How Much Redistribution Do Welfare States Achieve? The Role of Cash Transfers and Household Taxes

Michael Förster* and

Peter Whiteford**

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Introduction

Government policies in all OECD countries affect the distribution of household income. They do so through a range of programmes but most directly through the cash transfers paid to households and the direct taxes and social security contributions collected from them. However, different welfare states may pursue a variety of social objectives, with the balance and priority given to each of them varying across both countries and between programmes. A critical issue that all OECD governments confront – particularly when considering policy reforms – is whether the redistributive and other policy objectives of society could be more effectively or efficiently achieved through a different mix or design of policies.

A recently published OECD study on trends and driving forces of household income distribution during the past 20 years reports a moderate but significant and widespread increase of income inequality and relative poverty in the OECD region (OECD 2008).[1] This study also provides analyses of the impact of taxes and transfers on the distribution of incomes. In the following, the key findings of these analyses are summarised.

* Michael Förster is senior policy analyst at the Social Policy Division, OECD, Paris. Email: michael.forster@oecd.org.
** Peter Whiteford is professor at the Social Policy Research Center at the University of New South Wales, Australia. EMail: P.Whiteford@univ.edu.au.
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[1] Underlying data and sources of this publication can be found on www.oecd.org/els/social/inequality

An accounting framework for household income

Underlying all comparisons of welfare state outcomes is a framework for analysing the process of income distribution and redistribution (Esping-Andersen 1990). The standard approach set out in Table 1 is an accounting framework that allows different components of income to be related to each other and suitable aggregates to be derived. This framework can be used to construct a number of measures of the redistributive impact of social security and taxation policies. In particular, the degree of redistribution effected by taxes or social transfers can be calculated by comparing inequality and poverty indicators at different stages in the process outlined. For example, the impact of cash transfers can be evaluated by comparing indicators on the basis of market income (Stage 2) and on the basis of gross income (Stage 3), while the effects of taxes can be calculated by comparing measures of gross and

Table 1

The income accounting framework

Income component
Wages and salaries
+
Self-employment income
+
Property income
=
1. **Factor income**
+
Occupational and private pensions
=
2. **Market income**
+
Social security cash benefits (universal, income-related, contributory)
+
Private transfers
+
Other cash income
=
3. **Gross income**
-
Income tax (and employee social security contributions)
=
4. **Cash disposable income**

Note: Each income component is adjusted with an equivalence scale which accounts for differences in household size to derive equivalent income.

Source: Adapted from O'Higgins et al. (1990), 30–31.

disposable incomes (Stage 4). As noted by Ringen (1987), this standard approach provides a simple but ingenious and flexible model. It remains, however, both linear and static.

Targeting and progressivity: how do social programmes and taxes affect income distribution?

When considering the redistributive impact of alternative systems of social protection it is important to note that their design features differ in important respects. Two of the most important features relate to the way benefits are funded – i.e., the different ways in which programmes are financed – and structured – i.e., the relationship between benefits re-ceived and the past or current income of beneficiaries. Using these criteria, the social welfare systems of OECD countries are often characterised as either "Bismarckian" or "Beveridgean" (Werding 2003). In the first, social programmes are based on social insurance principles, with earnings-related benefits, entitlement based on contribution records and funding through employer and employee social security contributions. In the second, policies are generally characterised by universal provision, with entitlement based on residence and in some cases need, and with benefits that are flat-rate and financed through general taxation.

Bismarckian-type welfare states are sometimes characterised as giving priority to the "piggy-bank" objective – i.e., providing income maintenance in the face of adverse risks (unemployment, disability, sickness) or to redistribute across the lifecycle – while Beveridgean-type welfare states give priority to the "Robin Hood" objective (see Barr 2001). For instance, Falkingham and Harding (1996) estimated that in Australia, 38 percent of lifetime benefits received by individuals, on average, were financed through taxes they paid at another stage in their lifecycle, and the remaining 62 percent of lifetime benefits involved redistribution between rich and poor; in the United Kingdom these shares were reversed, with 38 percent of lifetime benefits involving redistribution between individuals and 62 percent involving redistribution over different phases of the lifecycle.

