

# Is a trade-off between justice and efficiency inevitable? A comparative study of European welfare states between 2001 and 2013.

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The trade-off between justice and economic efficiency is a key debate in welfare state economics. This study addresses whether a trade-off is inevitable and whether the financial crisis of 2008 has influenced this. An index measure of efficiency and justice is produced in order to conduct both cross-country and cross-time comparisons of performance across three European welfare states: Sweden, Germany and the United Kingdom, before and after the financial crisis. Detailed case studies are conducted in order to explain the results in policy terms and to determine the conditions under which a trade-off may exist. The following findings are presented; 1) A trade-off between justice and efficiency is not inevitable, but it occurs in certain circumstances, 2) The existence of a trade-off is largely determined by the extensiveness of the tax system and the role of core societal values, 3) The financial crisis of 2008 has had a mixed impact on the existence of a trade-off in European welfare states

## 1. Introduction

The welfare state describes a 'variety of political practices and processes related to the arrangement of a social and economic order within a [state]' (Schulz-Forberg, 2012, p. 1) and is charged with protecting the well-being of its citizens (Oxford English Dictionary, 2015). One of the main concerns in welfare state economics is whether the state can simultaneously pursue justice and economic efficiency, or whether it is subject to a trade-off between the two objectives (Barr, 1993). As the role of the welfare state has been increasingly scrutinised since the financial crisis in 2008, this recent period offers an interesting point in time to conduct such a study.

As will be discussed in Section 2, the literature does not specifically address the concept of justice in the context of a trade-off between social outcomes and efficiency. This gap in the literature provides the motivation for this study and shapes its purpose: to determine whether a trade-off between justice and efficiency is inevitable, and whether the financial crisis has had an impact on this. Section 3 provides the theoretical perspectives of the trade-off and defines the concepts of efficiency and justice as used in this study.

The study adopts an index measure approach modelled on the Human Development Index, which enables both cross-country and cross-time comparisons. Cross-country comparisons are arranged using Gosta Esping-Andersen's typology of welfare states, which will be discussed further in Section 3, and cross-time comparisons are arranged around the focal point of the financial crisis. In addition, the study adopts a case-study approach in order to explain the results in policy terms. Section 4 describes and justifies this methodology.

The results in Section 5 present conflicting evidence that a trade-off between efficiency and justice is inevitable. In both the pre-crisis and post-crisis periods, as well as in the transition between the two periods, there were two comparisons indicating that a trade-off exists, and one comparison falsifying this. In order to address the conflicting evidence, Section 6 provides a detailed discussion of the results within each country in policy terms.

The paper will conclude that welfare states are not inevitably subject to a trade-off between justice and efficiency, but there are circumstances in which a trade-off will emerge. It will highlight the importance of two features in determining whether a trade-off exists. Firstly, an extensive and progressive tax system creates positive gains for both justice and efficiency,

reducing the trade-off between the two objectives (Busch, 2010). This is demonstrated by Sweden's success in harmonising justice and efficiency in the pre-crisis period through an extensive tax system, negating the trade-off between the two objectives. Secondly, positive core societal values can encourage the extensive role of the state and improve its ability to avoid a trade-off between the two objectives. The widespread acceptance of taxation in Sweden and of the *Kurzarbeit* work reforms in Germany, in contrast to the hostile attitudes towards the welfare state in the UK, illustrates the influence of such core societal values.

Added to this, the paper describes the specific impacts of the financial crisis on the countries presented in the study. Sweden has become subject to a trade-off since the crisis due to a fall in the extensiveness of its tax system and a fall in the generosity of unemployment benefits. Germany has become less subject to a trade-off since the crisis due to an increased extensiveness in the tax system and the positive role of core societal values. The UK has continued to be subject to a trade-off since the crisis due to the limited role of its tax system and the hostility towards the role of the welfare state instilled in core societal values.

## **2. Literature review**

There is a key limitation to presenting a comprehensive literature review for this topic. Namely, that the concept of justice has not been specifically addressed in the context of a trade-off between efficiency and social outcomes. Thus, the purpose of this section is to present the literature addressing the various aspects of the topic, to highlight the gaps and to explain how this paper will contribute to the topic.

Following the onset of the crisis European welfare states helped to cushion the blow from the initial economic shocks. This occurred through the functioning of automatic stabilisers, which simultaneously reduced the impact on income inequalities and offered a stabilisation effect to aggregate demand (Andersen, 2012; Basso *et al.*, 2012). However, the unsustainability of public finances has since required the implementation of austerity measures in European states. The literature discusses the likely impact of such measures on both efficiency and social outcomes.

According to the social investment approach, the fall in social spending will cause a fall in labour productivity, due to the notion that social spending is a productive factor (Hemerijck and Vandenbroucke, 2012). Hughes and Saleen (2012) provide evidence to support this, finding that persistently low labour productivity has been a feature common across many European states

following the financial crisis, with the UK's performance standing out as particularly poor. Oulton and Sebastia-Barriel (2013) attribute the UK's poor performance to the negative impact of the financial crisis on the productive capacity of the UK economy, which has restricted its ability to replicate the strong productivity growth in the pre-crisis years. This verdict suggests that the financial crisis could not only have a short-run impact, but also a long-run effect on labour productivity growth. Despite this, Hemerijck and Vandenbroucke (2012) propose that Sweden's "productivist" social policy has encouraged the economy's competitive strengths, enabling Sweden to maintain productivity levels after the crisis. The maintenance of these strengths will be dependent on the state's ability to enhance the productive capacity of its economy in the context of austerity packages (Oulton and Sebastia-Barriel, 2013).

As well as the negative impact on labour productivity growth, Oulton and Sebastia-Barriel (2013) predict that the financial crisis will have a long-run effect on raising unemployment, which is a trend they observed after most financial crises. Guichard and Rusticelli (2010) support this prediction and propose that the hysteresis effects associated with a rise in long-term unemployment could cause a persistent rise in structural unemployment. Despite this, Guichard and Rusticelli (2010) argue that differences in institutional arrangements and policies may result in different labour market outcomes. For example, labour market reforms in Germany have facilitated labour market adjustment since the crash, helping to reduce unemployment rather than allowing it to increase (Contessi and Li, 2013). Contrastingly in Sweden, which is characterised by a high level of unemployment benefit generosity (Stovicek and Turrini, 2012), the financial crisis is likely to result in a rise in unemployment due to the weak incentive structures in the labour market and the 'safety net' function of the welfare state (Oulton and Sebastia-Barriel, 2013; Lister, 2009).

Added to the efficiency losses associated with the financial crisis and the subsequent fiscal consolidation in Europe, Andersen (2012) predicts that the austerity measures will also result in considerable social costs. A fall in social protection through austerity packages is particularly expected to increase the burden of poverty, social instability and economic inequalities (Hemerijck and Vandenbroucke, 2012). Social costs are expected to be greater in the UK and Germany, due to the implementation of relatively large austerity packages, than in Sweden, where fewer cutbacks are expected and the welfare state provides an extensive 'safety net' function (Vis *et al.*, 2011; Lister, 2009).

