MEASURING THE EFFICIENCY AND EFFECTIVENESS OF THE WELFARE STATE: A COMPARATIVE STUDY OF THE EU-27 MEMBER STATES

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Abstract. This paper aims to measure the efficiency and effectiveness of the twenty-seven European Union Members’ welfare states. Welfare state outcomes go beyond poverty and inequality reduction. Economic literature suggests that welfare is a dynamic concept which benefits may cost in terms of employment, long-term unemployment and economic growth. Moreover the welfare state should also be measured in terms of the resources employed to obtain the desired social outcomes. A composite indicator which embraces both effectiveness and efficiency indicators is constructed using EUROSTAT data 2006. Finally, the paper provides arguments of why it is the structure of benefits and the institutional setup which bear the most weight behind the success of welfare states. If “poor planned’ welfare state spending cause people to remain inactive or dependent there is no reason why not to suppose that ‘well structured’ welfare expenditure cannot influence people to act differently.

Introduction

The welfare state is one of the most debated subjects in economics, yet there is no universally accepted definition, nor does there exist one that suits all purposes (including the compilation of statistics). Welfare state in this paper is narrowly defined as a form of social insurance guaranteed by the state to prevent monetary poverty and reduce negative externalities on utility due to risks an individual might face throughout his life (Pierson, 1998). EUROSTAT’s statistical measurement of the welfare state is done through ESSPROS (European System of integrated Social Protection Statistics).

Most of contemporary studies carried on welfare focus only on particular aspects at a time. The available literature tends to group welfare state

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impacts into three main areas: i) economic growth—the more a welfare state grows in size the more taxes are needed for its finance, thus the less resources are available for private use (ii) poverty and inequality—which are two distinctive themes on their own despite being similar at face value, (iii) labour market rigidness—lax market rules are deemed to promote high employment ratios whereas stringent or protectionist markets contribute to longer doles. Lindbeck (2006) notes that poverty and income disparities are static aspects of the welfare state, whilst the dynamism of welfare is more concentrated in employment and growth. This implies that it is the whole welfare mechanism which affects the economy in a way or another and consequently its analysis must be viewed from a holistic perspective.

An ECOFIN (2008) paper recognises that European welfare states are facing possible trade-offs in the areas mentioned above as it notes that, “A specific issue arises regarding the consistency of the broad goals of growth and employment with fair distribution and equity outcomes.” Acknowledging the fact that there is more need of data analysis and comparisons amongst Member States, the European Commission suggests that further consideration must be given for proper indicators which measure such differences between states. In addition Gosta Esping-Andersen (2000), stress that one of the greatest mistakes when discussing the welfare state “is to ignore the great diversity that exists in European welfare systems.”

This essay tries to provide a suitable composite indicator as an answer to the above by showing the extent to which the following two hypotheses hold. First, whether welfare state effectiveness is related to welfare expenditure, implying that better results are obtained against higher spending.

Secondly, that the bigger the welfare state is, the less resources are efficiently spent, consequently creating further distortions in the labour market and to economic growth.

The paper will be structured as follows. Following this introduction, Section 2 will discuss the literature behind static and dynamic concepts of the welfare state. Section 3 will give an outline of the methodological approach used for the compilation of the composite indicator. Member States’ rank order and the composite indicator results will be discussed in Section 4. Finally the main concluding remarks will be put forward in Section 5.
A Look at the Literature

The ensuing literature reviews the consequences and unintended consequences of the welfare state. The references made ought to provide a solid theoretical argument which justifies the holistic study and measurement of different indicators of welfare efficiency and effectiveness for the European Union.

Growth

The long-run potential growth of an economy rests on numerous variables but government policy can have the most wide-ranging effects through the management of taxation and expenditure (Pevcin 2004). Economic theory states that the more accumulation there is of something, being it capital, tax revenue or expenditure, the less efficiency is obtained from a unit increase after a certain level as diminishing marginal returns set in. Using the same argument it is thus assumed that big governments are more likely to hinder rather than promote economic growth (Ram 1986).

Welfare state over-sizing is a cause of concern as unlike other expenditure components it is difficult to trim and is less productive. In 1995, Republican congressman and economist Richard Keith Armey concerned by the effects of government size on economic growth proposed the ‘Armey Curve.’ The Armey curve suggests a non-linear relation between public spending as a share of output and the rate of economic growth. At the initial levels of public spending, government size contributes positively to real growth as resources are efficiently manned.

However as government gets bigger, more finance is raised through taxation and less savings are left for future investment (Fic and Ghate, 2005).

Vreymans and Verhulst (2004), Pfeiffer and Anderson (2004) and Andreas Bergh (2006), all suggest that indeed high levels of social protection prove to be an anchorage to growth. Of different opinion are Schneider (2007), Herce et al. (1998), and Peter Lindert (2002; 2006a,b; Sharpe, 2004). Subtle results are obtained by looking at the ‘big picture’ of welfare over a considerable period of time as clustering of different episodes into a single outcome fails to trace cycles. This is rather an important consideration as welfare states are dynamic.
The Markov regime structural break model developed by Fic and Ghate for a number of European countries covering the 1950-2001 period, provides a plausible explanation of why depending on the dataset used, the relation between welfare state and economic growth is reinforced or not. The authors reckon that similar to the Armey curve, welfare state and economic growth are non-linearly related. Throughout the five decades taken into account Europe experienced different growth rates and these disparities influenced the welfare states’ size. The theory behind their finding states that a period of high economic growth leads to a subsequent period of rising welfare. The more the burden of welfare rises, the more growth tends to ‘suffocate’. As growth starts faltering, politicians faced with plummeting tax receipts are forced to cut back on welfare. Freeing more resources to private use stimulates growth and as a result, soon after politicians afford again to dish out cash. It is estimated that this cycle on average takes fifteen years to complete (Fic and Ghate 2005).