The differing designs of social programmes influence the distribution of household incomes in different ways. In assessing these impacts it is important to distinguish between targeting, progressivity, and redistribution.

- Targeting is a means for determining either eligibility for benefits or the level of entitlements for those eligible. In a sense, all benefit systems – apart from a universal "basic income" scheme – are targeted to specific categories of people, such as the unemployed, people with disabilities or those over retirement age.
- Progressivity refers to the profile of benefits when compared to market or disposable incomes – how large a share of benefits is received by different income groups – e.g., do the poor receive more than the rich from the transfer system?
- Finally, redistribution refers to the outcomes of different tax and benefit systems – how much does the benefit system actually change the distribution of household income?

The main prerequisites for (static) redistribution to occur are that the distribution of cash transfers and that of household taxation be more progressive than the distribution of market income. Overall, the degree of redistribution achieved by the tax-benefit system thus reflects both the progressivity of taxes and benefits and their size, i.e., the level of spending and of revenue collected (Barr 1992).[2] The progressivity of benefits is determined by whether the system is means-tested (and how), flat-rate or earnings-related (and to what degree). By definition, in a means-tested system, benefits provided to the poorest are greater than the average benefits paid. Conversely, a universal, flat-rate system provides benefits that are of equal value to all recipients, while under an earnings-related system average benefits are greater than minimum benefits. It follows that, for a given amount of spending, benefits paid to those with fewer economic resources will be greater under a means-tested system than under a universal benefit system, which in turn will provide more generous payments to the poor than an earnings-related system. On the other hand, these characteristics of welfare systems are likely to impact on the overall size of spending, as the middle class will be more supportive of welfare programmes when benefits are universally provided (Korpi and Palme 1998). The critical question, therefore, relates to the impact of different programme designs or distributional profiles when levels of spending and taxes differ across countries.

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[2] Other influences include the incidence of unemployment by income class and differences in life expectancy and disability by income; the take-up of benefits (low take-up reduces effective progressivity) and the coverage of the social security system – Mexico and Turkey have the least redistributive social security systems in the OECD, with the main explanation for this being their lower level of coverage of the population.

Size and concentration of public cash transfers and household taxes

These levels differ indeed significantly across OECD countries. Table 2 shows shares of public cash transfers (column A) and of household taxes (column C) in household disposable income. Cash benefits are lowest in Korea and Mexico, at 3 percent and 6 percent of household disposable income, respectively, and in the United States where they account for less than 10 percent of household income. They are below the OECD average of 22 percent, also in the other English-speaking countries, as well as in Finland,[3] Japan, the Netherlands, Switzerland, Turkey and the United Kingdom; but they exceed 30 percent of household income in Austria, Belgium, France, Hungary, Luxembourg, Poland and Sweden.[4] Since the mid-1990s, benefit shares have fallen in two thirds of countries, most strongly in Finland and Sweden, following the recovery from the deep recession in the early 1990s, but also in Ireland, due to strong rates of economic growth. On the other hand, cash benefits have grown in significance in Germany and, particularly, in Japan and Turkey (OECD 2008).

Measured household taxes also vary widely. They are low in Korea but account for more than 40 percent of household disposable income in Sweden and more than 50 percent in Denmark and Iceland. The share of household taxes – as measured in household surveys – has decreased on average by about 1 percentage point since the middle of the 1990s, matching the decline recorded on the