Thus, the literature predicts that the financial crisis and subsequent fiscal tightening will have negative implications on both efficiency and social outcomes. However, the implications are likely to vary across countries, due to the differences in institutional arrangements (Guichard and Rusticelli, 2010). In the UK, the vulnerability of public finances has resulted in the implementation of extensive austerity packages. Diamond and Lodge (2013) predict that the reduction in social investment could reach an undesirably low equilibrium, restricting both social outcomes and efficiency. In Germany, austerity packages are expected to result in increased social costs. However, labour market reforms have thus far improved employment efficiencies, reducing the negative impact of the financial crisis on the level of unemployment. In Sweden, the generosity of unemployment benefits is expected to cause an increase in unemployment. However, Hemerijck and Vandenbroucke, (2012) highlight the gains in Sweden from capacitating welfare provision, which they argue has the potential to promote gains in both efficiency and social outcomes.

This section has presented the relevant literature and has highlighted the limitations of the literature, which provide a motivation and shape the purpose of this paper; to determine the impact of the financial crisis on the trade-off between efficiency and justice.

### **3. Theoretical Perspective**

The purpose of this section is to provide the theoretical perspectives on the key issues examined in this paper. It will define the concepts of efficiency and justice and explore the trade-off between them, which is conceptualised as a key issue in welfare state economics (Barr, 1993). It will also consider the limited theory on the impact of financial crises on this trade-off.

The concept of justice is widely debated and has been defined in a variety of different ways. Arguably the most comprehensive available theory of justice is that conceptualised by John Rawls (Buchanan, 1982). In his *'Theory of Justice'* (1971) he proposes that social and economic inequalities should be regulated by two principles. The first principle concerns basic liberties and human rights, which have priority over economic and social advantages. In Tungodden's (1996) interpretation of Rawls' theory it is proposed that poverty, which reflects severe injustice, is defined within the context of the first principle and thus poverty prevention is addressed within this study.

The second principle is a combination of fair equality of opportunity and the Difference Principle. Fair equality of opportunity requires that there exists the opportunity for all to acquire the skills

necessary to reach all positions in society, which can be measured by the degree of equitable education (Rawls, 1971). The Difference Principle marks the departure of Rawls' theory from the traditional focus on equality. Rawls argues that, if the absolute priority in society is equality, the Pareto principle is violated (*ibid.*). He therefore proposes that inequalities can be permitted so long as they are arranged in such a way that they benefit the worst off in society (Tungodden, 1996). In modern capitalist societies, the system of direct taxation on personal incomes can facilitate this arrangement. The more extensive and progressive this system, the higher will be the satisfaction of the Difference Principle. This study will measure this through the level of average and top tax income tax rates, as well as the level of tax revenue as a percentage of GDP.

The concept of economic efficiency can be broken down into dynamic efficiency and static Pareto efficiency. The growth in labour productivity provides a useful measure of dynamic economic efficiency, incorporating several economic indicators and offering a dynamic measure of economic growth and competitiveness (Freeman, 2008). The measurement of Pareto efficiency is particularly relevant to this study due to its prominence in Rawls' work and it can be measured by the level of unemployment, which represents one of the largest inefficiencies in capitalist societies. It is also important to consider the 'natural rate' of unemployment, as conceptualised by Friedman and Phelps as an equilibrium measure, as this gives an indication of long-run efficiency prospects (Blanchard and Katz, 1996). Weidner and Williams (2011) state that, although the 'natural rate' cannot be measured, its trend can be inferred from other information. They observe factors that could drive the 'natural rate' upwards; namely, an increase in the generosity of unemployment benefits and an increase in the rate of long-term unemployment. A rise in the natural rate represents a fall in Pareto efficiency, as would an increase in the mean rate of unemployment.

The theoretical notion behind the trade-off between justice and efficiency is that the generosity of the welfare state and the extensiveness of its taxation system, which promote redistribution and the satisfaction of the Difference Principle, hinder the productive capacity and efficient functioning of the economy (Taylor-Gooby *et al.*, 2004).

This is illustrated clearly in the labour market. Generous unemployment benefits, which promote both principles of justice, can reduce labour market incentive structures by creating a 'safety net', whereby income levels and living standards are protected in the event of unemployment (Stovicek and Turrini, 2012). This can have adverse effects on both labour

productivity and the unemployment level. In terms of Pareto efficiency, a considerable amount of empirical evidence confirms the positive correlation between unemployment benefits and the level of unemployment (Messacar, 2014). In terms of dynamic efficiency, the reduction in employment incentives can result in inactivity traps, benefit dependence and falling employability, which negatively impacts growth in labour productivity (Stovicek and Turrini, 2012).

The conflicting impact of generous unemployment benefits on justice and efficiency thus illustrates a trade-off between the two objectives. However, the extent of this trade-off can vary. In his *‘Three Worlds of Welfare Capitalism’* (1990), Esping-Andersen forms a typology whereby welfare states are grouped into regime types, determined by the relative priorities attached to efficiency and justice, which in turn determine welfare state outcomes. The three regime-types conceptualised are Liberal, Corporatist and Social Democratic (Esping-Andersen, 1990). The priorities associated with these states can be used to predict the performance of welfare states in justice and efficiency measure; Liberal states are expected to rank the highest in the economic efficiency dimension and lowest in the justice dimension, Social Democratic states are expected to rank highest in the justice dimension and lowest in the efficiency dimension, and Corporatist states could be expected to rank in the middle in both dimensions. However, Esping-Andersen submits that most states are a hybrid of these typologies, and therefore the results are not as simple as described above. Table 1 summarises the priorities associated with each regime type and the examples of each regime to be used in this paper.

**Table 1: Welfare State regimes**

Welfare state	Country	Priorities
Liberal	UK	Promote economic performance and efficiencies
Corporatist	Germany	Promote social stability
Social Democratic	Sweden	Minimise poverty, promote income redistribution

*Source(s): Adapted from Headey et al. (2000).*

Many academics have confirmed Esping-Andersen’s typology, yet others have challenged and extended it (Ferragina and Seeleib-Kaiser, 2011). The strongest criticism is that typologies in general fail to ‘capture the complexity of different social arrangements’ (*ibid.*, p. 598). Despite

this, Ferragina and Selleib-Kaiser's literature review supports the typology proposed by Esping-Andersen, arguing that it 'provides an excellent starting point and heuristic device for empirical research' (*ibid.*, p. 597). It therefore provides a sound framework for this paper, as will be discussed in Section 4.

Financial crises are theorised as factors that instigate institutional and policy reform (Vis *et al.*, 2011). Applying Esping-Andersen's typology, changes to economic fundamentals and institutions are expected to alter outcomes in terms of justice and efficiency, yet still in the context of a trade-off between the two objectives. However, two contesting views challenge this hypothesis. Financial and economic crises can intensify the demands on the welfare state and therefore may cause a simultaneous fall in performance in both objectives, falsifying the existence of a trade-off (Diamond and Lodge, 2013). Contrastingly, such crises may provide an opportunity for corrective state intervention, via the tax system, to simultaneously promote gains in economic efficiency and social justice, again challenging the existence of a trade-off (Busch, 2010).

The theoretical perspectives outlined in this section will be considered throughout the paper and will particularly contribute to the discussion of the results in policy terms in Section 6.

#### **4. Methodology**

The purpose of this section is to explain and justify the methodology used in this study.