Poverty and Inequality

“The primary achievement of the welfare state is the extent to which the incidence of poverty is reduced” (Buti et al., 1999). Kenworthy (1998) argues that it is poverty reduction which draws on most support amongst economists, social scientists, politicians and the public in general for shoulder-bearing the welfare state. Taylor-Gooby (2001) indicate for selected European Union Member States that state welfare has reduced poverty from levels that would not be attained without state provision. The Dublin European Council in 1984 officially defined poverty as “those persons, families and groups of persons whose resources (material, cultural and social) are so limited as to exclude them from the minimum acceptable way of life in the Member State to which they belong” (Dennis, 2007). On similar grounds Sen (1981) and Buti et al. (1999) define poverty as the inability of individuals or households to satisfy their basic needs. Eisenstadt and Ahimeir (1985) interpret the welfare state as an attempt to influence distribution rather than to eradicate poverty. History shows that western welfare had an egalitarian aim and inspiration. “Inequality is concerned not with the absolute living standard of the poor, but with the differences between income groups” (Barr, 2004).

There are arguments which are in favour of viewing poverty as inequality (Miller and Roby, 1971). However Sen (1981) argues that this would be misleading since though they are related neither concept subsumes the
other. He explains that transfer of income from a high income earner to a low
income earner will reduce inequality but not necessarily poverty. To lessen
inequality there is no need to expand the county’s resources as would be
necessary to mitigate poverty. The redistribution of market income to
disposable income can re-balance the final holding of resources. Thus
inequality can be an argument to substantiate the prevalence of poverty
without making the two concepts identical.

The most common tool for measuring income inequality is the Lorenz curve.
The Lorenz curve simply describes the cumulative (disposable) income
mapped against the cumulative population. Should all observations lie on
the forty-five degrees line running through the origin there is an indication
that the society enjoys perfect disposable income distribution. It is of normal
occurrence that the distribution forms a concave curve under the line of
perfect equality. Countries enjoying a high income per capita tend to have
a flatter concave shape than less developed countries (Mitchell, 1991).

Employment and Long-Term Unemployment

Employment has been on the European Commission agenda for quite a long
time now and is considered one of the pillars of the Lisbon Agenda due the
targets that ought to be met by Member States by the end of 2010. Buti et al.
(1999) and Hemerijck and Eichhorst (2009), see the welfare state affecting the
labour market from the demand side as well as from the supply side; “while
labour market changes affect the demand for benefits and the sources to fund
them, tax and benefit structures influence the behaviour of individuals in the labour
market.” Apart from the monetary factors, the labour mechanism is heavily
influenced by employment protection legislation which is part and parcel of
the European welfare state setup (Buti et al., 1999).

In the year 2000 the European Commission set a core of employment targets
which define the desired level of total, female and old-age employment.
EUROSTAT’s Labour Force Survey (LFS) indicates that according to welfare
decommodifications, the Nordic and Liberal model have surpassed the total
employment figure of 70 per cent (Ireland missed the target by less than a
percentage point), the female employment target of 60 per cent and the old
age employment figure of 50 per cent. Continental countries are almost near
the 70 per cent target but fail in the other categories, whereas Mediterranean
and Post-Communities fare dismally in all. Since the set up of the Lisbon
targets, employment ratios have converged between countries but notable differences still exist in the female and old age participation rates.

The differences that stem in employment rates between the Nordic and the Anglo-Saxon models on the one side and Continental and the Mediterranean models on the other side are due to the welfare policies enacted by the Member States throughout the decades. The two latter models throughout the 1980s and 1990s in order to curb unemployment used the welfare state to reduce the labour supply and encourage people to take on early retirement so that new job-placements (if any were left) were offered to those of younger age (Hemerijck and Eichhorst, 2009). It comes as no surprise that Continental and Mediterranean countries have fewer workers aged between 55-65 years still active. The policies of ‘welfare without work’ proved to be financially unsustainable as the economically inactive claiming social benefits rose while those who finance it decreased. These policies were coupled with strict employment protection legislation which safeguarded the interest of the economically active through minimum wages and rigid legislation on hire and fire. Such scenario continued to hinder employment growth with female and old-aged participants being the most affected (Hemerijck, van Kersbergen, and Manow, 2000).

As regards the supply side, the persistence of high unemployment levels compared to other developed nations, earned Europe the notorious label of ‘Eurosclerosis’ (Doppelhofer, 2002). Eurosclerosis is a broad term coined to describe in a nutshell the European labour market inflexibility and rigidness which when combined to the welfare state benefit structure result in sluggish growth and joblessness. The intense world-wide market competition especially from low-income countries challenged European labour intensive markets which were poised to experience an irreversible decline in demand for unskilled workers (Halvorsen, 2001). Halvorsen suggests that a simple indicator of structural unemployment is its firmness in an economic upswing. EUROSTAT measures structural unemployment alternatively termed as long-term unemployment as those who are uninterruptedly registered unemployed for more than a year.

