2009) argue that physical health, mental health and social problems are worse in more unequal societies, predominantly due to the physiological stress of operating within an economic hierarchy, or ‘status anxiety’. It is plausible that status anxiety only exists under the additional condition that economic mobility is high enough. For example, in a medieval European society structured under feudalism, a person’s status was almost entirely independent of their actions in life, and therefore status anxiety was likely not a widespread issue, despite very high levels of inequality.

Inequality may also lead to political instability and social unrest (Ortiz & Cummins 2011, p. 35) which heightens uncertainty around economic investment, production and labour supply, and therefore may reduce investment and consequently economic growth. Political problems include that wealthy individuals and organisations may seek to influence policy in their favour (e.g. through political donations), irrespective of such policies’ effects on economic efficiency and social cohesion (Krueger 2003). Studies have found there is an increased chance of conflict where inequality exists in inhomogeneous societies (Stewart 2010; Østby 2008; Cederman, Weidmann & Gleditsch 2010).

Finally, income is thought to have diminishing marginal utility. That is, an extra dollar does not provide as much benefit to a wealthy person compared to a poor person. Therefore, some have argued for income or wealth redistribution on a utility maximisation basis. A related argument is that inequality results in reduced aggregate demand, because wealthy people are more likely to save and invest their extra dollars
than to consume (Stiglitz 2013). If aggregate demand is reduced by enough, this can lead to economic instability in periods of slow growth.

Why is there still so much disagreement on the impacts of inequality?

Assessing the impacts of inequality requires some form of evidence. For practical reasons, strong forms of empirical evidence which would give us much more information about the positive and negative effects of inequality are not available. Ideological considerations notwithstanding, this is the primary reason why there is still so much academic disagreement on the effects of inequality, and whether they are positive or negative.

Experimental design

Randomised control trials (RCTs) are the gold standard in measuring causal relationships. RCTs provide comparative evidence by splitting a population randomly into two groups, with one being subject to a ‘treatment’, such as a policy intervention, and the other (the ‘control’ group) not being subject to that treatment. The effect of the treatment can be observed and compared against the ‘counterfactual’, i.e. what would happen in the absence of the intervention.

In theory, RCTs would be the best mechanism to assess the costs and benefits of inequality. This would involve randomly splitting a given population in two, then varying the level of inequality (and changing nothing else) in one of the groups, while keeping inequality in the other group constant. One could assess the effects of inequality by comparing results between the groups. In practice, using RCTs to properly assess the effects of inequality is not feasible, due to both practical and ethical concerns (Breunig 2018, Bryman 2011). Even if ethics were not an issue, there would be further barriers to a successful experiment, such as high costs and unintended ‘spillover’ effects such as subjects becoming aware of the experiment (Breunig 2018, p. 70).

In the absence of true experiments to study the effects of inequality, we need to rely on weaker forms of causal evidence. Quasi-experiments refer to a situation where some policy change or natural event splits the population into treatment and control groups that can be analysed using experimental methods, sometimes augmented by time changes or controls for observable characteristics. Such quasi-experiments are also difficult to find in the data.
Using data to investigate the impacts of inequality

Researchers and policymakers typically make empirical assessments about inequality using available data. Their techniques are often statistical, and involve investigating the nature of the relationship or ‘correlation’ between the effects we wish to measure, which are known as ‘dependent variables’ and the quantities we would wish to vary in an experimental setting, which are known as ‘independent variables’. There are many statistical techniques that can be used to explore this type of relationship. The OECD (2015, pp. 27-28) identifies such an association between worse educational outcomes for individuals from lower-income families, such as numeracy and literacy skills, and higher income inequality. However, it is not possible to make strong claims about causation on the basis of correlation alone. In this case, poor educational outcomes could be having a causal effect on inequality rather than the other way around.

In general, working with data in the absence of true experiments comes with important limitations, such as that causation is difficult to establish, unobserved factors may be having an (unknowable) effect on the outcomes, and it is difficult to obtain sufficient and accurate data over a long enough timeframe. There are statistical methods which can be used to mitigate these issues to varying degrees of success. Despite the existence of these methods, as well as a large body of theory, complex dynamic relationships such as that between inequality and economic growth are still not well understood (OECD 2015, pp. 62-63). The extreme difficulty of causal inference in the absence of controlled experiments is the primary reason for the lack of clarity around the impacts of inequality, whether positive or negative.

Conclusion

Theoretically, inequality could have both positive and negative impacts on economic and non-economic outcomes. Empirical studies have been mixed. The question of how much inequality is desirable or acceptable in an economy is generally very difficult to answer, due to lack of clarity around impacts, as well as high dependence on context (e.g. country, time period) and subjective judgements. It seems clear that some level of inequality is both unavoidable and highly desirable. At the same time, “too much” inequality is probably associated with negative social and economic effects. These effects are predominantly a result of inequality observed at the lower end of the economic distribution. This highlights the point that policymakers must maintain the distinction
between inequality and poverty, and be clear about which one they wish to address and why.
Chapter 3: Measurement of Economic Inequality

There are many metrics that can be used to quantify inequality, allowing for the comparison of inequality across time periods or between different populations, such as geographical regions. Economic inequality is typically measured using three different concepts: income, consumption or wealth. Inequality metrics can be useful for investigating the drivers and the effects of inequality. For example, income inequality is hypothesised to be both a driver of, and influenced by, wealth inequality (Piketty 2014).