Table 2

Size and concentration of cash benefits and household taxes, mid-2000s

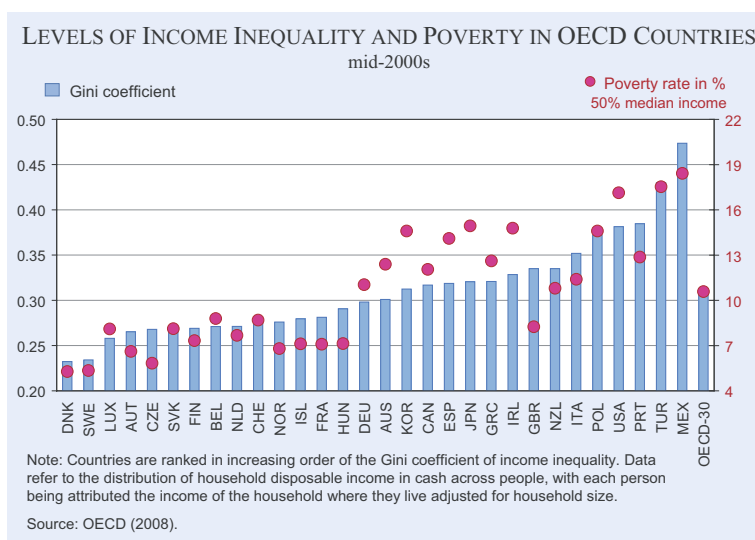|	Public cash benefits		Household taxes	
	Size (percentage share in disposable income) (A)	Progressivity (concentration coefficient) (B)	Size (percentage share in disposable income) (C)	Progressivity (concentration coefficient) (D)
Australia	14	-0,400	23	0,533
Austria	37	0,157	33	0,381
Belgium	30	–0,120	38	0,398
Canada	14	–0,152	26	0,492
Czech Republic	24	–0,154	22	0,471
Denmark	26	–0,316	53	0,349
Finland	14	–0,219	30	0,428
France	33	0,136	26	0,374
Germany	28	0,013	36	0,468
Greece[a]	23	0,115	–	–
Hungary[a]	35	–0,016	–	–
Iceland	19	–0,041	53	0,267
Ireland	18	–0,214	19	0,570
Italy	29	0,135	30	0,546
Japan	20	0,010	20	0,378
Korea	3	–0,029	8	0,378
Luxembourg	31	0,085	24	0,420
Mexico[a]	6	0,373	–	–
Netherlands	17	–0,198	25	0,471
New Zealand	13	–0,345	29	0,498
Norway	22	–0,183	33	0,376
Poland[1]	36	0,185	28	0,379
Portugal[1]	26	0,247	–	–
Slovak Republic	26	–0,056	20	0,422
Spain[a]	21	0,063	–	–
Sweden	33	–0,145	43	0,337
Switzerland	16	–0,170	36	0,223
Turkey[a]	17	0,347	–	–
United Kingdom	15	–0,275	24	0,533
United States	9	–0,089	26	0,586
OECD[b]	22	–0,085	29	0,428

[a] Data on public cash benefits are reported net of taxes (i.e., household taxes not separately identified). – [b] Average of the 25 OECD countries with data on both gross public cash transfers and household taxes (i.e., all 30 OECD countries except Greece, Hungary, Mexico, Spain and Turkey).

Source: OECD (2008).

transfer side, with larger declines in the Netherlands, Canada, Germany, Ireland and Finland.

Column B of Table 2 compares OECD countries in terms of how cash benefits are distributed across income groups. The measure shown is the concentration coefficient (with individuals ranked by their disposable income). The concentration coefficient of benefits can be negative (in the case where poorer income groups receive a higher share of transfers than their share of disposable income) – with lower and more negative values implying greater progres-

[3] The apparently low level of public cash benefits in Finland reflects the fact that mandatory occupational pensions are counted as a private transfer rather than as government cash transfers.
[4] Of course, cash benefits are much more significant for the population of retirement age, amounting to almost 70 percent of their incomes on OECD average, while they constitute some 16 percent of household incomes of working-age persons. This difference is particularly stark in Austria, Belgium, France, Germany, Iceland, Italy, Luxembourg and Sweden (OECD 2008).

Figure 1

LEVELS OF INCOME INEQUALITY AND POVERTY IN OECD COUNTRIES
mid-2000s

Note: Countries are ranked in increasing order of the Gini coefficient of income inequality. Data refer to the distribution of household disposable income in cash across people, with each person being attributed the income of the household where they live adjusted for household size.