Structural unemployment is described by Glyn (2003) as that part of unemployment which forms the ‘non-accelerating inflation rate of unemployment’ (NAIRU). Halvorsen (2001) attributes the increase in long-term unemployment for some European countries because of a shift in the
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NAIRU curve. Tarling and Wilkinson (1999) claim that such shift is due “the failure of wages to adjust downward to the falling demand price for labour and/or to the growing unemployability of the increasing proportion of the workforce through lack of skill and/or work motivation.” Economic theory reinforces their argument as any economic stimulus induced to further reduce such unemployment will only result in inflation as joblessness in this case can be solved only by addressing employment protection legislation, unemployment benefits, wage flexibility and strong unionization.

Moral and Vacas (2008) and Boeri and Garibaldi (2008) point out that the EU-15 merit some credit for the outstanding reforms that were carried to curb long-term unemployment. They have identified some 400 of such reforms in the last decade. These many reforms lead the way to a more homogenous (to a certain extent) Europe, were unemployment benefits are subject to more rigorous rules such as activation by obligation and make-work-pay policies. Boeri and Garibaldi (2008), note that the EU-15 Member States have created some 21 million jobs and shed 5 million from unemployment. Long-term unemployment was reduced by half and reduced by four percentage points down to eight per cent of the labour force. Without any doubt some of this reduction in unemployment emerges from the application of more rigorous active labour market policies. Though expenditure on and results from active labour market policies (ALMPs) differ from Member State to another, some positive outcome is observed amongst all EU Member States.

Constructing the Sub-Indices

This section gives an account of how the five areas—growth, poverty, inequality, employment and long-term unemployment—described in the literature review are used in the compilation of indices which ultimately are utilised for the construction of the composite indicator. All statistical information with reference year 2006 was obtained from EUROSTAT, the European Union statistical office. The analysis concerned is only cross-sectional since Gini coefficient figures prior 2006 are not based on SILC thus time-series comparison would not be consistent with the same methodology. As effectiveness is concerned the workings are similar to Kakwani’s work, but efficiency workings are different due to micro data limitations. Social transfers are taken after the distribution of old-age and survivors’ pensions as these can be considered as benefits accruing to life-time savings. The
The observed growth rate for the EU-27 in 2006 can be associated with a ‘normal cycle’ of economic activity. The last recession prior to 2006 was in 2001–the ‘Dot Com Crash’, which although it happened in the States, European economies inevitably experienced some slowdown. After every downturn economies re-adjust and start to grow at ‘normal’ rates as observed in Figure 3.1 for 2000 and 2006. This growth path framework is reinforced as the subsequent slowdown which eventually developed in a significant recession started early 2008 and gained momentum later on. If economic cycles are ignored wrong interpretations of data may come out as in this case.
results would be skewed against Eastern European countries due their low social protection expenditure and also since some countries were harder hit than their Western neighbours. Cases in point are Estonia and Hungary which had to be bailed out by the IMF.

Following the reasoning behind the Armey curve it is expected that growth rates decline with increasing social protection expenditure. In order to investigate if such relation holds for European countries a regression method of analysis was adopted. The log of real GDP growth is regressed against the logs of social protection expenditure (per cent of GDP), the squared of social protection expenditure (per cent of GDP) and GDP per capita. The squared of social protection expenditure is used to obtain a quadratic curve and GDP per capita is included as a proxy of country development.

The efficiency for each Member State is found in terms of its ‘expected value’ as a ratio of the ‘actual value’. Countries having a ratio lower than one indicate that their growth rates should have been higher than they actually are hence there is inefficiency. Contrary to, those countries which ratios exceed one are deemed to be efficient as they managed to have real growth rates above expectations.

**Poverty Effectiveness and Efficiency Index**

Poverty is assessed by two indices – ‘effectiveness’ to find how successful countries are in poverty eradication and what levels of poverty are present thereafter and ‘efficiency’ which is a proxy of the worthiness (value for money) of expenditure to lessen poverty.

Kakwani measures poverty effectiveness in two ways; (vertically) by using the poverty levels before and after social transfers and (horizontally) by the looking at the changes happening in the poverty gap. In this essay only the first approach is taken in consideration as data for the latter are not completely available by EUROSTAT. Effectiveness is calculated out by finding first the poverty reduction which is the difference between poverty levels before and after social transfers divided by the before social transfers poverty rate. The percentage change in poverty levels – ‘poverty reduction’ – is subsequently divided by the remaining stock of poverty – poverty after social transfers. The poverty level is taken in line with EUROSTAT’s definition, the ‘60 per cent median level of national disposable income’.
The method applied by Kakwani to measure poverty efficiency is the one developed by Beckman. Due to data limitations a different approach is applied, where efficiency is found by dividing the effectiveness ratio by the amount of cash transfers as a percentage of GDP. Only cash transfers are taken in consideration as in SILC poverty reduction is taken against quantifiable measures i.e. cash. Although the cost of benefits-in-kind is known it is difficult to estimate how much of such expenditure was consumed by how many people.

