

***„Public redistribution of income:  
an analysis of the role of the middle classes”***

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**Abstract**

This article contributes to the debate on the decline of the middle class by engaging in a cross-national comparison of the role public income redistribution plays for the relative income position of the middle, and its change over time. The analysis distinguishes between the development of market as compared to disposable incomes, since different dynamics shape each. Moreover, the broad category of “a middle class” is sub-divided into three groups. The analysis is based on a dataset, covering the period from 1985 to 2005, constructed from the micro-data of the Luxembourg Income Study.

The result of the analysis indicates that government income redistribution mainly improves the position of the lowest income group, while the highest income group experiences losses. The income position of the middle classes shows little change as a result of income redistribution. The pro-poor orientation of the welfare state is especially strong in continental European countries. But in the decades examined in most countries, the top gained remarkably in market income terms while the bottom quintile lost. Public redistribution increasingly influenced the distribution of market-incomes without fully compensating for the growing gap. The middle income groups lost little over time with respect to both market and disposable incomes. However, the distance between the middle and the top incomes grew significantly. This might best explain the public debate about an endangered middle class.

## 1 Introduction

In the past few years, a debate has begun over the shrinking of the middle class, and the end of middle class society is bemoaned. It had given opportunities to those at the bottom and mediated the social and political tensions between the lower and upper classes. The first descriptions of the shrinking middle class were with reference to the liberal English-speaking countries. Today, this shrinkage is becoming evident as well in European countries with more comprehensive welfare states and more regulated labour relations. Those features had restrained a serious rise in income inequality in these countries until the 1990s (Alderson et al. 2005; Atkinson 2007). Yet, our knowledge about the decline of the middle class and its causes is scarce, despite the great attention given to it in the media. Scholarly evidence, derived from comparative studies on the changing income distribution and the polarization of income and job opportunities is barely taken into account by the public.

The present article intends to address this lacuna. It asks how widespread the much-discussed shrinking of the middle class in highly industrialised and post-industrial societies is. By a comparative perspective it can establish whether such shrinkage is a common trend or whether it is concentrated in certain countries. The analysis conducted is based on micro-data on equivalised household income from the Luxembourg Income Study (LIS). The data analysed here cover the time from 1985 to 2005, and encompass 19 European and English-speaking countries. This article critiques the fact that previous analyses of a shrinking middle class often used an overly broad categorization of the middle. As that ‘middle’ sometimes comprises three-quarters of the households in a country this results in overlooking existing internal differentiations. Different strata of the middle will be differently affected by economic and societal changes, hence resulting in income distribution becoming more unequal. To address this problem, we use quintile shares of total income to differentiate between lower, middle and upper middle class. This furthermore allows us to analyse middle class decline by addressing the *relative income position* of the strata and its change over time.

In social research, observing a shrinking middle class often is discussed as part of an increased *polarization* of the income distribution. That means there is a growing *distance* between those at the top and at the bottom of the income hierarchy, and an expanding *number* of members in both the lowest and highest income groups. This polarization is seen as caused by the loss of skilled, well-paid jobs in industry, due to de-industrialisation and globalization, to skill-biased technological change, or to the weakness of unions. Yet, this perspective only considers processes related to the labour market and neglects the impact of public policies.

This article instead addresses the role welfare state redistribution plays in the (supposed) middle class decline and examines the impact of social policies on the income position of middle income groups. We differentiate between market and disposable income to be able to infer how much the decline of the middle strata is taking place at the level of labour market processes, and additionally is being influenced by public redistribution via transfer payments, taxes and social security contributions.<sup>1</sup> Therefore, this article contributes to comparative political economy and welfare state research directed at the redistributive effects of social policy (Korpi and Palme 1998; Bradley et al. 2003; Mahler 2004; Mahler and Jesuit 2006; Smeeding 2005; Palme 2006; OECD 2008: 97). From this vantage point, there is a question whether redistribution improves the position of the middle class or whether it helps protect the middle income strata from a decline over time, at least at the level of disposable income. To what extent do taxes and transfers change the market income position of the middle class(es), compared to the lower income groups to whom income redistribution should be directed? Due to debates about imposing cuts in social programmes, there is a further question whether public policies (still) compensate for the consequences of greater market income inequality – both among the middle and among the lower income groups.

Some scholars assume in line with Esping-Andersen's (1990) that income redistribution can be understood as *stratification*. According to his widely cited typology of liberal, social democratic and conservative welfare regimes - a Mediterranean and a post-communist type have been added - each regime is associated with specific social policies generating specific patterns of inequality. Many comparative studies have used Esping-Andersen's typology, however, the classification is contested (Scruggs and Allan 2008). Still, one can ask empirically whether the impact of social policies on the income position of the middle income strata actually shows regime patterns. Comparative political economy gives the middle class an even more specific role to play. Both argue that the scope of public redistribution depends on whether the middle classes form a coalition with the upper or the lower social strata. Scholars have focused on electoral rules established by political institutions to explain coalitions (Cusack et al. 2008; Iversen and Soskice 2008), on the self-interest of the middle class, which some regimes further by benefitting not only the poor (Goodin and LeGrand 1987; Korpi and Palme 1999) or on the structure of inequality (Lupu and Pontusson 2011). An analysis of the relationship between public support of government policies by the middle class and the scope of income redistribution is beyond the scope of this article, even though we can probe whether social democratic regimes really give the middle a more favourable position.

Our data analysis shows that the lowest income group experienced a more severe drop in income share during the last decades than did the middle classes. The ‘welfare state effort’, that balances the loss in the share of market income available to those in the lowest income group, rose over time without being able to compensate for either the losses at the bottom or the gains at the top (in terms of market income). The middle classes suffered much less from a declining share of total market income than did the low income category. Consequently, public income redistribution was less important to the middle than to those at the bottom in terms of stabilizing their relative income position. However, the middle is faced with a growing distance to the topmost incomes which seem to run away.