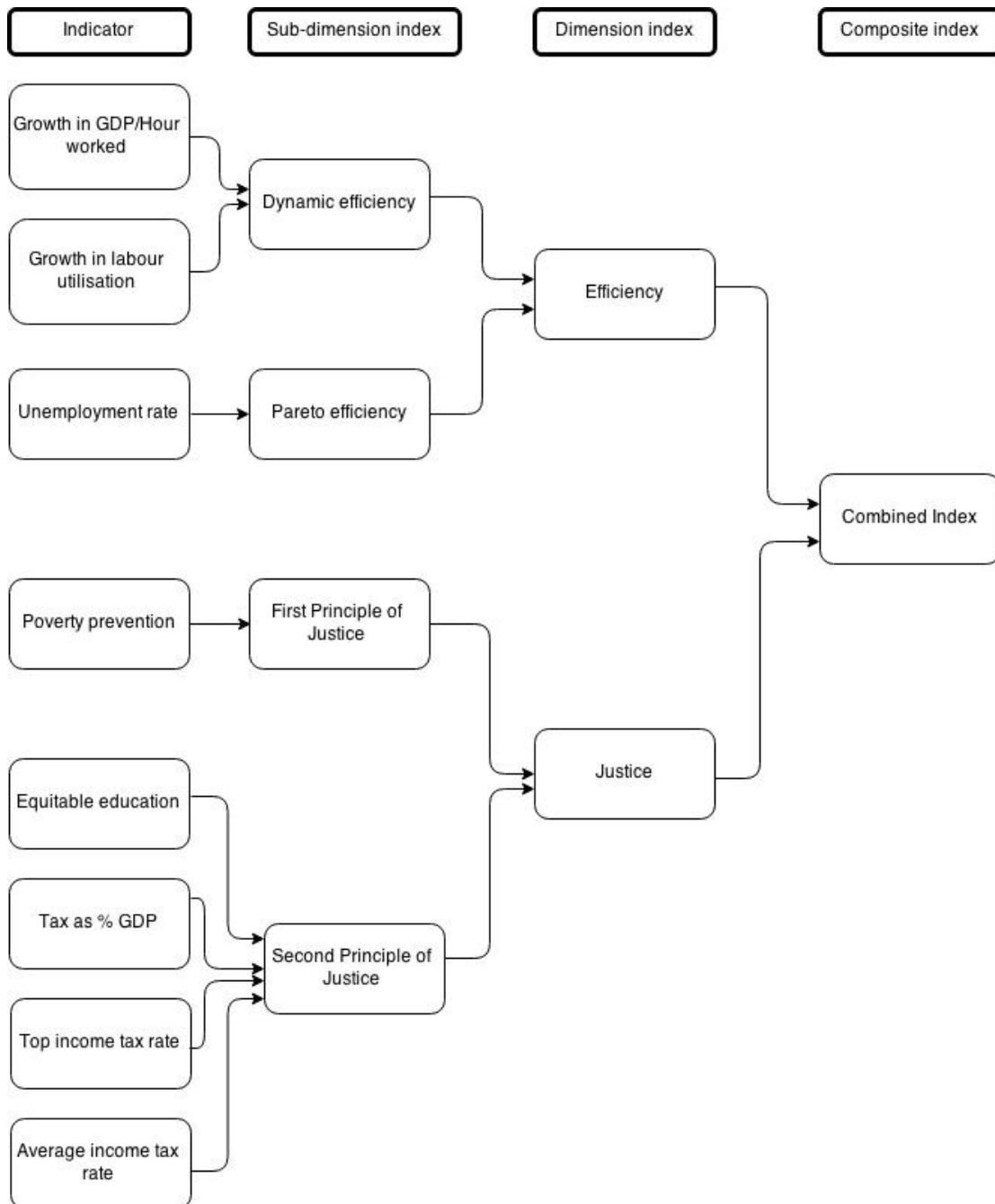
The study computes an index in order to facilitate cross-country comparisons of performance in efficiency and justice. An index is a 'composite measure that summarises and rank-orders several specific observations and represents some more-general dimension' (Babbie, 2012, p. 159). The index used in this paper is modelled on the Human Development Index (HDI), which has been a key element of the United Nations Human Development Reports since 1990 (Sagar and Najam, 1997). Although subject to criticism, the HDI is one of the most widely used measures of development (Wolff *et al.*, 2011), and it thus provides a sound measure on which to model the index in this study.

Figure 1 provides a graphical illustration of the index structure. Firstly, relevant indicators are used to produce a score for the two components of efficiency (Appendix 1), which are then combined to produce an overall efficiency score. This process is repeated for justice; with



indicators compiled to produce scores for the two principles of justice before being combined to produce an overall score. These scores can be compared against each other as separate indices and then be combined to produce a composite index for efficiency and justice. It is important to have separate indices before the composite one in order to enable the study to compare the two dimensions and assess whether or not a trade-off between the two exists.

**Figure 1: Calculation of the Efficiency-Justice Indices - Graphical representation**



(Created using: <https://www.draw.io>)

There are two steps to creating the index.

### Step 1. Creating indicator indices

Using time series data, minimum and maximum values for each indicator are determined (Appendix 2). These values act as 'goalposts' so that an index between 0 and 1 can be calculated for each indicator (Human Development Report, 2013). The values chosen are the minimum and maximum values observed in the data sets used (Appendix 2).

Once these values have been determined, the value for each indicator is calculated using equation 1, with the exception of the 'Unemployment rate' and 'At risk poverty/social exclusion' indicators which are calculated using equation 2.

*Equations used to calculate indicator values*

$$\text{Indicator value} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}} \quad (1)$$

$$\text{Indicator value} = 1 - \left[ \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}} \right] \quad (2)$$

### Step 2. Creating the sub-dimension, dimension and combined indices

The sub-dimension indices are calculated by taking the geometric mean of the components within that sub-dimension. For example, the sub-dimension index for Dynamic efficiency is the geometric mean of the 'Growth in GDP/hours worked' indicator and the 'Growth in labour utilisation' indicator. This approach is then used to calculate the dimension indices. The geometric mean of the sub-dimension indices is calculated in order to generate the dimension indices. For example, the dimension index for efficiency is the geometric mean of the 'Dynamic efficiency' and 'Pareto efficiency' indices. Finally, the combined index is the geometric mean of the Justice and Efficiency dimension indices.

As with the HDI, equal weighting is applied across the sub-dimension indices, dimension indices and the combined index in this study. For example, firstly, the 'Growth in GDP/hours worked' and 'Growth in labour utilisation' indicators are given equal weighing in the 'Dynamic efficiency' index. Secondly, the 'Dynamic efficiency' index is given equal weighting with the 'Pareto efficiency' index within the 'Efficiency' index. Finally, the 'Efficiency' index is weighted equally with the 'Justice' index in the combined index. This does not mean that weighting is not applied, but rather indicates that weights are equal (Giovannini *et al.*, 2005).

The main reason for this approach lies in the purpose of the study, which is to determine whether or not a trade-off between efficiency and justice is inevitable. If the purpose were instead to determine how different preferences between justice and efficiency influence the index value, then experimenting with weightings would be necessary. In this study, however, the preferences are determined by the priorities of each welfare state and are therefore within the performance in terms of justice and efficiency. Thus, applying uneven weightings would distort, rather than enhance, results by favouring welfare states with certain preferences and would not contribute to the purpose of the study.