A household’s wealth is usually measured as its assets minus debts (Killewald, Pfeffer & Schachner 2017, p. 380). Consumption is net expenditure by a household in a fixed period, generally measured using survey data (Attanasio & Pistaferri 2016, p. 9). Income inequality may be measured either before or after the impact of government taxes and transfers, and both are relevant for different purposes. The decision of whether to use income, consumption or wealth inequality metrics depends on what data is available and what the analysis is intended for.

It is important to be aware of the assumptions and limitations of each type of metric. Income inequality measures are the most widely used, due to better data availability. However, they can suffer from timing and measurement issues that affect the amount of inequality measured. For example, there may be people on low incomes who have high wealth (such as retirees with low reported taxable income and high assets), and who would not normally be classed as underprivileged. Consumption inequality may provide a better indication of social welfare, as living standards are more closely linked to consumption rather than income. On the other hand, people may borrow or spend in an unsustainable way which would lower apparent consumption inequality and could understate the “access to resources” component of inequality. Wealth inequality metrics may capture overall economic capacity better than consumption metrics. Wealth inequality is often what people intuitively think of as inequality, as it represents the resource divide between the rich and the poor. Larger wealth inequality is an indicator of lower equality of opportunity, as wealth can be inherited. Wealth and consumption inequality capture lifecycle effects better than income inequality. (The Economist 2014)

The Gini coefficient and Lorenz curve

The following discussion of the Gini coefficient is based on Scott and Marshall (2015). The Gini coefficient is a measure of inequality which represents the dispersion of income (or any other quantity), on a scale from zero (perfect equality) to one (perfect inequality).
This value is defined in terms of the Lorenz curve (Chart 1), which is a graphical representation of a distribution, depicting the cumulative share of income earned against the cumulative share of population units, e.g. individuals or households. Perfect equality is represented by a 45-degree line and inequality is represented by the “bowed” Lorenz curve. The Gini coefficient is calculated as two times the area A between the Lorenz curve and the straight line.

![Lorenz curve](chart1.png)

*Chart 1: Lorenz curve (De Maio 2007)*

**Quantile-based indicators**

Quantile-based indicators are defined with reference to quantiles. To calculate quantiles, a dataset is ranked from smallest to largest and divided into equal-sized groups. The quantiles are the cut-off points which divide the dataset in this way. For example, these could be quintiles (five equal groups), deciles (10 equal groups) or percentiles (100 equal groups). A common example of a quantile-based indicator is a quantile ratio, which is the ratio of any two quantiles. The ratio between the median and the mean is another measure which provides information about the asymmetry in the distribution.

A strength of quantile ratios is that they arguably have a more intuitive interpretation than the Gini coefficient. Data on quantiles tends to be more accessible than data on Gini coefficients. On the other hand, quantiles do not capture variation in the extremes of the distribution (for example, within the top or bottom decile). Quantile ratios can be very
volatile with regard to variations in the underlying data. There is also the need to choose which quantiles to compare, and this choice has an impact on the inequality measured.

An additional quantile-based indicator of recent interest is the share of aggregate income received by the top 1 per cent of the population (Alvaredo, Atkinson, Piketty & Saez 2013). This indicator measures the concentration of income in the top end of the distribution. As an inequality measure (Vecchi 2008), it is a fairly narrow one as it will miss any changes in the distribution that happen below the top one per cent.

Absolute and relative poverty

The poverty rate is the percentage of a country’s population whose household income is below an absolute level called the poverty line (Gans et al. 2018, p. 472). This is not an inequality measure. However, relative poverty is a similar concept which does provide information about inequality. A relative poverty line is usually defined as some percentage of the mean, median or other quantile (Foster 1998, p. 2). A household with income falling below this percentage is considered to be in poverty, and the relative poverty rate is the percentage of the population that meets this condition. One limitation of this approach is the arbitrariness of the choice of poverty line (whether relative or absolute).

Most OECD countries measure poverty as a relative concept (and therefore as an inequality measure), based on some fraction of median income. The US is an important exception which constructs a poverty line based upon the cost of a consumption bundle below which people are considered to be unable to achieve sufficient consumption to make them non-poor.

Generalized entropy measures

The Theil index and Atkinson index are further measures of inequality, and belong to a class known as generalized entropy measures. The entropy of a distribution is a measure of how randomly dispersed it is, with perfect equality corresponding to an entropy of zero. The mathematical formula for the Theil index is:

\[ T = \frac{1}{n} \sum_{i=1}^{n} \frac{X_i}{\bar{X}} \log \frac{X_i}{\bar{X}}. \]
A special property of generalized entropy indices is that they allow for additive decomposition of a population into groups, e.g. gender or ethnic groups or geographical regions (Bourguignon 1979). In particular, the inequality over a population is equal to the average inequality within groups (weighted by income) plus the inequality between the groups. This property can provide information about whether aggregate inequality is more due to inequality within or across the states of a country, for example. The Gini coefficient has no such decomposition.