Inequality Effectiveness and Efficiency Index

The method used to measure inequality is very similar to the one applied for poverty. Inequality effectiveness meaning the ability of a country to lower its Gini coefficient (increasing equality) is measured by finding the redistribution effect. Redistribution is the difference between the Gini coefficient pre and post social transfers (excluding old-age and survivors’ pensions), divided by Gini coefficient pre social transfers. The percentage change is thereafter divided by the Gini post transfers. This method is similar to that adopted by Kakwani. The efficiency index is worked out in a different manner than that of Kakwani. She uses the Luxembourg Income Study data which consists of social transfers and tax payments micro data. Since this type of information is not available by EUROSTAT, social transfers in cash as a percentage of GDP are used again (for the same reason as described for poverty) as a proxy of expenditure. Thus after obtaining the effectiveness index for each country the same numbers are divided by the expenditure figure and efficiency is obtained.

Employment Index

The effects of the welfare state on employment are quite straightforward. Empirical research always adopts the procedure of analysing employment ratios - the share of people between 15-64 years of age who are in employment. The higher the ratio the more incentives there are for people to be engaged in economic activity. Lower ratios are associated with disincentives to work because ‘work-wont-pay’ due to the loss of welfare benefits. Rigid labour laws, excessive labour market protection, high unionisation, generous retirement policies and few family friendly measures are all factors that hinder segments of the population from economically contributing towards their community. Not all these factors are difficult to quantify but to take into consideration all of them would require larger amounts of data which sometimes are not even available and go beyond the scope of this index.
Thus to minimise the amount of data and keeping the index as simple as possible, the employment ratio in itself is considered to take into account all of these factors.

*Long-Term Unemployment Effectiveness and Efficiency Index*

As employment, long-term unemployment is a measure of labour market dynamism but this time from the supply side. The higher long-term unemployment as a percentage of unemployment is, the more it is difficult to re-integrate such people in the labour market. Thus for a country it is desirable to have the minimal possible rate of long-term unemployment. There are several reasons for which people may remain unemployed for over a year, amongst generous benefits, lack of skills, age and lack of motivation to find work. Again it would be time consuming to reflect all these characteristics to describe long-term unemployment, thus a country’s effectiveness ratio is determined to be the former [long-term unemployment] as a ratio of unemployment.

The more people remain unemployed the more costly they start to be to the government and the economy. Unemployed people still must consume and can only do so through unemployment assistance. The higher the duration of unemployment the more people become accustomed to benefits hence to counteract governments must spend further resources to curb dependency. Active labour market policies such as training, job subsidies or placement schemes are expensive to implement and must be considered as well as part of government costs. Thus efficiency in this case is worked out by dividing the effectiveness ratio by the cost of labour market policies (passive and active benefits). It is true that such total cost would include even that part of expenditure incurred on those who are unemployed for less than a year but unemployment insurance in terms of labour market policies total cost is not considerable. Moreover not all the unemployed are eligible to unemployment insurance.

**Constructing the Composite Index**

*Principal Component Analysis*

Although the indices described so far are interesting on their own they are somewhat cumbersome to interpret altogether. A possible way of gathering
all such data into an interpretable figure is through a composite indicator. The simplest method for the construction of a composite indicator is by assigning equal weightings to each index (i.e. giving a weight of 12.5% each) and thereafter multiply countries’ index scores accordingly. In such way however weights or better as the Handbook refers to as ‘trade-offs’ are subjectively assigned. Herewith it is being assumed that all indices should exercise the same trade-offs when it is not the case. A more objective method of finding such ‘trade-off’ coefficients is by using the Principal Component Analysis (PCA). The Handbook suggests further statistical methods other than the PCA which are much more costly in terms of computational work. The objective herein is to obtain a good model for ranking countries in terms of economic and social outcomes rather than the development of a highly statistical model.

The Handbook emphasise that ‘the strengths and weaknesses of composite indicators largely derive from the quality of the underlying variables’ as poor data results in garbage in, garbage out. The composite indicator in a way can be interpreted as the sum of all its parts. The principal component analysis must satisfy some properties as well in order to give the desired results. In this case the PCA satisfies both the Rule of 10 (having at least ten observations per index) and the 3:1 Ratio (there should be at least three times as much countries as the number of indices). Also for the PCA to work properly it is desirable to have a number of correlations present between the indicators.

The second step after checking for correlation between the indicators is the identification of certain latent factors which represent the data. Normally there are fewer factors than variables. Given that the PCA is a linear transformation, an eigenvector which is a special nonzero vector is obtained. Although the eigenvector direction remains invariant after applying the transformation, its length may vary. Associated with each eigenvector there is an eigenvalue which represents the former’s scalar value. In simple terms the eigenvectors represent the principal components of the data while the eigenvalues correspond to the variance experienced by each principal component.

The Handbook suggests that the eigenvalues that should be taken into consideration are those i) that have a value in excess of one, ii) individually contribute to overall variance by about ten per cent and iii) cumulatively contribute to more than 60 per cent of the overall description. However in
order to account for the maximum possible information, the ‘stopping rules’ applied in this method are according to the variance explained and Joliffe criterion. The variance explained criteria as a rule of thumb accounts for enough factors that cover (or at least close to) 90 per cent of the variation, whereas the Joliffe criterion recommends the retention of all eigenvalues above 0.7.