The results section of the paper conducts cross-country comparisons of the indices in order to determine whether or not a trade-off can be observed between efficiency and justice. To complement this, the paper also discusses the results in policy terms through a case study approach. This involves conducting an in-depth analysis of the topic through the study of a select few 'cases', whilst taking into consideration the relevant contextual factors (Mills *et al.*, 2010). This approach enables the study to tackle the topic in an in-depth manner and to gain a real-world perspective on the relevant issues (Yin, 2009). One of the criticisms of case-based research is that it is characterised by a lack of selectivity, meaning that irrelevant details are included and can detract attention from the key issues (Siggelkow, 2007). This paper has addressed this through clearly defining the key concepts of the study in the theoretical perspective section, namely Rawls' theory of justice and the concepts of dynamic and Pareto efficiency. The indicators used in the study have been selected to conform to these definitions to assure that irrelevant factors are not included.

Another criticism of the case-study approach is that a small number of cases may not fully capture all of the issues related to the topic or be a representative sample of the real world. This issue is tackled by carefully selecting the cases to be included in the study, in order that they are representative of welfare states in a wider context, rather than being confined to the specific cases in question. As discussed in section 3, Esping-Andersen's typology of welfare states provides a useful framework for cross-country comparative studies. This study therefore uses three countries as cases, one from each typology, in order to identify whether a trade-off exists between justice and efficiency, and whether this varies between welfare state types.

The study covers two time periods, in order to determine whether there are changes in performance over time that indicate a trade-off between justice and efficiency. The two-time

periods chosen are separated by the financial crisis of 2008, which represents a significant challenge for welfare states and therefore offers an interesting point in time to base the comparisons on. The pre-crisis period covers the years 2001-2007 and the post crisis period covers the years 2009-2013.

## 5. Results

The results section is divided into three sub-sections. Section 5.1 presents the results in the pre-crisis period, 5.2 presents the results in the post-crisis period and 5.3 presents the changes in performance experienced by each country between the two periods. Each section considers whether the results provide evidence that a trade-off inevitably exists between efficiency and justice. The results are discussed in policy terms in Section 6.

### 5.1. Pre-crisis period

The summary results for the pre-crisis period are presented in Table 2 and Chart 1.

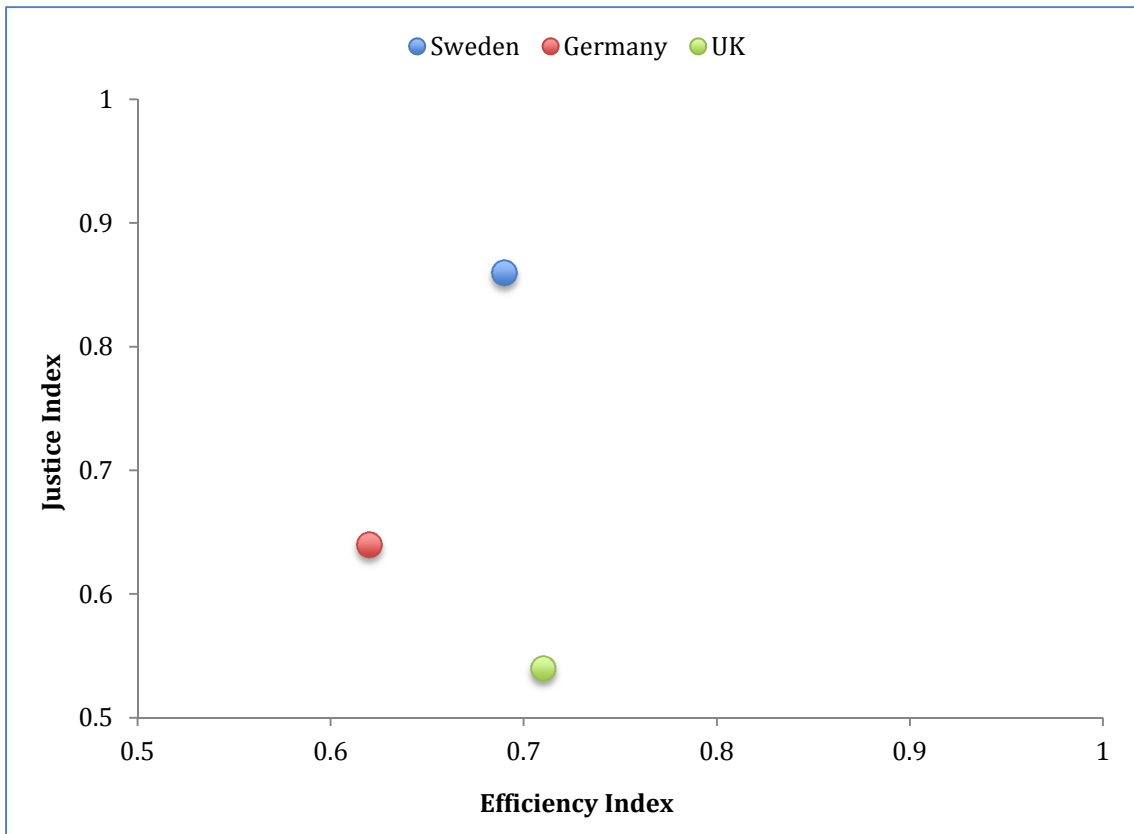
**Table 2: Pre-crisis summary results**

Country	Efficiency Index	Justice Index	Combined Index
Sweden	0.69	0.86	0.77
Germany	0.62	0.64	0.63
UK	0.71	0.54	0.62

In the pre-crisis period, Germany is plotted to the north-west of the UK (see Chart 1), scoring higher in the justice index but lower in the efficiency index, suggesting that a trade-off exists between justice and efficiency. Thus, a high efficiency score can only be achieved at the expense of a relatively low justice score, and vice versa.

However, Sweden's performance challenges the conclusion of a trade-off. It scored similarly to the UK in the efficiency index yet achieved a much higher justice score, indicating that it did not need to sacrifice efficiency in order to achieve a higher justice score. Added to this, Sweden was plotted to the north-east of Germany, outperforming Germany in both dimensions, again indicating that it did not need to sacrifice performance in one dimension in order to have a higher score in the other. Both of the comparisons against Sweden's performance therefore suggest that a trade-off is not inevitable, demonstrating that it is possible to improve justice without damaging efficiency, and vice versa.