**Trends in inequality measurement**

The Gini coefficient is by far the most widely used inequality metric, with evidence provided by a Google Trends analysis (Chart 2).

![Chart 2: Relative interest in economic inequality metrics over time (data source: Google Trends)](chart2.png)

**Conclusion**

There is no overall best measure of economic inequality, which suggests that it might be best to look at several measures simultaneously. However, it is important to note that most measures which look at the entire distribution (Gini coefficient, Atkinson index, etc.) tend to give broadly similar results in terms of country rankings and the evolution of inequality over time. Using a combination of the metrics discussed in this chapter, assessments may be made about the magnitude of inequality, where in the distribution the inequality is most pronounced, and how the inequality can be decomposed within a population.
Chapter 4: The Case for and Against Government Intervention in Relation to Inequality

This chapter considers the role of government and examines the possible advantages and disadvantages of government intervention to reduce inequality.

The role of government

The individuals and institutions that make and enforce laws for a society can be defined as government. Governments address issues in society which would otherwise likely not be addressed by individuals and businesses, but are nevertheless important for the proper functioning of that society. There is broad agreement about the need for government to regulate monopolies, provide public goods and address negative externalities (i.e. unintended adverse effects of economic activity). There is a great deal of disagreement about the degree to which government should intervene in the economy to address inequality.

The equity-efficiency trade-off

The government is usually able to set policy that improves how equitably resources are distributed across society. However, this may sometimes (but not always) result in decreased economic output. In this case, we say there is an equity-efficiency trade-off (Acemoglu, Laibson & List 2016, p. 283). Here, efficiency means the ability of an economy to produce a larger level of desirable outputs with the same inputs. An intuitive example of the trade-off is that setting high taxes on wealthier people reduces the incentive to achieve, likely resulting in lower inequality but also reduced economic output and growth. On the other hand, a policy designed to retrain unemployed workers in high demand industries might conceivably reduce inequality while increasing efficiency.

The concept of an equity-efficiency trade-off is illustrated in Chart 3. When inequality is reduced from A to B, economic output is also reduced. However, when inequality is increased above A, economic output again decreases, illustrating that the trade-off only occurs when inequality is below the level that is theoretically optimal with respect to efficiency. It is important to note that such a level of inequality is likely to differ across countries and over time.
The arguments for government intervention to reduce inequality tend to fall into one of the following categories: citizens desire more equality than the market can provide, inequality creates negative externalities which must be corrected, or social welfare must be increased to provide a form of insurance which is missing from the market.

As indicated by the equity-efficiency trade-off, markets may achieve high efficiency without achieving a level of equity that satisfies society as a whole. Government intervention may be required to ensure that the distribution of resources, such as access to education and medical treatment, satisfies citizens (Barr 1998). Markets are likely to underproduce these goods – similar to how the market underprovides public goods.

Markets will under- or over-produce relative to the social optimum when externalities are present. It has been argued that inequality creates negative externalities, such as the potential social costs of inequality outlined in Chapter 2. Market forces, in the absence of government policy, will not respond to such costs. Government intervention to reduce inequality and thereby correct these externalities is required to whatever extent that we believe inequality is to blame. However, poverty may be the underlying driver for many of these externalities, rather than inequality.

A common argument for government intervention to address inequality relates to social insurance. We can view the social welfare system as providing a form of insurance not otherwise available in the market for those born into poverty. Barr (1998) takes this view, positing that no individual or household should live below a certain minimum standard and that government intervention to insure against this risk should occur without
stigmatising those receiving assistance. Bruce and Waldman (1991) suggest that government interventions should target equality of opportunity with in-kind transfers to improve individuals’ capacity to generate income, such as through providing better access to education. They believe that this approach greatly reduces the risk of poverty traps induced by welfare dependence. These arguments can be subject to the caveat that the problem being targeted here is poverty rather than inequality. This is because our concern is exclusively with the lower end of the economic distribution. Nonetheless, other things equal, lifting people out of poverty should reduce inequality.

The case against government intervention

There are various arguments against government intervention to reduce inequality. One of the best-known arguments is based on ‘public choice’ theory. This theory argues that government action is inefficient in maximising social welfare as elected officials act based on self-interest in response to the influence of their electorate, rather than in the best interest of society (Barr 1998). Another argument based on the inefficiency of government spending is the ‘leaky bucket’ theory, which refers to the (primarily administrative) costs of addressing inequality via the tax and transfer system (Okun 1973). These theories on their own do not provide justification for why the government should not act, but if the total cost of some government intervention is considered to outweigh the benefits, the action should not be taken. They do suggest that government intervention is likely to be worse than no intervention if the best-case benefits are small.

Further, as outlined in Chapter 2, inequality can be beneficial to economic growth by incentivising people to work and invest more (Josten 2003). If high income individuals save more, the result is increased capital accumulation and higher economic growth. Excessive government intervention such as economic redistribution via the tax system is detrimental to such growth. Poor growth hurts young people and future generations which is another dimension to inequality that should be taken into consideration.