The last step is to derive the weights (trade-offs) from the rotated varimax matrix as provided by SPSS. “The rotation is used to minimise the number of individual indicators that have a high loading on the same factor. The idea behind transforming the factorial axes is to obtain a "simpler structure" of the factors (ideally a structure in which each indicator is loaded exclusively on one of the retained factors)” (Handbook on Constructing Composite Indicators, 2008). The factor loadings are then squared and scaled to unity based on the explained variance (which is the summation of the same factor loadings). The explained variances of each factor loading are added together and their respective share of total variance is calculated. The highest squared factor loading in each factor is then multiplied by the respective share of total variance after which all calculations are added and scaled to unity. The ending results are the weights with which every indicator is multiplied to form the composite indicator.

Normalisation

The normalisation procedure used for the composite indicator is the ‘distance to reference method’. There are other methods described by the Handbook but since the aggregation of indices is done through multiplication most of the procedures are not applicable in this case. The geometric method does not allow for the presence of zeros or negatives as would result if the Min-Max method or Z-scores are used. This is because the total score for countries which perform the worst in an index cannot be worked–zero multiplied by something is zero and a negative number to the power of a fraction is not possible. The ‘distance to reference method’ eliminates this problem as all countries performance is ranked as a ratio of the best performer. In this way the worst performing country would still get a score that is not zero.

Moreover ratio scales are the best type of scales as they retain all four characteristics of a good scale i.e. i) allow classification, ii) allow ordering, iii) have equal intervals and iv) are unique to origin.
**Geometric Aggregation**

The compilation of the composite indicator is done using geometric aggregation. The *Handbook* suggests that if compensability between indices within the composite indicator is to be minimised, geometric aggregation should be favoured over linear aggregation. Under the latter aggregation method a country which scores poorly in an index can make up for it by scoring higher in another index. In such circumstances although such country may have a good ending result, in reality such outcome will not reflect overall desirability. Since averages are preferred to extremes, a country with extreme values stand to gain more utility from a further increase in a low index than by continuing to improve on an already high index. In this way countries are encouraged to improve on low scores in order to improve their overall ranking. Geometric aggregation makes this possible as outliers are given less importance compared to numbers near the mean. Finally the ‘trade-offs’ are raised as powers of the normalised scores for each respective index and Member State. The final result is obtained by multiplying all the ‘weighted’ indices scores together.

**Results**

The results obtained confirm what other researchers (Kakwani 1986; Boeri, 2002; Sapir, 2005) reported in their papers. Similarities emerge especially for poverty effectiveness and efficiency, and Gini effectiveness and efficiency. An important aspect that must be emphasised is that the following indices (except for the growth index) are only influenced by a small proportion of social protection expenditure. Cash benefits other than old-age and survivors’ pensions cover an average of 23 percent of total welfare expenditure.

This section has nine sub-headings. The first eight headings deal with the salient points of each index. Finally, all Member States are ranked according to the composite indicator results which take into account the countries’ overall performance in all of the eight indicators.

**Growth Index**

The Armey curve suggests a maximum quadratic curve relation between real growth and social protection expenditure. At first instance the scatter plot (see figure 4.1) seems to defy this pattern but an in-depth look indicates
that European Member States are in the declining part of the maximum quadratic curve. The maximum point of the curve appears to be Latvia with the rest of the countries following the declining curvature. Belgium, Ireland, Romania and Estonia fit exactly on the line of best fit which suggests a strong relation of 0.62 between real growth and social protection expenditure. There are thirteen Member States which fit above the polynomial line indicating a better growth performance than expected, while ten Member States have an inferior performance.

The Mediterranean countries (with the exception of Greece) are undoubtedly the most inefficient states as they rank at the bottom. Contrary, the Nordic countries despite being among the highest welfare state spenders rank upwards with the exception of the Netherlands which tend to be more ‘Continental’ than ‘Nordic’ in this index. The presence of Post-Communist countries is high up in the ranks compared to other indices as such states have both low social protection expenditures (the EU-10 have an average social protection expenditure of sixteen per cent of GDP, nine percentage
points less than the EU-15) and are still away from their steady-state positions. Unexpected was the ranking order of the United Kingdom which despite their flexible labour markets and ‘lack’ of generosity, social protection is found to undermine growth. France also seems to suffer more from inefficiency than its Continental counterparts as it ranks in the twenty-fourth position – eight places under Germany which is the last country (excluding France) to place amongst this regime.

**Poverty Effectiveness Index**

In terms of poverty before social transfers but after old-age and survivors pensions’, poverty rates vary between a high 33 per cent of the population in Ireland to a low 17 per cent in Bulgaria. Poverty rates before transfers do not exhibit any strong particular groupings except that Mediterranean countries have lower rates than Nordic and Anglo-Saxon countries. Continental, but to greater extent Post Communist countries show a wider range of poverty rates. The standard deviation for poverty rates before transfers is 3.59. After accounting for the transfer of social benefits, (obviously) poverty decreases, with Greece topping the list with 21 per cent of the population at risk of poverty and the Czech Republic ranks as the least country with poverty risk, 10 per cent. The distinction between welfare regimes comes out when poverty reduction is calculated. The Mediterranean countries (excluding Malta and Cyprus) are at the bottom of the league with poverty reductions varying from 28 per cent in Portugal to 9 per cent in Greece. As expected the Nordic countries secured high rankings due to the large poverty percentage reductions. Unexpectedly some of the Post-Communist countries such as the Czech Republic, Slovenia and Slovakia fare quite well compared to their East neighbours. On average Anglo-Saxon countries fare worse than Continental countries. Poverty rates after transfers tend to diverge more than prior to transfers as the standard deviation rise slightly to 3.64 indicating difference in welfare state effectiveness.