**Chart 1: Pre-crisis summary results**



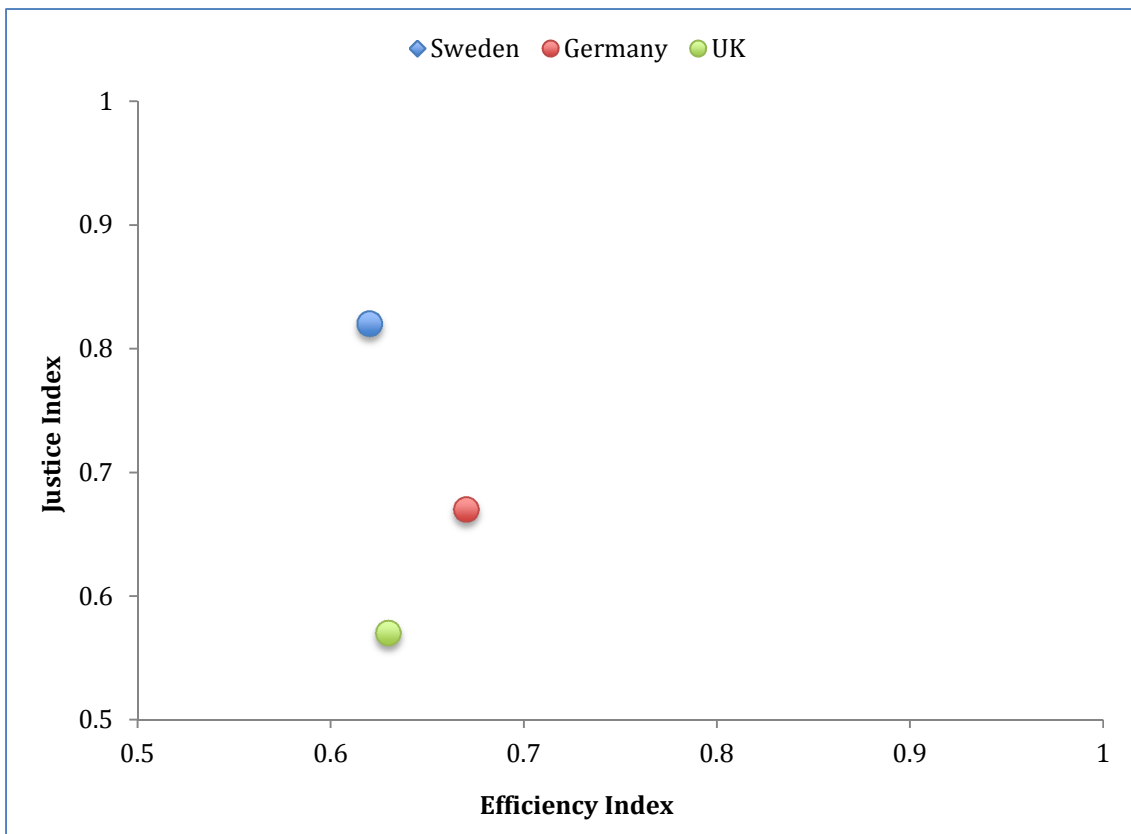
*5.2. Post-crisis period*

The post-crisis summary results are presented in Table 3 and Chart 2.

**Table 3: Post-crisis summary results**

Country	Efficiency Index	Justice Index	Combined Index
Sweden	0.62	0.82	0.71
Germany	0.67	0.67	0.67
UK	0.63	0.57	0.60

**Chart 2: Post-crisis summary results**



The results in the post-crisis period lead to the following conclusion: Sweden performed to the North-East of Germany, suggesting that a trade-off exists, i.e. it had to sacrifice some efficiency in order to achieve a higher score in the justice dimension. However, the UK's performance challenges this conclusion. It scored almost the same as Sweden in efficiency but considerably lower in justice, reflecting Sweden's ability to have a higher justice score without sacrificing too much efficiency. Added to this, Germany performed to the north-east of UK, outperforming it in both dimensions. Both of the comparisons with the UK's performance falsify the existence of a trade-off between justice and efficiency, similar to Sweden in the pre-crisis period.

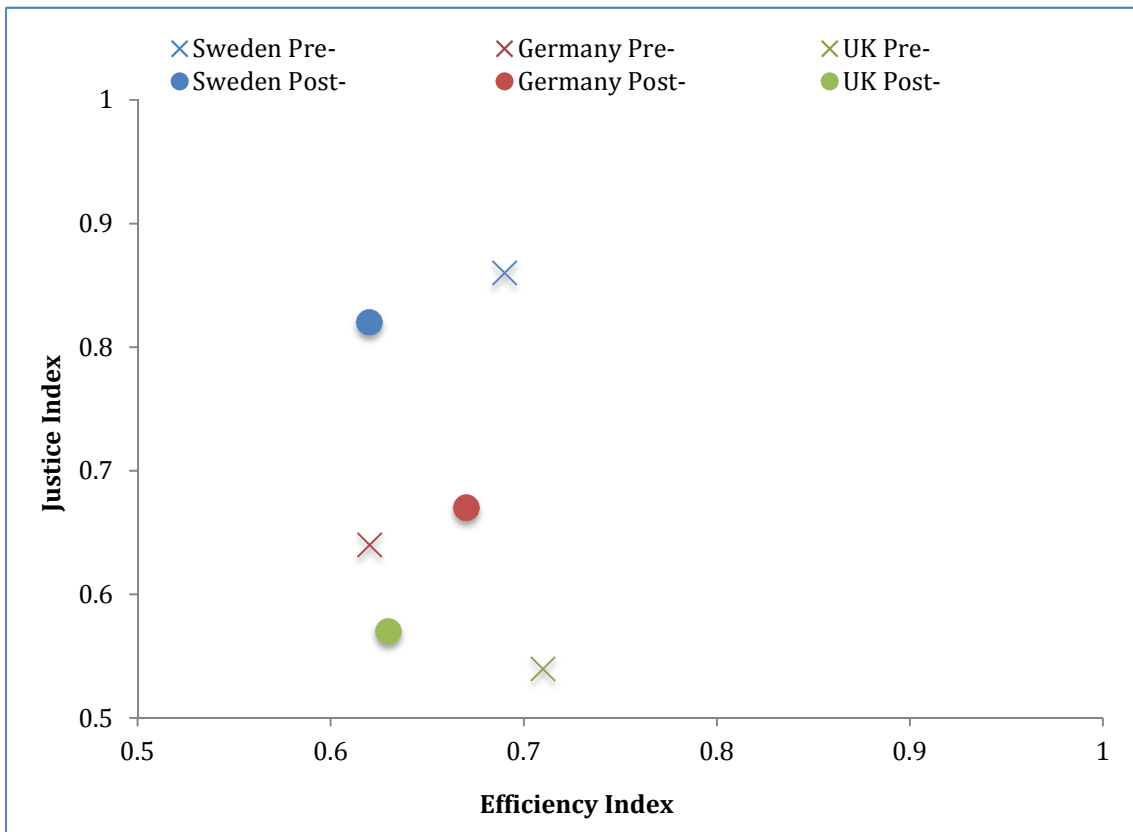
### *5.3 Pre-crisis to post-crisis transition*

The transition in performance from the Pre-crisis to Post-crisis period is presented in Chart 3.

The transition in performance from the pre-crisis to the post-crisis period leads to similarly mixed conclusions. The UK moved in a north-westwards direction, improving its justice score at the expense of a lower efficiency score, replicating a movement along a trade-off path. However, the notion of a trade-off is falsified by both Sweden and Germany's performance. Sweden moved in a south-westwards direction, experiencing a fall in the score in both dimensions which suggests it may be subject to policy failures rather than a trade-off

between the two dimensions. Germany’s performance moved in the opposite direction; north-eastwards, becoming both more efficient and more just, again disproving the existence of a trade-off.

**Chart 3: Pre-crisis to post-crisis transition**



## 6. Discussion

The preceding results section presented conflicting evidence of an inevitable trade-off between efficiency and justice. In both the pre-crisis and post-crisis periods there exists evidence in one cross-country comparison that a trade-off did exist, yet in the other two cross-country comparisons this was not the case. The transition from the pre-crisis to post-crisis period for each country also leads to the same results; one example indicated that a trade-off existed, yet the other two examples falsified this. The purpose of this section is therefore to discuss the performance of each country in policy terms, by presenting the three case studies, and to address the mixed evidence in order to determine whether a trade-off exists since the crisis.

### 6.1. Case Study: Sweden

Table 4 shows the results for Sweden, both pre- and post-crisis. It presents the values for each indicator, sub-dimension and dimension, as well as the combined index value.