On both sides of the debate, there may be deeper philosophical motivations underlying each position. While these are not the focus of this case study, they can be useful to know and identify, as they are often not explicitly stated in public discourse. For example, libertarians argue that it is not appropriate for a government to achieve a specific distribution of income by taking from some individuals in order to provide for others. Rather than evaluating economic outcomes, libertarians focus on the process which determines incomes. They tend to argue that if the process for determining the income
distribution is just (for example, if wealth has been legally and fairly acquired), the consequential outcome is also just (Gans et al. 2018).

**Conclusion**

As highlighted by the equity-efficiency trade-off, particularly high or low levels of inequality may come with undesirable economic effects. The case for or against government intervention is ultimately dependent on whether inequality is deemed to be at a detrimental level, and if so, on an assessment of the costs and benefits of the proposed interventions.
Chapter 5: Policy Interventions Relating to Inequality

A policy intervention designed to reduce inequality should be based on sound evidence that inequality is at a harmful level, and that impacts from that intervention will be more positive than negative. Care should be taken to understand and mitigate any adverse side effects from reducing inequality, including equity-efficiency trade-offs. In this chapter, we explore some potential policy interventions which can reduce inequality and discuss key principles in formulating these policies, including reviewing the available evidence on their impacts.

Tax policy

The most common way to reduce inequality via tax policy is to increase the progressivity of the personal income tax system. A progressive tax system is based on taxpayers’ ability to pay, where higher income individuals pay a higher proportion of their income than lower income individuals. The equity-efficiency trade-off is that a tax system which is too progressive reduces individuals’ incentives to achieve and earn more, and increases incentives to strategically evade tax at higher income levels. Several researchers have investigated this trade-off, including Liu and Martinez-Vazquez (2013) who find clear, widespread empirical evidence for this proposition using data from 150 countries in the period from 1970 to 2009.

By definition, a more progressive tax system should reduce income inequality. Chart 4 depicts the amount by which the combined tax and transfer system reduces inequality in OECD countries (i.e. the difference between the Gini coefficient of market income and the Gini coefficient of disposable income after the tax and transfer system is applied). This is the strongest type of assertion we can make because we can determine directly from data how income inequality changes as a result of policy intervention. If the government wishes to change inequality in a certain way, they can use this information to help them decide how to do this. If more detailed data are available on specific policies or regions within a country, researchers can exploit this to answer more granular questions. Cooper, Lutz and Palumbo (2015) find that the tax system reduces inequality in all American states, and that most of this effect is due to federal taxes, with a high degree of variation in the effect of state taxes. They use survey data combined with a tax simulation model which estimates individuals’ tax burdens based on the data and enables comparisons between pre- and post-tax inequality.
In some countries, there may be more nuanced stories regarding the effect of increasing tax progressivity on inequality. Using data from over 100 countries from 1981 to 2005, Duncan and Sabirianova Peter (2016) find that the effect on consumption inequality, which is a better proxy for social welfare, is significantly smaller than on income inequality. In countries with weaker law and order, the effect on consumption inequality can actually be positive due to tax evasion practices. The authors draw particular attention to the consequence of their findings that developing countries face much lower equity costs of efficiency, due to the prevalence of tax evasion, and see this as evidence that, for countries with less developed institutions, flatter tax rates might counter-intuitively improve equality.

There are many other ways in which tax policy can be used to reduce inequality, both on its own and also in conjunction with social security policy (as discussed in the next section). Discussions of specific aspects of the tax and transfer system in isolation are incomplete by nature. For example, it is widely thought that shifting the ‘tax mix’ by collecting more revenue from taxes on consumption and less revenue from personal income is regressive, i.e. increases inequality. However, if this tax change is combined with targeted compensation of individuals on the transfer side, the effect may actually be to reduce inequality while at the same time increasing economic efficiency. It is also worth noting that consumption taxes are much less regressive from a dynamic rather than point-in-time perspective, as a result of the tendency for individuals to move around the
income distribution over their lifecycle (Levell, Roantree & Shaw 2016). This observation implies more generally that the estimated impacts of policy on income inequality may be overstated in the short-run, and highlights the importance of considering evidence from a wider time interval. Other tax policies that can reduce inequality include taxes on wealth or inheritance. Taxing capital gains income (i.e. profits from the sale of an asset) is a common proxy for a wealth tax. Introducing special taxes on luxury items is a common, if inefficient (Henry, Harmer, Piggot, Ridout & Smith 2009), way of increasing the progressivity of consumption taxes.

Overall, the tax system is not typically used to make major changes to the level of inequality in a society, but does play an important role in maintaining acceptable levels of inequality, by ensuring that government services are funded on the basis of taxpayers’ ability to pay. A government’s decision about how progressive to make its tax system (in combination with other policies, such as social security) reflects its values and its economic goals, which can depend on a country’s stage of economic development. Developing countries tend to put a greater emphasis on non-progressive consumption taxes than income taxes, highlighting the importance of economic growth at the expense of some income equality in these jurisdictions (Liu & Martinez-Vazquez 2013).