Source: OECD (2008).

size and structure of welfare programmes and tax systems across countries, they provide a convenient summary measure that is useful for comparing countries and assessing changes over time.

In terms of disposable income, there are large and persistent differences in the overall extent of inequality and relative poverty (Figure 1), as measured by the Gini coefficient of income inequality (bars) and the share of persons living in households below half the median income (dots). These cross-country patterns are fairly robust with regard to alternative inequality indices and poverty thresholds (OECD 2008). Relative poverty rates are always the lowest in Denmark and Sweden and always the highest in Mexico and Turkey, but differences remain large when excluding from the analysis countries at both ends of the league table of OECD countries. Inequality and poverty are below-average in all Nordic and several Continental European countries, and above-average in Poland, the United States and several Southern European countries.
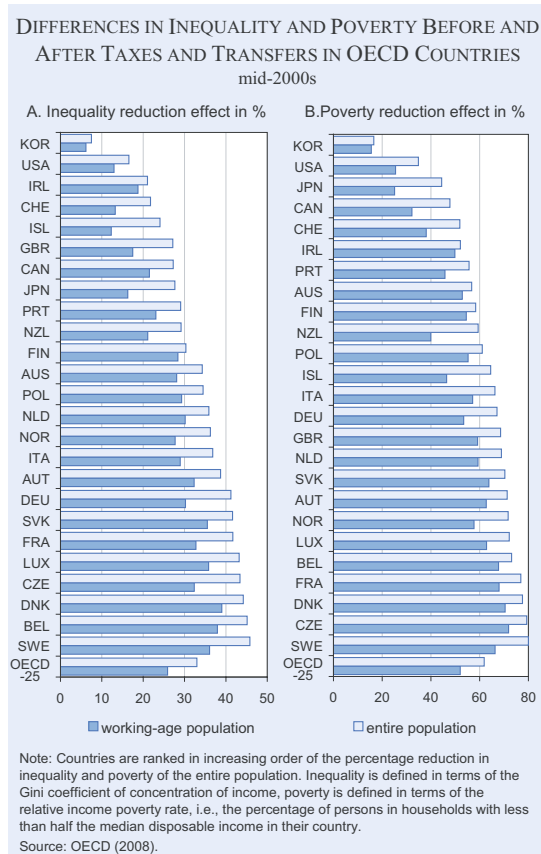
When calculated on the basis of market income, i.e., prior to taking into account household taxes and cash transfers, inequality and poverty measures are always higher, implying that tax and benefits systems reduce overall inequality and poverty in all countries.[6] The extent of such reduction differs, however, largely across countries. Figure 2 shows estimates for the "effectiveness" of the cash benefits and taxes in reducing income inequality and poverty: the percentage reduction in Gini coefficients (Panel A) and in poverty rates (Panel B) when moving from market income to disposable income. These reduction rates are calculated separately for the entire population and the population of working age (18–65).

On average, across the 25 OECD countries covered, the tax and transfer systems lower income inequality by around one-third overall and by around a quarter for the working-age population. Reduction rates are highest in Belgium, Denmark and Sweden (around

sivity. The distribution of cash benefits for the entire population is most progressive, by a wide margin, in Australia, followed by New Zealand, Denmark, the United Kingdom, Finland and Ireland, while it is least progressive in Mexico, Turkey, Portugal and Poland.

Column D of Table 2 shows the distribution of household taxes (income taxes and employee social security contributions). Because taxes are deducted from household incomes, higher values of the concentration coefficient imply a more progressive distribution of household taxes. Overall, there is less variation in the progressivity of taxes across countries than in the case of transfers. The distribution of taxation tends to be most progressive in the English-speaking countries together with Italy, followed by the Netherlands, the Czech Republic and Germany. Taxes tend to be least progressive in the Nordic countries, France and Switzerland.[5]

How much redistribution is achieved through government cash benefits and household taxes?