**Table 4: Sweden: Breakdown of results, pre- and post-crisis**

Indicator	Pre-crisis score	Post-crisis score
<u>Dynamic efficiency</u>	<u>0.60</u>	<u>0.55</u>
- <i>Growth GDP/Hour worked</i>	0.58	0.49
- <i>Growth Labour utilisation</i>	0.63	0.61
<u>Pareto efficiency</u>	<u>0.79</u>	<u>0.71</u>
- <i>Unemployment</i>	0.79	0.71
<b>Efficiency Index</b>	<b>0.69</b>	<b>0.62</b>
<u>First Principle Justice</u>	<u>1.00</u>	<u>0.94</u>
- <i>Poverty prevention</i>	1.00	0.94
<u>Second Principle Justice</u>	<u>0.74</u>	<u>0.71</u>
- <i>Equitable education</i>	0.82	1.00
- <i>Tax as % GDP</i>	0.90	0.83
- <i>Top income tax rate</i>	0.61	0.62
- <i>Average income tax rate</i>	0.66	0.50
<b>Justice Index</b>	<b>0.86</b>	<b>0.82</b>
<b>Combined Index</b>	<b>0.77</b>	<b>0.71</b>

The breakdown of the justice dimension in Table 4 highlights two key characteristics of the Swedish welfare state. Firstly, its achievement of the highest possible score (1.00) in the 'First Principle of Justice' is a reflection of its success in tackling poverty, which is one of its most notable achievements and defining characteristics (Kangas and Palme, 2005). Secondly, its high score (0.90) in the 'Tax as a percentage of GDP' indicator reflects the strength of its redistributive functions. Lister (2009) also proposes that the core values engrained in Swedish society, most notably the widespread acceptance of taxation and the support for the extensive role of the welfare state, contribute to the strong performance in both of these indicators and the justice dimension in its entirety.

There is an on-going debate concerning the impact of Sweden's strong performance in the justice dimension on economic efficiency. According to Lister (2009, p.244) Sweden has a perceived success in 'marrying economic competitiveness with social justice'. However, the conflicting view is that the inadequate incentive structure in the labour market, the result of the generosity of the unemployment benefit system and a lack of investment in human capital, has



negative implications on the efficiency prospects for the Swedish economy (Kangas and Palme, 2005; Stovicek and Turrini, 2012).

Table 4 shows mixed evidence of the impact of Sweden's justice score on efficiency. Despite a relatively low dynamic efficiency score in the pre-crisis period, which was arguably a result of the poor incentive structure and lack of investment in human capital (Kangas and Palme, 2005), Sweden achieved a high Pareto Efficiency score due to its relatively low unemployment rate. Barth *et al.* (2014) propose that a high level of complementarity between non-market institutions and capitalist dynamics enables Sweden to escape the unemployment trap, particularly through effective wage co-ordination.

In the pre-crisis period therefore, as demonstrated by the results in the previous section, Sweden's performance was not subject to a trade-off between justice and efficiency. The complementarity between capitalist dynamics and non-market institutions enabled Sweden to achieve a high justice score, without sacrificing too much efficiency. However, the disparity in the scores between the two dimensions (0.17), as well as the poor incentive structure in the labour market and lack of investment in human capital, may have future implications on performance.

Despite the strong performance in the pre-crisis period, in the post-crisis period Sweden's performance dropped in both dimensions, causing a fall in the efficiency-justice equilibrium. It is important to examine the reasons behind this in order to determine the impact it has on the interaction between efficiency and justice.

The most significant change to the welfare state in the post-crisis period was the reduction in the benefit replacement rates, resulting in a considerable reduction in the generosity of the Swedish unemployment benefit system (Stovicek and Turrini, 2012). Table 4 shows the negative impact of this change on the justice dimension, with considerable reductions in the values of three justice indicators; poverty prevention, tax as a percentage of GDP and the average tax rate, representing a fall in the state's redistributive properties.

Added to this, the expected efficiency gains of the reduced benefit generosity, and consequential improvement in the labour market incentive structure, were not realised in the post-crisis period. The transition of Sweden's performance between the two periods was

therefore not subject to a trade-off. Instead, it was subject to a policy time lag, whereby the expected gains were not realised in the same period, causing a simultaneous drop in performance in both dimensions. This is arguably due to the influence of core values in Swedish society, particularly the social expectation that the welfare state acts as a ‘safety net’ (Lister, 2009), which did not immediately adapt to the policy change.

In terms of future predictions, the sustainability of Sweden’s high efficiency-justice equilibrium is largely dependent on maintaining the extensive role of the tax system (Kangas and Palme, 2005). Thus, if the tax system becomes less prominent in Swedish society a trade-off between efficiency and justice will likely emerge. There are early signs of this in the post-crisis period, with the comparative performance of Sweden and Germany indicating a trade-off exists.

## 6.2. Case Study: Germany

Table 5 shows the results for Germany, both pre- and post-crisis. It presents the values for each indicator, sub-dimension and dimension, as well as the combined index value.

**Table 5: Germany: Breakdown of results, pre- and post-crisis**

Indicator	Pre-crisis score	Post-crisis score
<u>Dynamic efficiency</u>	<u>0.58</u>	<u>0.56</u>
- <i>Growth GDP/Hour worked</i>	0.54	0.50
- <i>Growth Labour utilisation</i>	0.63	0.63
<u>Pareto efficiency</u>	<u>0.67</u>	<u>0.79</u>
- <i>Unemployment</i>	0.67	0.79
<b>Efficiency Index</b>	<b>0.62</b>	<b>0.67</b>
<u>First Principle Justice</u>	<u>0.76</u>	<u>0.80</u>
- <i>Poverty prevention</i>	0.76	0.80
<u>Second Principle Justice</u>	<u>0.54</u>	<u>0.56</u>
- <i>Equitable education</i>	0.48	0.59
- <i>Tax as % GDP</i>	0.61	0.65
- <i>Top income tax rate</i>	0.50	0.49
- <i>Average income tax rate</i>	0.59	0.53
<b>Justice Index</b>	<b>0.64</b>	<b>0.67</b>
<b>Combined Index</b>	<b>0.63</b>	<b>0.67</b>

Germany scored poorly in the efficiency dimension in the pre-crisis period, reflecting its reputation as the 'sick man of Europe' in the early 2000s, whereby it experienced deteriorating competitiveness (Hallerberg, 2013). Hassel (2010) attributes a considerable proportion of this poor economic performance to state intervention, which hindered economic performance particularly through tight labour market regulation and generous unemployment support. However, its similarly poor performance in the justice dimension challenges the existence of a trade-off between the two dimensions when compared to Sweden, which simultaneously outperformed it in both dimensions. Despite this, there is evidence that a trade-off exists when Germany's performance is compared to the UK's, with Germany performing better in the justice dimension and worse in the efficiency dimension compared to the UK.

Although the pre-crisis period presented mixed evidence of a trade-off, the transition period implied that Germany was not subject to a trade-off, as it was able to simultaneously improve its performance in both dimensions.

The strength of Germany's economic performance during and since the financial crisis has belied its reputation as the 'sick man of Europe'. As illustrated in Table 5, Germany experienced a large improvement in Pareto efficiency, due to considerable reductions in the unemployment rate, which fell each year between 2009 and 2013. A slight reduction in the dynamic efficiency score in the post-crisis period reflects the need for investment in human capital and education in order to maintain and boost productivity growth (Busch, 2010). However, the overall efficiency score increased from 0.62 to 0.67 in the post-crisis period, despite the economic challenges posed by the financial crisis.