Social security policy

Tax and social security policy are often considered jointly, as together they represent the bulk of the government’s capacity to redistribute income among individuals. Social security policies reduce inequality by providing social benefits to disadvantaged individuals and families. Social security can be in the form of public assistance programs (i.e. welfare payments) or self-financing programs such as pension funds, which incentivise individuals to save for retirement (or mandate that they do so).

Cash transfers (e.g. social security payments) are usually more important than taxes in reducing inequality – 75 per cent of the total inequality reduction due to the tax and transfer system across the OECD is due to transfers (Hoeller, Jounard & Koske 2014, p. 183). The extent of this inequality reduction impact varies widely across OECD countries, with some countries like Australia and the UK having highly targeted (i.e. progressive) and relatively small systems of cash transfers, and other countries like France and Germany having larger and less targeted transfer systems. In Australia, lower income earners receive a larger proportion of welfare payments than in any other OECD country, due to the targeted nature of the system, which is achieved through means testing. In
particular, the bottom 20 per cent of income earners receives almost 42 per cent of social security spending, while the top 20 per cent receives only 3 per cent of spending (Whiteford 2018). The importance of the transfer system in reducing inequality is highly dependent on the country and the way that the system is implemented.

Outside the OECD, findings generally support the inequality-reducing impact of social security policy, such as a study by Martinez-Vazquez, Moreno-Dodson and Vulovic (2012), on a large panel dataset of 150 countries from 1970 to 2009. The study controls for country-specific effects, reverse causality and other specification issues. As with all studies using country-level data, within country heterogeneity, such as behavioural responses by households, cannot be investigated. On the other hand, Ospina (2010) finds that social security expenditure has no effect on income inequality in Latin American countries (whereas spending on education and healthcare has a negative effect). Her result is likely due to problems with population coverage of social security programs in certain countries, and reflects that policies which theoretically should increase equity at the expense of efficiency may in practice support neither if they are poorly implemented.

Another study in Chile, Brazil and Mexico demonstrates that conditional (highly targeted) cash transfers are highly inequality-reducing (Soares, Osório, Soares, Medeiros & Zepeda 2007).

There is an equity-efficiency trade-off in the targeting of social security policy, as more targeted welfare systems are more challenging to administer, and may promote unintended and inefficient behavioural consequences if poorly designed, such as individuals making financial decisions to make them more likely to qualify for government assistance. An example in the Australian context is that retirees who would otherwise be too wealthy to receive the age pension may choose to invest the majority of their capital in a home (as home value is excluded from the assets component of the means test), thereby qualifying for the pension. On the other hand, a more targeted system is more equitable. Transparent and accountable government processes are essential for ensuring that a targeted welfare system actually provides benefits to those who need them, such as the elderly and people affected by unemployment or illness.

Government decisions around social security payments are usually a question of who to target and how much assistance to provide. These decisions reflect the nature of the relevant policy problems, and society’s values as translated through the political process. Social security policy is an extremely effective way of reducing inequality. However, the
rationale of social security policy is usually to maintain acceptable standards of living and insure against poverty for less privileged members of society, rather than to mitigate inequality. This is because the focus of social security policy is to help people at the lower end of the income and wealth distributions, rather than necessarily to reduce the economic means of those at the higher end of these distributions.

Public investment policy

Public investment policy refers to government spending on public services such as education and health. Universal access to good public services is essential for a functioning society, and in the absence of the government making these available to people who are in poverty, only those who have sufficient economic resources are able to access these services. In this way, public investment policy can reduce inequality (especially inequality of opportunity), as well as supporting social wellbeing and economic growth (Anderson, de Renzio & Levy 2006). Martinez-Vazquez, Moreno-Dodson and Vulovic (2012) find that, in general, fiscal tools are more effective redistribution mechanisms than revenue tools, and public investment policy (especially healthcare expenditure) can be significantly more inequality-reducing than social security spending.

There are many trade-offs in making public investment decisions, or answering the question of how a government should spend its money, including equity-efficiency trade-offs. Here we run into the typical, and often ideological, arguments relating to government administration versus privatisation. In particular, a common belief is that the more the government spends on public resources, the more equitable its society will be, but this money is more likely to be inefficiently spent. For example, a privatised education system would arguably be more efficient than a government-run system, but inaccessible to people who are unable to pay for it.

In making sound public investment decisions that achieve desired policy outcomes, it is best to use evidence instead of ideology (Breunig 2018, p. 65). Often the best solution with regard to both efficiency and equity involves using a mix of public and private sectors, as outlined in the following examples. The idea of ‘hybrid public policies’ (Fabian & Breunig 2018) is to allow the market to do what it does well (set prices, allocate resources and pass information quickly to all agents in the economy) and have the government play a role of supporting the market to function efficiently and helping those with low ability to pay to participate in the market.
The Higher Education Contribution Scheme

The Higher Education Contribution Scheme (HECS) is an example of effective hybrid policy in Australia. HECS offers loans with income contingent repayment plans to students in the tertiary education system. That is, amounts repaid depend on the individual’s ability to pay.