The most direct way to illustrate the effect of public cash transfers and household taxes on the distribution of household disposable income is to compare the measures of income inequality and poverty computed over the various income concepts described in Table 1. While such comparisons will reflect differences in both

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[5] The progressivity of the tax system also depends on the level of inequality of taxable income, and the effective progressivity of a given tax schedule will be greater in a country with a more unequal distribution of taxable income.

[6] Note that this does not necessarily hold for particular sub-groups of the population in some countries. Child poverty rates in Japan are, for instance, higher after accounting for net transfers (OECD 2008).

Figure 2

DIFFERENCES IN INEQUALITY AND POVERTY BEFORE AND
AFTER TAXES AND TRANSFERS IN OECD COUNTRIES
mid-2000s

A. Inequality reduction effect in %   B. Poverty reduction effect in %

KOR, USA, IRL, CHE, ISL, GBR, CAN, JPN, PRT, NZL, FIN, AUS, POL, NLD, NOR, ITA, AUT, DEU, SVK, FRA, LUX, CZE, DNK, BEL, SWE, OECD-25

0 10 20 30 40 50

KOR, USA, JPN, CAN, CHE, IRL, PRT, AUS, FIN, NZL, POL, ISL, ITA, DEU, GBR, NLD, SVK, AUT, NOR, LUX, BEL, FRA, DNK, CZE, SWE, OECD-25

0 20 40 60 80

■ working-age population   □ entire population

Note: Countries are ranked in increasing order of the percentage reduction in inequality and poverty of the entire population. Inequality is defined in terms of the Gini coefficient of concentration of income, poverty is defined in terms of the relative income poverty rate, i.e., the percentage of persons in households with less than half the median disposable income in their country.
Source: OECD (2008).

45 percent for the entire population and 36–38 percent for the working-age population) and lowest by far in Korea (below 10 percent). They are considerably above average also in most of the Continental European countries, and below average in the English-speaking countries (except Australia) and Switzerland. The generally higher rates for the entire population are due to the inclusion of public pensions: generous earnings-related public pensions are measured as being very effective at reducing in-equality, in part because they restore middle-income retirees to their pre-retirement ranking. Differences in inequality reduction between the entire and the working-age population are higher in Continental European and Nordic countries but also in Iceland and Japan.

Countries that achieve the largest redistribution through taxes and transfers generally record the lowest inequality in the distribution of household disposable income, although with considerable variation across countries. For example, the level of disposable-income inequality in Iceland and Switzerland is similar to that in Belgium and the Czech Republic, even though the impact of the welfare state is significantly greater in the second two countries; also, Sweden and Denmark record reductions in inequality that are nearly twice as large as that of

the United States and achieve a level of disposable-income inequality that is around half of that recorded in the United States.

The effectiveness of benefits and taxes is even stronger when it comes to poverty reduction: on average, they lower overall poverty by around 60 percent and poverty among the working-age population by around 50 percent. The league table across countries looks very similar to that of inequality reduction but there are a few changes in ranks: Iceland, Ireland, the United Kingdom but also Norway perform better in terms of poverty reduction, while Australia, Canada, Japan but also Germany and Italy perform worse.

OECD (2008) also compares the size of the redistribution achieved by each of the two levers separately: income taxes and cash transfers. Using a simple "adding-in" approach based on grouped data, it is found that the redistribution achieved by public cash transfers on average is twice as large as that achieved through household taxes, with one notable exception. The United States stands out for achieving greater redistribution through the tax system than through cash transfers. Japan and Korea also stand out for the very low redistribution achieved through the tax system.

It is also possible to look at the different effects of public cash transfers and household taxes on the lowest income groups. Table 3 provides a measure of the redistribution towards people in the lowest income quintile, separately for gross public transfers (left-hand panel) and household taxes (right-hand panel). In a first step, the size of spending (column A in Table 2 above) is multiplied by the share which goes to the poorest 20 percent of the population (column A in Table 3), to calculate gross benefits accruing to people at the lower end of the distribution (divided by 100, column B in Table 3). The same procedure is used to calculate how much tax is paid by people at the lower end of the distribution, while the difference between the two values (in the fifth and last column of Table 3) represents the "net" cash transfers to the lowest income quintile (expressed as a percentage of household disposable income).