Many academics attribute Germany's recent economic success to two Government labour market incentives; the Hartz reforms and the *Kurzarbeit* work programme. The Hartz reforms, gradually implemented between 2003 and 2005, were a set of labour market reforms that facilitated the modification of labour market policies in a comprehensive strategy (Jacobi and Kluge, 2006). The reforms reduced the generosity of unemployment benefits, significantly improving labour market incentive structures and contributing to the constant reduction in the annual unemployment rate since 2005, with the exception of a marginal increase in 2008. Alongside the Hartz reforms, the long-standing *Kurzarbeit* work programme, which was extended during the crisis, is 'credited with helping Germany's labour market adjustment' during the financial crisis (Contessi and Li, 2013, p.1). Under the programme, the Government

compensates a percentage of the reduction in employees' net earnings if wages and working hours are reduced during the downturn, in order to prevent the inevitable increase in unemployment. The widespread acceptance of the programme by workers and firms, due to its mutual beneficial nature, along with the strong government support and funding for the programme contributed to its success in reducing unemployment following the crisis (Contessi and Li, 2013).

Adding to the reduction in average annual unemployment rates since the crisis, Germany has also experienced a reduction in long-term unemployment rates and the generosity of employment benefits. According to Weidner and Williams (2011), both of these patterns indicate that the 'natural rate' of unemployment is falling. A fall in the 'natural rate' suggests the labour market reforms will have a longstanding positive impact on the unemployment rate, resulting in the likely improvement of Germany's efficiency score over time.

The simultaneous improvement in the justice and efficiency dimensions has two possible reasons. Firstly, it is possible that there exists a high degree of complementarity between the welfare state's redistributive functions and capitalist dynamics in Germany. Initiatives such as the *Kurzarbeit* work programme offer examples of this, whereby the active role of the welfare state through the tax system simultaneously promotes justice through its redistributive functions, and efficiency, by helping to maintain employment and productivity levels.

Secondly, the starting point at a relatively balanced low efficiency-justice equilibrium, with a combined score of 0.63 and a difference of 0.02 between the two dimensions, provides a greater capacity for the scores in both dimensions to simultaneously increase than if the combined score had been higher or if the difference between the two had been greater. Thus, it appears that Germany was not subject to a trade-off in the transition between the two the periods.

Despite the inherent lack of a trade-off in the transition between the two periods, Germany's post-crisis performance reflects the existence of a trade-off when compared to Sweden's performance, replicating the trade-off it experienced when compared to the UK in the pre-crisis period. Although it did not face a trade-off in the transition period, the fact that it appears to be subject to a trade-off both pre-crisis and post-crisis when compared to different countries suggests that it is subject to a trade-off at different levels of efficiency-justice equilibrium. However, the balanced nature of Germany's performance, whereby the scores in both

dimensions were similar, could have positive future implications, as demonstrated by the lack of a trade-off in the transition between the two periods. For example, Hassel (2010) argues that the introduction of more liberal labour market policies occurred within the established conservative framework of institutions, and therefore the changes will not necessarily produce similar outcomes as in more liberal countries, such as causing a fall in the level of justice, reflecting a trade-off.

### 6.3. Case Study: United Kingdom

Table 6 shows the results for the UK, both pre- and post-crisis. It presents the values for each indicator, sub-dimension and dimension, as well as the combined index value.

**Table 6: UK: Breakdown of results, pre- and post-crisis**

Indicator	Pre-crisis score	Post-crisis score
<u>Dynamic efficiency</u>	<u>0.60</u>	<u>0.54</u>
- <i>Growth GDP/Hour worked</i>	0.57	0.46
- <i>Growth Labour utilisation</i>	0.64	0.63
<u>Pareto efficiency</u>	<u>0.84</u>	<u>0.73</u>
- <i>Unemployment</i>	0.84	0.73
<b>Efficiency Index</b>	<b>0.71</b>	<b>0.63</b>
<u>First Principle Justice</u>	<u>0.69</u>	<u>0.64</u>
- <i>Poverty prevention</i>	0.69	0.64
<u>Second Principle Justice</u>	<u>0.43</u>	<u>0.50</u>
- <i>Equitable education</i>	0.30	0.51
- <i>Tax as % GDP</i>	0.60	0.57
- <i>Top income tax rate</i>	0.39	0.49
- <i>Average income tax rate</i>	0.49	0.43
<b>Justice Index</b>	<b>0.54</b>	<b>0.57</b>
<b>Combined Index</b>	<b>0.62</b>	<b>0.60</b>

As discussed in the results section, the UK's performance in the pre-crisis period displays evidence of a trade-off when compared to Germany's performance, due to its achievement of a high efficiency score at the expense of a lower justice score. The low generosity of the UK's welfare state and the regressive nature of its tax and benefit system hindered the effectiveness of the state's redistributive functions, resulting in the low justice score in pre-crisis period (Diamond and Lodge, 2013). However, the limited generosity of the state enabled capitalist

dynamics to dominate markets and promote economic efficiencies, resulting in the high efficiency score in the pre-crisis period. The priority attached to economic efficiency, as proposed by Esping-Andersen as a characteristic of a liberal state, in the context of a trade-off therefore explains the relative performance in each dimension.

The transition of the UK's performance between the two periods supports the conclusion that it is subject to a trade-off between justice and efficiency. Despite the welfare state's priority of economic efficiency, the UK experienced a considerable drop in performance in the efficiency dimension in the post-crisis period. The decline in Pareto efficiency is a reflection of an increase in the average rate of unemployment from 5% in the period 2001-2007 to 7.9% in the period 2009-2013. However, the declining level of benefit generosity over the period could be an indication that the natural rate may begin to fall, as suggested by Weidner and Williams (2011), and the increase in unemployment is instead an increase in cyclical employment due to the economic downturn.

More importantly, the UK experienced a decline in dynamic efficiency due to a fall in the annual growth in labour productivity, which was negative for three of the five years in the post-crisis period. Labour productivity declined with economic growth after the financial crisis, but failed to recover in line with the recovery in economic growth (Oulton and Sebastia-Barriel, 2013). This is arguably the result of the negative impact of the financial crisis on the productive capacity of the economy, which has restricted the potential growth in labour productivity (*ibid.*, 2013). This reduces the likelihood of the UK returning to the previous productivity levels and is likely to have a negative long run impact on labour productivity growth and therefore on dynamic efficiency (Oulton and Sebastia-Barriel, 2013).

The UK's performance in the justice dimension moved in the opposite direction between the periods. A reduction in both the proportion of early school leavers and in the impact of socioeconomic factors on educational performance resulted in a considerable improvement in the UK's score in the equitable education indicator (Schraad-Tischler and Kroll, 2014). Added to this, the UK's top income tax rate, applicable to income over £150,000, was increased from 40% to 50% in 2010, before falling to 45% in 2013 (HMRC, 2014), having a positive impact on the top tax rate indicator. Together, the improvement in the equitable education and top tax rate indicators promoted a marginal improvement in the Justice dimension score.