The poverty effectiveness index confirms what other researchers found earlier, that Nordic countries occupy the top places (although not the first and second post) and Mediterranean countries (with the exception of Malta and Cyprus) place almost at the end of the classification. Surprisingly the Czech Republic despite being a Post-Communist country ranks top in the
classification. Not surprisingly is the fact that Continental countries surpass
the Anglo-Saxon, a clear indication of welfare generosity. As regards Post-
Communist countries it is evident that small countries near Continental
Member States are the most effective. The Baltic States to the North and
bigger ones such as Poland, Bulgaria and Romania rank amongst the lowest
effective welfare states. The scatter diagram, figure 4.2, with a high R-
squared value of 0.65 suggests that those countries with the highest poverty
reductions are those countries with the lowest post-transfer poverty rates.

**Poverty Efficiency Index**

The efficiency ranking order of Member States remains quite unchanged
from the poverty effectiveness order as the majority of the countries went up
or down only a few places. Outstanding were Slovakia and Malta which
improved their placing by eight and nine posts respectively. Malta continued
to distance itself further up from the rest of the Mediterranean countries. On
the other side, Luxembourg and Belgium fared worse compared to their poverty effectiveness ranking as they were down eight and nine places respectively. The scatter plot in figure 4.3, confirms that poverty effectiveness and welfare expenditure are positively related (R-squared 0.59); meaning that the more money is spent on poverty programmes the less poor there are.

\textit{Gini Effectiveness Index}

There is great similarity between the classification of the ‘Gini Effectiveness Index’ and the ‘Poverty Effectiveness Index’. As figure 4.4 shows, higher income redistribution is closely associated (R-squared 0.76) with greater income equality. Data for the Gini coefficient before social transfers but after transfer of old-age and survivors pensions show that inequality is highest in Ireland with 50 (Gini is scaled to 100) and lowest in Cyprus with 40. There is no clear superiority between welfare regimes as all Member States fall
within the 40-50 range. The standard deviation (Gini pre-transfers) for the EU-27 is 3.20. When transfers occur, the Gini coefficient standard deviation increases to 4.36, a clear indication that inequality increases when Member States are cross-sectionally compared. Ex-post Latvia’s Gini co-efficient is highest at 35, whilst Denmark is the most ‘equal’ country with a co-efficient of 24.

The Scandinavians hold the highest redistribution rates above 40 per cent, whilst as expected the Mediterranean countries do not even cross the 30 per cent benchmark (with the exception of Malta). The redistribution pattern also confirms the same trends for the Gini co-efficient as observed in poverty effectiveness; with the Scandinavian countries ranking high in effectiveness contrary to the Mediterranean countries which bottom the list. The Post-Communist countries appear to be divided into two groups with the Czech Republic, Bulgaria, Slovenia and Slovakia exhibiting ‘Continental’ type
redistribution rates while Hungary, Romania, Poland, Latvia and Lithuania have lower rates of redistribution. Continental countries are almost homogenous as all of them with the exception of Luxembourg have similar redistribution figures. Contrary to its poverty effectiveness ranking Bulgaria moves sixteen places up in the Gini effectiveness index. A possible explanation is that Bulgaria’s social benefits are more effective and efficient in tackling inequality than poverty. For the Czech Republic and the Netherlands (down six rankings each) the story seems to be different as they are more successful in poverty reduction than in lessening inequality.

*Gini Efficiency Index*

The scatter plot for the ‘Gini Efficiency Index’, figure 4.5, as expected suggests that the more a country spends in transfer payments the more reduction in inequality is achieved. However the relation between
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expenditure and the Gini effectiveness score (R-squared 0.39) is not as strong as it was in case of poverty. Nonetheless, Member States in general are more efficient in reducing the Gini co-efficient rather poverty as there is less deviation from the mean in the former than in the latter. Moreover it stands to reason that policies aimed at curbing inequality are more easily designed than when targeting particular benefits to the poor.

When compared to the ‘Gini Effectiveness Index’ the greatest setbacks in the ranking order originate from the Scandinavian and some Continental countries. The Netherlands, Finland, Denmark and Sweden are down eight, nine, ten and eleven places respectively. A possible explanation can be that ‘excessive’ equality is achieved only at a high cost. This reasoning though seems not to apply for some countries which are not so much distantly placed from the Nordics in terms of effectiveness. Bulgaria, Slovakia, Czech Republic and Malta all are up the rank by five, eight, three and seven places respectively (Slovenia manages to hold its place as it declined only one rank). The major inefficient countries are Belgium and Luxembourg as they go down to the twenty-third and twenty-fourth place respectively (down by thirteen and eleven places when compared to their Gini effectiveness ranks).