There are large differences in the overall size of the redistribution towards low income households as calculated by this indicator: this ranges from values (as percentages of household disposable income) above 5.5 in Australia, Belgium, Denmark and Sweden, to values of around 2 in Japan, Poland and

Table 3

Redistribution through cash transfers and household taxes towards people at the bottom of the income ladder, mid-2000s

	Gross public transfers paid to households		Direct taxes and social security contributions paid by households		Net transfers to lowest quintile
	Share of public transfers paid to lowest quintile (A)	Gross transfers to lowest quintile (B)	Share of taxes paid by lowest quintile (C)	Taxes from lowest quintile (D)	(D–B)
Australia	41,5	5,9	0,8	0,2	5,8
Austria	13,9	5,1	5,4	1,8	3,3
Belgium	24,1	7,3	3,9	1,5	5,8
Canada	25,7	3,5	2,3	0,6	2,9
Czech Republic	23,0	5,6	3,5	0,8	4,8
Denmark	36,0	9,2	6,1	3,2	6,0
Finland	32,9	4,7	4,0	1,2	3,5
France	16,2	5,3	5,6	1,5	3,9
Germany	17,4	4,9	2,1	0,7	4,2
Iceland	22,3	4,3	–	–	–
Ireland	30,8	5,4	0,9	0,2	5,3
Italy	12,6	3,7	1,8	0,6	3,1
Japan	15,9	3,1	6,0	1,2	2,0
Korea	25,0	0,8	5,8	0,5	0,4
Luxembourg	13,9	4,3	5,9	1,4	2,8
Netherlands	31,5	5,4	3,4	0,8	4,5
New Zealand	34,0	4,4	1,8	0,5	3,9
Norway	27,7	6,0	4,6	1,5	4,5
Poland	9,0	3,2	6,0	1,7	1,6
Portugal	12,8	3,3	2,5	0,7	2,5
Slovakia	19,0	4,9	5,0	1,0	3,9
Sweden	25,9	8,5	6,5	2,8	5,7
Switzerland	29,2	4,7	–	–	–
United Kingdom	31,4	4,6	1,7	0,4	4,1
United States	24,8	2,3	1,6	0,4	1,9
OECD-23	23,7	4,8	3,8	1,1	3,8

Note: OECD-23 average excludes Iceland and Switzerland.

Source: OECD (2008).

the United States, and to less than 0.5 in Korea. There are also large differences in the mix of cash transfers and household taxes used to redistribute income towards people at the bottom of the income scale. For example, the value of the public transfers to people in the lowest quintile (column B) is 30 times that of the household taxes they pay column D) in Australia and Ireland, and more than ten times in the United Kingdom, as compared to levels of only twice (or less) for Korea and Poland. Nordic countries transfer large amounts of gross benefits to low-income people but also levy a significant amount of household taxes on them; conversely, most English-speaking countries pay less generous transfers but offset this partly by levying lower household taxes on them. Finally, countries redistribute income towards people at the bottom of the

income scale through different combinations of the size and progressivity of their taxes and transfers. For example, Australia and Norway pay comparable amounts of gross transfers to low-income people, with a spending effort in the former country of only two-thirds that of the latter – the difference being offset by the far greater targeting of the transfers paid in Australia.

When looking at changes over the past decade in the size of the redistribution from rich to poor, such changes differ significantly across countries but are small on average. The reduction of income inequality achieved by the combined effect of household taxes and public cash transfers declined over the past decade in around half of the countries (Table 4). These developments were mainly driven by changes in the redistribution achieved by public cash transfers (which declined in most countries), which was only partly offset by stronger redistribution through household taxes. Net public transfers also have weaker effects in reducing poverty today than in the past in three Nordic countries as well as in Canada and New Zealand. These changes in redistribution may however reflect changes in market-income inequality, which tends to increase the redistributive effects for a given structure of tax and benefit systems.