HECS allows the market to provide competitive and high quality institutions with support and administration from the government. The policy mitigates problems associated with universal education such as overconsumption and low quality, as well as problems associated with purely market-based approaches, such as access and long-term equity issues. The income contingent repayment model allows students to more easily access high quality tertiary education regardless of their economic, political or social capital, thereby significantly improving equality of outcome. HECS has been influential worldwide, with similar models having been adopted since by several countries including New Zealand and the UK (Chapman 2018).

Income tax credits

Income tax credits are a type of tax relief that gives supplementary income to individuals under a specific income threshold. Income tax credits can function as a higher efficiency alternative to a minimum wage, as they allow individuals to enter the labour market who may have otherwise been unemployed as a result of a minimum wage determined by the government, while insuring against poverty resulting from purely market-driven wages. Empirical findings from the USA and the UK support the hypothesis that income tax credits are far more beneficial in helping families escape poverty than the minimum wage (Burkhauser 2015). Cooper, Lutz and Palumbo (2015) find that introducing income tax credits into state tax systems in the USA can significantly mitigate income inequality. Despite evidence that setting a minimum wage (up to a certain point) reduces inequality (Bazen 2000; Autor, Manning & Smith 2010), it is important to consider the other potential impacts of this policy in comparison with other policies such as introducing income tax credits. Similar to the HECS model, income tax credits are an effective hybrid approach to reducing inequality, as they harness the comparative advantages and capabilities of government and markets.
Conclusion

There are many ways to achieve reduced economic inequality, including through the tax system, the transfer system, or via public investment policy. In each case, there are potential equity-efficiency trade-offs and a high degree of dependence on country and time period, such as the problem that these policies tend to be less effective in countries with less developed institutions. Careful examination of relevant empirical evidence puts policymakers in the best possible position to make decisions about whether and how to intervene to reduce inequality. Ideally this evidence would come from true experiments, but as these are rare, we must rely on empirical studies, which are comparatively limited in their ability to generate strong evidence. Given the lack of consensus around the effects of inequality, policymakers should consider carefully how they wish to influence inequality and why, or whether they actually intend to target a different policy problem such as poverty (of which high inequality might be a symptom).

The best result with regard to both equity and efficiency may be achieved through ‘hybrid policy’ mechanisms, which are innovative combinations of public sector and private sector tools. Successful examples of hybrid policies in the inequality context include HECS student loans with contingent repayment plans in Australia, and earned income tax credits to support low income individuals in the USA and the UK. There is a large potential for hybrid policies to play an increasing role in addressing both equity and efficiency concerns in diverse areas of public policy.
Chapter 6: The History of Inequality

Human societies have exhibited inequality for millennia. In this chapter, we first examine how inequality began and how societal attitudes towards inequality may have evolved up to the end of the 19th century. We then discuss the history of inequality across the world in the 20th and 21st centuries, with better data availability over this period permitting a more data-driven approach.

Prehistoric and ancient inequality

The earliest substantial evidence of inequality is found in prestige burial sites dating to somewhere between 10,000 and 40,000 years ago, during the Mesolithic era (Wengrow & Graeber 2015). The Neolithic period followed the Mesolithic era, beginning with the end of the Ice Age roughly 10,000 to 12,000 years ago. Changes in geography and weather created favourable conditions for agriculture, leading human societies to move away from traditional hunter-gatherer practices. It is widely thought that this turning point led to persistent and widespread economic inequality (Diamond 1997; Milanovic, Lindert & Williamson 2007).

There is limited evidence regarding inequality trends and attitudes towards inequality in ancient civilisations. Instead, we must rely on general observations about how these societies were structured, and excerpts from historical texts. For example, in Ancient Greece, the statesman Phaleas believed that inequality was unjust and argued with Aristotle, who believed the opposite (Aristotle 2013, p. 39). In Ancient China, Confucius wrote that “there is no problem of poverty when wealth is evenly distributed” (Li 2012).

Western perspectives on inequality from the 17th to the 19th century

Prior to the 1600s, vast inequality was largely normalised in western Europe, with feudal hierarchies of lords, vassals and serfs (Hilton 1976). Inequality of wealth and inequality between different social groups was regarded by many as an intrinsic natural order (Habibis & Walter 2015). This started to shift during the Enlightenment, a movement of radically reoriented thinking about politics, philosophy and science. Whereas theology or unquestioned hierarchical power had previously reigned, people started to think about inequality in pragmatic terms. There was a philosophical shift towards legal positivism (that is, the notion that laws are defined by humans and have no necessary connection to morality), with the emergence of property rights and the rule of law (Hjorth 2011). A focus on values such as tolerance and respect for individual liberty emerged in western
Europe, progressing to North America and beyond. In the 18th century, the French Revolution built on the social momentum of the Enlightenment, with the middle-class bourgeoisie realising their economic power and demanding political influence and recognition.