The major gainers in efficiency terms are Romania, Estonia, Latvia and Italy, although as similarly argued above, countries with higher inequality achieve better results by spending only a fraction of what they would have spent if they had similar Gini’s to Scandinavian countries. The Anglo-Saxon and remaining Mediterranean countries fairly maintain their previous ranks as in the ‘Gini Effectiveness Index’.

Employment Index

Employment is one of the economic themes at the forefront of discussion especially within the European Commission, yet it is an area where great disparities are in place. Comparing the top country – Netherlands, with the last placing country – Malta, it emerges that in the former country there are almost the equivalent of one fourth of the working age population more in employment than in the latter (see figure 4.6). The Nordic countries again top the ranking with the highest employment ratios, subsequently followed by the Anglo-Saxon. A strong culture that promotes work together with the appropriate legislation makes it possible for such Member States to achieve high emancipation rates for women. Whilst some of the differences in
employment ratio account for male employment rates, the highest deficiency of all remains female participation followed by ‘older’ workforce participation.

Analysing data by welfare models it emerges that the most fragmented one is the Mediterranean type. Whilst Cyprus enjoys an employment rate of almost 70 per cent of the working age population and ranks sixth, Malta in contrast ranks last with a ratio not exceeding 54 per cent. The Iberian states also rank higher than Greece and Italy which rank amongst the last seven. Continental and Post-Communist Member States present like a two-tier system with some countries well ahead of others. In the Continental model Austria (to a greater extent) and Germany surpass the rest of the group with Belgium finishing last. In the latter model, Estonia tops the group – ranking ninth, followed by Slovenia, Latvia, Czech Republic, and Lithuania with all quasi similar employment ratios. The second tier which ranks from the twenty-first position downwards is composed of Slovakia, Romania, Bulgaria, Hungary and Poland.
Long-term unemployment rates pattern confirm the existing differential levels amongst Member States (see figure 4.7). Post-Communist countries are still in the process of economic transition as their high rates of long-term unemployment confirm that their labour force still endures the problem of skill mismatches. The supply of labour has to reinvigorate itself to meet the new requirements posed by those who demand labour services. On the other hand, strong emphasis on active labour market policies and relative free labour markets contribute to low long-term unemployment in the Nordic and Anglo-Saxon countries.

Continental countries fare better than Mediterranean states in unemployment duration. The interpretation given to these last two models should be made with some caution as in both instances unemployment figures are not the best gauge of looking for labour market rigidness, benefit generosity or success of activation policies. Unemployment figures can be masked out
with early retirement schemes and inactivity (in a way this occurs even in Sweden where active policy participants are excluded from long-term unemployment statistics). Still generous benefits and labour market protection hinder long-term unemployment from scaling back.

*Long-Term Unemployment Efficiency Index*

Expenditure on labour market policies is among the lowest expenditure items out of total social protection functions (active measures are not included in social protection expenditure). Nonetheless there are great divergences on the amounts being spent among Member States with Belgium topping the list spending a high 3.40 per cent of GDP, whilst Estonia allocates only 0.16 per cent of GDP. Labour market policies expenditure is composed both of passive benefits and active measures. Figures suggest that countries which give ‘generous’ benefits must spend more on active measures in order not to encourage dependency. This is confirmed by testing for correlation which suggests a strong positive relation of 0.847. Therefore as a general conclusion the higher the passive benefits are, the higher total expenditure on labour market policies tends to be.

The Nordic countries which topped the rank of the ‘Long-Term Unemployment Effectiveness Index’ no longer hold their prior positions as regards efficiency. Their relative high expenditure patterns (2.28 – 3.24 per cent of GDP, see figure 4.8) compared to other Member States reduces considerably their ranking as they are even surpassed by Post-Communist countries. Although the latter group of countries in general exhibits high patterns of long unemployment, expenditure is limited as on average the EU-10 spends (0.57 per cent of GDP) three and half times less than the EU-15 (2.03 per cent of GDP).

In terms of efficiency the Mediterranean countries fare better than Continental countries as though the former (except for Spain) have almost the same long-term unemployment rates of the latter (except for Luxembourg), they are less generous in passive benefits and are also not so inclined to active policies. Worth mentioning is the outstanding position of the United Kingdom as it holds the upper ranks in both the effectiveness and efficiency index. The Anglo-Saxon model is more Atlanticist than European when it comes to the labour market. Flexible labour markets together with strong emphasis on activation and little benefits are the perfect combination for maintaining low long-term unemployment and expenditure.
The eight indices described above ultimately are used in the composite indicator such that a holistic picture of all EU-27 Member States is obtained (see table 4.9). Under Sapir’s (2005) and Boeri’s (2002) matrices, the Nordic (Sweden, Denmark, Finland and the Netherlands which some researchers rather prefer to classify as a hybrid with the Continental model) countries are the most efficient and equitable model, followed by the Anglo-Saxon (United Kingdom and Ireland) which are efficient but not equitable. The Continental (Germany, France, Belgium, Luxembourg and Austria) countries are equitable but not efficient and last but not least the Mediterranean (Italy, Spain, Greece and Portugal) model which is neither efficient nor equitable. The shortcoming of their matrix is that only the EU-15 Member States are represented whereas the EU nearly doubled its membership with the last
### Figure 4.9

#### Overall Ranking Order

<table>
<thead>
<tr>
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<th>Poverty</th>
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<th>Employment</th>
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two enlargement processes. Hence the need for something beyond a four quadrant approach rise. Moreover both Sapir and Boeri recognise that not all countries when analysed according to their performance classify exactly under their regional geographical reference.