Limits of the standard approach

The standard approach upon which the above estimates are based has important limits: first, it assumes

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[7] Layard (1977), for example, argues that the standard approach exaggerates the redistributive impact of the welfare state because it assumes that the different levels of welfare state spending and taxation have no behavioural impact on the distribution of market incomes. Bergh (2005) illustrates this problem with a theoretical model which takes account of behavioural changes. In a recent contribution, Esping-Andersen and Myles (2009) propose developing a more comprehensive methodology for empirical simulation models to overcome the "counterfactual problem".

Table 4

Changes in government redistribution in reducing inequality and poverty, mid-1990s to mid-2000s

	Reduction of inequality			Reduction of poverty
	Due to both taxes and public cash transfers	Due to public cash transfers alone	Due to household taxes alone	
Increase	Czech Republic, France, Germany, Italy, Portugal	Czech Republic, France, Germany, Italy, Japan	Denmark, Germany, Italy, Netherlands, Portugal, United Kingdom	Czech Republic, Germany, Italy, Japan, Portugal
Stability	Australia, Canada, Japan, United Kingdom	Australia, Norway	Australia, Canada, Czech Republic, Finland, France, Ireland, New Zealand	Australia, Belgium, France, Netherlands, Norway, United Kingdom, United States
Decline	Denmark, Finland, Ireland, Netherlands, New Zealand, Norway, Sweden, United States	Canada, Denmark, Finland, Ireland, Netherlands, New Zealand, Portugal, Sweden, United Kingdom, United States	Japan, Norway, Sweden, United States	Canada, Denmark, Finland, New Zealand, Sweden

Note: Changes refer to the period from the mid-1990s to around 2000 for Belgium, the Czech Republic, Denmark and Ireland.

Source: OECD (2008).

a "counterfactual" world without taxes and transfers which is unrealistic and difficult to define.[7] Second, it is limited to the cash components but excludes the in-kind components of public transfers as well as the impact of indirect taxes.

- Arithmetically, the standard approach assumes re-ranking of individuals when calculating pre-tax pre-transfer inequality measures. An alternative would be to disallow re-ranking, and rank individuals by their disposable income, i.e., by where they end up "after" redistribution, rather than where they were placed "before" redistribution. On this alternative measure, the reduction of inequality achieved by taxes and transfers is somewhat lower (around 26 percent for the entire population, on OECD average), while the same group of countries score best (Denmark, Sweden) and worst (Korea; OECD 2008). There are, however, considerable changes for some English-speaking countries. Based on the alternative measure of redistribution, the combined effect of transfers and taxes in reducing inequality in New Zealand and the United Kingdom is at OECD average, about the level of Luxembourg. And the redistribution in Australia and Ireland is above-average, similar to the levels achieved in Germany and the Netherlands. It follows that using this measure, the higher levels of disposable-income inequality in these four English-speaking countries do not reflect less effective welfare states but higher market-income inequality, in particular of household earnings, to start with.

- The benefits of publicly provided in-kind services for education, health and housing are distributed more equally than cash incomes, even after taxes and cash benefits are taking into account. As a result, inclusion of these in-kind services narrows income inequality further, on average by nearly a quarter, and by larger amounts in Australia, Denmark, France, Norway and Sweden. In the United States, public services have the same impact in reducing inequality as do household taxes and cash transfers. Across countries, the equalising effect of publicly provided services differs among programmes – with generally large reductions due to compulsory education, non-specialist health care and public housing, and negligible ones for non-compulsory education (OECD 2008).

- Indirect taxes (e.g., VAT) are generally less progressive than direct taxes, and therefore tend to widen income inequalities, but there are only few comparative studies of the distributional impact of consumption taxes (or employer social security contributions).[8]

[8] See Warren (2008) for discussion.