The Industrial Revolution introduced new and more efficient manufacturing processes in Europe and the USA, and marked the beginning of capitalist societies in the modern sense. Economic growth and the general standard of living increased rapidly. As the Industrial Revolution extended into the 1800s, views on inequality became increasingly complex and varied. For example, Marx believed that the possession of capital leads to social stratification and exploitative inequality (Marx 1990), and therefore did not have a favourable view of the Industrial Revolution, despite its economic benefits. Other economic views on inequality emerged, such as Thomas Malthus' belief that human societies are subject to an inbuilt disequilibrium, and that the rapidly expanding world population will inevitably outstrip the limits of subsistence, resulting in rising inequality, war and famine (Dean 2015). Adam Smith also introduced his theory of the free market economy, in which inequality is a by-product of market forces (Kurz 2010). It is generally agreed that Smith was more concerned about poverty than economic inequality.

Political reforms further reshaped how societies viewed inequality, including through voting rights being extended to cohorts that previously did not have societal representation. This led to changes in taxation and redistributive programs (Acemoglu & Robinson 2000). Charles Darwin’s theory of natural selection, which emerged in the late 1800s, was also an influential force in how inequality is perceived. Darwin argued that humans are fundamentally and biologically unequal, with innate variations in capacity, capability, strengths, inclinations, desires and personalities (Scheidel 2017, p. 58). More recently and in contrast, egalitarian ideals have increased in popularity, tied to views on social justice and incorporating general principles such as that all humans should have their basic needs met and be supported in fulfilling their potential (Habibis & Walter 2015, p. 256).

Global inequality

In an increasingly globalised world, it is meaningful to think about inequality in global terms. Global inequality refers to inequality between citizens of all or multiple countries across the world, and it can be decomposed into inequality between countries and inequality within countries.
There are conflicting views regarding global inequality trends in the 20th and 21st centuries (Anand & Segal 2008). This may be due to discrepancies in how people measure inequality – for example, what metric is used and whether inequality is measured on a relative or absolute basis (i.e. whether incomes increasing by the same proportion are considered to have an unchanged or a more unequal distribution). In the following discussion, we focus mainly on income inequality as opposed to wealth or consumption inequality, due to better data availability for this measure. The caveats introduced in Chapter 3 regarding income inequality apply and limit the conclusions that we can draw.

One commonly held view is that between-country and global income inequality have mostly risen through this period, but in recent years (since the 1970s), both forms of inequality have been declining (Milanovic 2016). The pickup in economic growth in developing countries, particularly China and India, is the main factor for this change in trend.

The history of global inequality

From the early 1800s to the early 1900s, global income inequality rose at a fast and relatively steady rate. The Gini coefficient went from 0.5 in 1820 to 0.61 at the beginning of World War I in 1914; the Theil index rose from 0.52 to 0.79 over the same period (Bourguignon & Morrisson 2002). Most academics agree that global inequality continued to rise at a slower pace for much of the post-World War I period through to the mid-1900s, with the Gini coefficient reaching 0.64 in 1950 (Bourguignon & Morrisson 2002). These trends were a result of increases in mean incomes in western Europe, North America and Australia, while at the same time incomes in other countries were not increasing (Bourguignon & Morrisson 2002) – despite decreasing inequality within richer countries over this period (see Chart 6).

Global inequality continued to exhibit an overall increasing trend from 1950 to around 1980, again at a slower rate, then the Gini coefficient remained at around 0.7 until the early 2000s. This period of relative stability was primarily a result of economic growth in China (excluding China, inequality continued to increase, as demonstrated in Chart 7). After 2000, economic growth in India also contributed downward pressure on global inequality. Where once poverty was once a predominant phenomenon in Asia (30 years ago, 80 per cent of the world’s poor lived in East and South Asia), it is now much more of a problem in Africa (75 per cent of the world’s poor currently live in Africa, whereas only 19 per cent live in Asia) (Sala-i-Martin 2006). A decline in global inequality since
the 1970s has been a result of incomes in developing countries continuing to increase and incomes in western societies stagnating (Milanovic 2016). Underlying factors such as globalisation and better access to education are contributing to this trend. Interestingly, it does not seem to be driven by redistribution, as there has been little redistribution from rich to poor countries (where inequality has shrunk) and substantial redistribution within rich countries (where inequality has grown.)

Chart 5: Global income inequality, 1820-2011 (Milanovic 2016)

Chart 5 depicts estimated global income inequality (measured by the Gini coefficient) since 1820, based on three sources. The B-M series uses 1990 international dollars and the L-M and M series use 2005 international dollars. The discontinuity in 1988 is a result of this difference, and that the latter series is based on much more comprehensive data sources. It should not be interpreted from this chart that global inequality jumped up significantly in 1988. Milanovic (2016) notes a few further caveats regarding the interpretation of this chart, most notably that available data does not include good estimates of incomes in the top 1 per cent. Attempting to correct for this, Lakner and Milanovic (2013) find a less significant downward trend in inequality in recent years.
Chart 6: Inequality in the UK and the USA, 1600s-2000s (Milanovic 2016)

Chart 7: Global income inequality (Gini coefficient) excluding various countries, 1970-2000 (Sala-i-Martin 2006)
Chart 8 depicts income inequality between countries, again measured by the Gini coefficient. The dashed line represents the unweighted Gini coefficient, where each country counts equally, and the solid line represents the population-weighted Gini coefficient, where each country is weighted according to its population. Arguably the population-weighted measure is the one we should use in general; we should take account of the number of people affected by the economic conditions of their country. Also note that, even in the absence of much data, the consensus is that inequality between countries was rising continuously prior to the period covered in Chart 8 (Bourguignon & Morrisson 2002).