Despite the evidence that the UK faced a trade-off between justice and efficiency in the pre-crisis and transition periods, there is evidence to suggest that a trade-off does not exist in the post-crisis period. Germany outperformed the UK in both dimensions, suggesting that there is capacity for the UK to simultaneously improve its performance in both dimensions. As proposed by Busch (2010) this could occur through corrective state intervention via the tax system. In terms of efficiency, an increase in investment in human capital, funded through the tax system, could increase the productive capacity of the economy and encourage future productivity growth. In terms of justice, an increase in tax levels to support the investment in human capital would likely improve the redistributive functions of the tax system, increasing the score in the justice dimension. However, there are early signs that the UK is not set to utilise this spare capacity, particularly due to a fall in the average rate of tax and a fall in the generosity of unemployment benefits, which does not bode well for performance in the justice dimension.

#### *6.4. Addressing the conflicting evidence*

There was evidence in the pre-crisis and post-crisis periods, as well as in the transition between the two periods, to suggest that a trade-off does not exist. However, each period also provided evidence to contradict this. A trade-off is therefore not inevitable, but it can occur under some circumstances. This section will consider the points discussed in the case studies to determine the circumstances under which a trade-off is more likely to occur and to determine whether a trade-off exists since the crisis.

The case studies highlighted the importance of the extensiveness of the tax system and the role of core values in determining performance in terms of justice and efficiency and the trade-off between the two.

As proposed by Busch (2010), corrective state intervention through the tax system can promote gains in both dimensions. In terms of justice, the more extensive and progressive the tax system, the higher will be the satisfaction of the Difference Principle due to the effective structuring of inequalities. In terms of efficiency, public investment in human capital encourages labour productivity growth and higher rates of employment (Busch, 2010). Sweden's pre-crisis performance offers a perfect example of this. Its success in harmonising justice and economic efficiencies through an extensive tax system resulted in the negation of a trade-off between the two objectives. Since the crisis, a fall in the extensiveness of the tax system and a fall in the generosity of unemployment benefits have resulted in the emergence of a trade-off, which will

likely increase if the extensiveness of the tax system continues to decline (Kangas and Palme, 2005).

Core societal values had a role to play in the performances in each country. In Sweden, widespread acceptance of taxation and support for the extensive role of the welfare state contributed to strong performance in both dimensions in the pre-crisis period (Lister, 2009). Likewise, in Germany the widespread acceptance of the *Kurzarbeit* programme in the transition between the two periods contributed to its success in reducing unemployment following the crisis (Contessi and Li, 2013). In contrast, hostile public attitudes towards the welfare state in the UK hindered its ability to simultaneously improve both objectives in the transition between the two periods through an extensive tax system and productive public spending, resulting in a trade-off between the two objectives.

## **7. Conclusion**

This paper has disproved the inexorableness of a trade-off between justice and efficiency, which is defined as a key issue in welfare state economics (Barr, 1993), and uncovered the impact of the financial crisis on the trade-off. It has done so by producing an index measure of efficiency and justice in order to conduct both cross-country and cross-time comparisons of performance across three European welfare states: the UK, Germany and Sweden before and after the financial crisis.

The pre-crisis, post-crisis and transition periods presented conflicting evidence with regards to the existence of a trade-off between efficiency and justice. In each case, there were two examples indicating a trade-off and one example challenging this. The discussion of the relevant policy variables and contextual factors in each country offered explanations for this conflicting evidence. It is evident that a trade-off is not inevitable and that both the extensiveness of the taxation system and core societal values play key roles in negating the trade-off.

In Sweden, the pre-crisis period demonstrated the importance of the extensive tax system and positive core values in harmonising the objectives of justice and efficiency and negating a trade-off (Lister, 2009). However, a trade-off has emerged since the crisis due to a decline in the extensiveness of the tax system and a fall in the generosity of unemployment benefits. In Germany, the negation of a trade-off in the transition between the periods is a reflection of positive core societal values and an increased extensiveness of the tax system. Despite evidence



that a trade-off exists in the post-crisis period when compared to Sweden's performance, the simultaneous improvement of both objectives in the transition period and the lack of a trade-off when compared to the UK's performance suggests that Germany has become less subject to a trade-off since the financial crisis. If the tax system is extended further it is likely that Germany will replicate Sweden's success in the pre-crisis period in harmonising the two objectives. In the UK, comparison with both Germany and Sweden in the post-crisis period suggests that there is capacity for the UK to simultaneously improve its performance in both dimensions, as a trade-off does not appear to exist. However, the limited role of the tax system and welfare state in the UK, which is exacerbated by hostile public attitudes towards the state, hinders its ability to pursue both objectives simultaneously.

The following conclusions are therefore apparent: Sweden has become subject to a trade-off since the crisis due to a fall in the extensiveness of its tax system and a fall in the generosity of unemployment benefits. Germany has become less subject to a trade-off since the crisis due to an increased extensiveness in the tax system and the positive role of core societal values. The UK has continued to be subject to a trade-off since the crisis due to the limited role of its tax system and the hostility towards the role of the welfare state, instilled in core societal values.

This paper has therefore disproved the inevitability of a trade-off between efficiency and justice, described the circumstances in which a trade-off might occur, and presented the varied impact of the financial crisis on the trade-off in three European welfare states.

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### Appendix 1 – Indicator details: Definitions, data sources and time periods

Indicator	Definition/Calculation	Data source	Pre-crisis date	Post-crisis date
Growth in GDP/Hour worked	Average annual growth rate in GDP/Hour worked	OECD	2001-2007	2009-2013
Growth in labour utilisation	Average annual growth rate in labour utilisation	OECD	2001-2007	2009-2013
Unemployment rate	The average annual unemployment rate of people between 15 and 64 years of age	OECD	2001-2007	2009-2013
Poverty prevention	Population experiencing severe material deprivation, income poverty or at risk of poverty/social exclusion	SIM	2008	2014
Equitable education	Includes education policies, education expenditure, early school leavers and impact of socioeconomic factors on educational performance	SIM	2008	2014
Tax as % GDP	Average annual rate of total tax revenue as % GDP	OECD	2001-2007	2009-2013
Top tax rate	Average annual top statutory income tax rate	OECD	2001-2007	2009-2013
Average tax rate	Average annual average income tax rate	OECD	2001-2007	2009-2013

SIM – Social Inclusion Monitor Index Report (Schraad-Tischler and Kroll, 2014)

OECD – Organisation for Economic Co-operation and Development

## Appendix 2 – Indicator calculations: goal-post calculations and details

Indicator	Unit	Minimum	Details	Maximum	Details	Dates	Countries
Growth in GDP/Hour worked	AAG	-11	Turkey: 1994	12.3	Turkey: 1993	1980-2013	OECD
Growth in labour utilisation	AAG	-16.2	Estonia: 2009	9.4	Estonia: 2011	1980-2013	OECD
Unemployment rate	AAR	0.63	Estonia: 1990	27.47	Greece: 2013	1980-2013	OECD
Poverty prevention	PP	1	Bulgaria: 2014	7.67	Sweden: 2008	2008-2014	EU
Equitable education	CD	4.01	Greece: 2008	7.42	Sweden: 2014	2008-2014	EU
Tax as % GDP	AAR	10.7	Turkey: 1971	49.5	Denmark: 2005	1980-2013	OECD
Top tax rate	AAR	11.5	Switzerland: 1989	84.4	Portugal: 1981-1984	1981-2013	OECD
Average tax rate	AAR	0	Chile: 2000-2013	36.15	Denmark: 2012	2000-2013	OECD

OECD – Organisation for Economic Co-operation and Development

EU – European Union

AAG – Average annual growth rate

AAR – Average annual rate

PP – Percentage of population

CD – Combined dimension