According to the composite indicator, considering at first the EU-15 Member States – Sweden, Denmark, Finland and the Netherlands are amongst the six best performing countries. The Anglo-Saxon countries – the United Kingdom and Ireland place in the second and eighth rank respectively. The Continental group is divided into two groups – Austria and Luxembourg in the upper part of the rank whilst France, Germany and Belgium follow in the same order after Ireland and just before the Mediterranean bloc. Conforming also to Sapir’s and Boeri’s matrix are the Mediterranean countries with Spain, Greece, Italy and Portugal ranking the lowest amongst all Member States.

The indicator is more useful when plugging in the other EU-12 Member States. In their work researchers either analyse the ‘old’ EU on its own or the ‘new’ Member States on their own. Whilst some of them acknowledge the addition of another welfare typology, none go beyond the provision of an updated welfare state efficiency and effectiveness ranking order. The inclusion of the New Member States in away alters the composition of the ranking order of the EU-15 as some Post-Communist countries unexpectedly fare much better than some of the ‘old’ Member States.

The Czech Republic and Slovenia place in the first and second place pushing Sweden down to third. Placing under Sweden but surpassing the United Kingdom is the Baltic state of Estonia. Despite Malta and Cyprus are Mediterranean countries both rank distantly away - ninth and seventeenth position respectively - from the rest of the Mediterranean bloc. Hungary and Slovakia rank in respectable orders as they manage to finish within the first half of the league. The worst performing nation amongst the new entrants is the biggest of them all – Poland, as it comes after Lithuania, Bulgaria, Romania, and Latvia. Following this classification the Post-Communist countries appear far away from one group as the ranking order suggests there is a possible division into two groups – the Reformed Post-Communist (Czech Republic, Slovenia, Estonia, Hungary and Slovakia) countries and the Conservative Post-Communist (Lithuania, Bulgaria, Romania, Latvia and Poland) countries.

The composite indicator confirms the presence of heterogeneity amongst the EU Member States and that regional classifications are not that much
compact. Moreover the results whilst confirming the work of Sapir and Boeri also attempt to find where the New Member States fit in. The final outcome insinuates that the Mediterranean model is in fact the ‘worst’ system as it is neither efficient nor effective, considering that even the last entrants which are less economically developed have better welfare systems in place. Europe nowadays seems no longer to have four different welfare typologies but at most there are six types of welfare regimes.

**Concluding Remarks**

Amidst the incessant debate about the importance of having ‘one’ Europe in all aspects it entails, the welfare state is at the forefront amongst the different continental characteristics. Different European cultures have produced different notions about the ideal social welfare function. There is no such unique path towards the European Social Model (ESM). Moreover it is debateable whether the term European Social Model has the same understanding in Southern Europe as it has in Northern Europe. The ESM goals of sustainable growth and improving living and working conditions maybe at heart for societies accustomed to reforms whereas conservative societies prefer the status quo.

In the 1990s Esping-Andersen remarked that Europe has ‘Three Worlds of Welfare’, the Liberal, Social Democratic and Conservative. A decade later, Sapir (2005) and Boeri (2002) expanded Esping-Andersen’s classification and separated the ‘Conservative World’ into the Continental and Mediterranean models. With the European enlargement process in 2004 and subsequently in 2007 the two-by-two matrix used by Boeri to describe the four welfare regimes in terms of efficiency and equity no longer holds. The entrance of twelve new Member States increased the welfare typologies to six. Moreover as the ranking orders in the composite indicator suggest, although welfare regimes indicate possible groupings these are far from homogenous.

Popular belief blames welfare generosity as the main reason which hinders economic growth and employment. Scandinavian countries have the most generous benefit system whilst the United Kingdom in contrast is less keen on cash handouts, yet all of them boast of high employment rates and low long-term unemployment rates. On the contrary, Mediterranean countries
which offer a benefit-level just enough to satisfy basic needs are not as successful as the former countries. This paper attempted to show that the most important determinant factor for an efficient welfare state is not the level of benefits but the institutional setup together with the carrots and sticks attached to benefit eligibility. It is no coincidence that some countries (now even Post-Communist countries) succeed in addressing poverty and inequality without endangering growth and employment. Trade-offs are almost non-existent to some but for others they are impossible to avoid. In a nutshell it entails a well-oiled engine for a car to drive fast and not a feeble structure.

This paper also attempted to explain that future developments are likely to continue to alter rankings thereby diluting the scope of welfare state typology. The Scandinavian model despite retaining a high ranking order, no longer remains the envy of many as the European undisputed welfare state model. The Reformed Post-Communist Member States have taken reforms seriously and managed to challenge the Nordic model by achieving similar results with significant fewer resources. The notion of a multi-speed Europe no longer applies for political integration alone. If the current trend continues, financial restraints will possibly re-shape Member States between welfare state have and have-nots.

References