Conclusion

Two major objectives of the welfare state are to redistribute across the lifecycle and to redistribute between rich and poor. All OECD countries pursue both objectives, although the emphasis given to each of them varies significantly between countries. Overall, several conclusions stand out from this analysis.

- In general, countries with lower levels of transfer spending have a more progressive structure of both benefits and taxes, although there are exceptions (Mexico, with low-spending also has very low progressivity) and other cross-country differences (e.g., Nordic countries have higher-than-average spending and progressive benefit structures, but less progressive tax systems).
- The tax and benefit systems in all OECD countries reduce income inequality and poverty, with the impact being greater in the Nordic countries and lower in the Asian and the English-speaking countries, together with Switzerland. On average across OECD countries, inequality is reduced by around one third among the entire population and by around a fourth among the working-age population. Overall poverty is reduced by around 60 percent and working-age poverty is halved.
- The redistributive effect of the welfare state is generally larger for public cash benefits than for household taxes – except in the United States, which achieves more redistribution through the tax system than through the transfer system. Japan and Korea also stand out for the very low redistribution achieved through the tax system.
- During the past decade, the reduction of income inequality achieved by the combined effect of household taxes and public cash transfers declined in around half of OECD countries. These developments were mainly driven by changes in the redistribution achieved by public cash transfers which declined in most countries.
- On an alternative redistribution measure which ranks individuals by where they end up "after" redistribution, rather than where they were placed "before" redistribution, the average reduction of inequality achieved by taxes and transfers is somewhat lower (around 26 percent for the entire population, on OECD average), while some English-speaking countries score better.
- Publicly provided in-kind services for education, health and housing reduce overall inequality by around one-quarter.

References

Barr, N. (1992), "Economic Theory and the Welfare State: A Survey and Reinterpretation", *Journal of Economic Literature* 30 (2), 741–803.

Barr, N. (2001), *The Welfare State as Piggy Bank: Information, Risk, Uncertainty, and the Role of the State*, Oxford University Press, Oxford.

Bergh, A. (2005), "On the Counterfactual Problem of Welfare State Research: How Can We Measure Redistribution?", *European Sociological Review* 21, 345–57.

Esping-Andersen, G. (1990), *The Three Worlds of Welfare Capitalism*, Polity Press, Cambridge.

Esping-Andersen, G. and J. Myles (2009), "Economic Inequality and the Welfare State", in W. Salverda, B. Nolan and T. Smeeding, eds., *Oxford Handbook of Economic Inequality*, Oxford University Press, pp. 639–664.

Falkingham, J. and A. Harding (1996), "Poverty Alleviation versus Social Insurance: A Comparison of Lifetime Redistribution", *NATSEM Discussion Paper* no.12, NATSEM, University of Canberra.

Korpi, W. and J. Palme (1998), "The Paradox of Redistribution and the Strategy of Equality: Welfare State Institutions, Inequality and Poverty in the Western Countries", *American Sociological Review* 63 (5), 661–87.

Layard, R. (1977), "On Measuring the Redistribution of Lifetime Income", in M. S. Feldstein and R. P. Inman, eds., *The Economics of Public Services*, Macmillan, London.

OECD (2008), *Growing Unequal? Income Distribution and Poverty in OECD countries*, OECD, Paris.

O'Higgins, M., G. Schmaus and G. Stephenson (1990), "Income Distribution and Redistribution: A Microdata Analysis for Seven Countries", in T. Smeeding, M. O'Higgins and L. Rainwater, eds., *Poverty, Inequality, and Income Distribution in Comparative Perspective*, Harvester Wheatsheaf, Hemel Hempstead.

Ringen, S. (1987), *The Possibility of Politics*, Clarendon Press, Oxford.

Warren, N. (2008), "A Review of Studies on the Distributional Impact of Consumption Taxes in OECD Countries", *OECD Social, Employment and Migration Working Paper* no. 64.

Werding, M. (2003), "After Another Decade of Reform: Do Pension Systems in Europe Converge?", *CESifo Dice Report* 1, 11–16.