Milanovic (2016) notes that inequality between countries as measured by the population-weighted Gini coefficient has decreased significantly between 1960 and 2013, largely due to strong increases in GDP per capita in China and India. This effect is far less apparent when the calculations are not population-weighted, and in this case, large swings in the economic performance of Latin America, Eastern Europe and Africa play a much greater role. These observations provide further insights into the global inequality profile seen in Chart 5.
Atkinson and Leigh (2007) use top income share metrics to find that income inequality in Australia fell between the 1950s and the late 1970s, then began increasing in the 1980s, before, in the early 2000s, rising to levels seen in the 1950s. Data from the Australian Bureau of Statistics (ABS) (2013), only available from the early 1980s, does not contradict this view, with Fletcher and Guttmann (2013) suggesting that growth in income inequality over this period was primarily a result of growth in capital income. More recent evidence from the ABS (2017) indicates that income and wealth inequality have not increased since 2013-14. Changes in the household income Gini coefficient from 1994-95 to 2015-16 are depicted in Chart 9. Note that the estimates from 2007-08 onwards are not directly comparable with the previous estimates, due to adjustments in the ABS’ approach to measuring income.

Contrary to the ABS (2013) result of rising inequality from 1982 to 2011-12, Wilkins (2017) finds that income inequality has been at a stable level since the early 2000s, using the Household, Income and Labour Dynamics (HILDA) survey. Wilkins also finds that wealth inequality has decreased since (and probably as a result of) the global financial crisis of 2007, despite increasing strongly prior to this. He uses these results to argue against characterisations that economic inequality in Australia is on a rising trend.
Both the ABS Survey of Income and Housing and HILDA are highly regarded and widely used data sources that represent the Australian population. The fact that conclusions about inequality may differ between these data sources illustrates the high sensitivity of inequality measurement with respect to the input dataset. It also highlights that inequality narratives, such as our earlier discussion on global inequality, are almost always contestable. It is additionally worth noting that if inequality has gone up at all, the amount by which it has changed is very small relative to changes in inequality at the global level.

International comparisons with Australia

The Productivity Commission (PC) (2018, p. 2) suggests that Australia’s consistent economic growth for around the past 30 years has delivered improved living standards in each household income decile. This may be contrasted with much more uneven income growth profiles in the USA, where income growth in the lower deciles is around a quarter of that for Australian households (PC 2018). On the other hand, Australia is ranked 22nd most equal out of the 38 countries for which the OECD collects income inequality data, depicted in Chart 10 (OECD 2019).

![Chart 10: Income inequality (Gini coefficient) in OECD countries, 2017 (OECD 2019)](chart10.png)

Conclusion

Inequality in the vast majority of countries across the world, almost any way one chooses to measure it, is historically very low. Looking globally, economic prosperity in the western world caused inequality between countries to increase greatly up to the mid-
1900s, but rapid economic development in countries such as China and India has increasingly offset this effect, resulting in a global inequality trend which is now decreasing.

In an Australian context and over a much shorter time window (since the 1980s, due to data availability), if inequality has grown it has not been by a very large amount. The debate around this issue highlights the contestability of narratives and the inconclusiveness of data on economic inequality.
Summary of Findings

Overall, this case study has shown that factual narratives around economic inequality are less substantiated by clear evidence and more subtle than leading voices in the public discourse might suggest. This case study has also outlined and critically examined several ways in which governments may influence inequality, identifying relevant trade-offs which policymakers should note when incorporating inequality considerations into their decision making process.

In this case study, we:

- summarised the possible impacts of inequality. The effects of inequality on economic growth are likely both positive and negative, and are highly dependent on the context in which observations are made. (Chapter 2)

- outlined the diverse ways that inequality can be measured, which can influence conclusions relating to the effects of inequality. The most common way to measure inequality is via the Gini coefficient calculated using income. (Chapter 3)

- summarised possible reasons why governments should or should not intervene to reduce inequality. In many circumstances, inequality must be traded off against economic efficiency, with this decision being a value judgement for society and policymakers. (Chapter 4)

- outlined policy interventions relating to inequality, in areas such as tax policy, social security policy and public investment policy, and examined the evidence around their impacts. ‘Hybrid policy’ alternatives should be considered in the policymaking process, as they have the potential to positively influence both equity and efficiency. (Chapter 5)

- outlined the history of inequality in human societies since prehistoric times, finding that in historical perspective, modern inequality is very low, appears to be decreasing on a global scale and is not exhibiting a clear trend in Australia. (Chapter 6)
References