The article first reviews the comparative research on the declining middle class and the polarization of incomes and job opportunities. Then the methods and the dataset used in this study are described. The result of analysing the impact of redistribution on the position of individual quintiles in the income distribution, including the middle class(es), is then presented, and this is followed by the conclusion.

## **2 The decline of the middle class – previous research**

A decline of the middle class was first observed in the U.S, the UK, Australia, Canada and New Zealand. In these countries, a debate about it began early, as there had been a general increase in income disparity starting in the 1970s (Kutmer 1983; Gordon 1983; Rosenthal 1985). Most European countries experienced this increase later, as they typically had a more encompassing regulation of the labour market, collective wage bargaining, and a stronger cushioning of income disparities through welfare state policies and programs. When inequality began to rise in Europe, research focused on the increase in poverty or the deregulation of gainful employment rather than on the middle classes. Deregulation particularly affected groups in the workforce with low skills and qualifications, hence with a weak bargaining position in the labour market, and led to discussions of “precarious work”. This, and poverty, were seen not as risks to the middle class but as dangers the lower classes faced. Today, however, the middle class is perceived as threatened even in countries like France or Germany that have coordinated market economies or corporatist welfare states (Chauvel 2007; Grabka and Frick 2008).<sup>2</sup>

Present knowledge about middle class decline is a by-product of descriptive studies of the changing income distribution. OECD reports, for example, indicate that the income situation of the middle classes was stable until around 2000 in most OECD member states. Only a

few countries (Norway, Turkey, Mexico) saw either gains or losses for the middle class (Förster and d’Ercole 2005: 15) from the mid-1990s to the mid-2000s (Growing Unequal (2008): 29). These findings are based on the percentage share individual quintiles receive of total disposable household income. OECD reports also provide information on the *absolute* increase in income and which quintile disproportionately benefits or suffers. The data indicate that between 1980 and 2000, disposable (net equivalent) income changed in such a manner that the middle lost ground in many countries. Gains in the top quintile during the 1990s were largest in the U.S., Sweden and Norway, but such gains did not exist in all OECD countries. In Germany, net income in the middle class increased significantly less than net income in the highest class, and even dropped in the bottom quintile (Growing Unequal (2008): 30).<sup>3</sup>

Comparative studies on the *polarization* of the income distribution provide insight into the “threatened middle class”, since polarization squeezes the middle income strata. Alderson et al. (2005) show, based on data on disposable household income (equivalence weighted) from LIS for 16 industrialized countries from the 1980s to 2000, that the income position of the middle classes worsened in countries where polarization increased – and that across a rather heterogeneous mix of countries: the UK, the U.S., Finland, Australia, Luxembourg and Austria. By contrast, at least to 2000, Germany, France, Belgium and the Netherlands were distinctive for their stable income distributions, as measured by decile shares of total income. Canada and Sweden even saw the polarization of income distribution decrease during this period.

Cross-national variation does not provide much by way of clues to general country characteristics or regime-specific features that might explain a changed income position of the middle class. Nevertheless, given the spectrum of countries, it stands to reason that in places where disposable household net income was more equally distributed, or polarization only modest, the welfare state could be a factor influencing the decline of the middle class. In Sweden, a country with high welfare state expenditures, both lowest and highest deciles shrank while the middle decile grew. The middle eroded, by contrast, in countries with low social expenditures and a marginal welfare state, such as the UK, the U.S. and Australia. Still, the ‘fate’ of the middle classes in a specific country often deviates from what could be expected given its regime type. So, while social policies seem to matter for middle class shrinkage, it remains an open question whether a regime approach is appropriate. Alderson et al.’s finding that there is significant cross-national variation in the *time period* during which the middle class shrinks hints at the role of public policies. In some countries, a polarization in

the distribution of disposable income began early, while in others (such as Germany), the gap in the distribution began to widen only by the early 2000s.<sup>4</sup>

Some contributions to this debate, anchored in research on the income distribution, have directly addressed the influence of the welfare state on the income position of the middle class (Pressman 2007, 2009). Studies from Pressman used LIS data and covered the period 1980 to 2000. The middle class is defined as a group whose income lies between 75% and 150% of median income. The impact of welfare redistribution was established by comparing the size of the middle class, calculated first based on income before taxes and transfers (from dependent employment, self-employment, interest, dividends, and rents), and then calculated based on net disposable household incomes adjusted for household size.

*Figure 1: Size of the middle class before and after taxes and transfers.*

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As Figure 1 shows, redistribution has a remarkable effect in most countries examined. Thanks to the welfare state, the percentage of the population classified as middle class rises, though not uniformly across nations. In the U.S. and Switzerland, taxes and transfers enlarge the middle class only by a few percentage points. In terms of market income, the societal middle in Switzerland is already broad so there is not much left for the welfare state to do. In the U.S., again in terms of market income, the middle is as big as in European countries but gains much less from public transfers. The largest middle classes can be found in Sweden, Norway and Germany, to a large extent an achievement of the welfare state. Based on market income alone, the middle class in both Sweden and Germany is rather modest (15%), but with taxes and transfers, it increases to more than 40% of the population. There is, of course, considerable inter-country variation, but then also different conclusions to be drawn depending on the basis for the observations. If one only takes market income, the middle class shrank between 1980 and 2000 in most countries, seriously so in the UK but not at all in the Netherlands.<sup>5</sup> If one instead takes (equivalence-weighted) disposable household income, however, then the change over time is small. Hence, the thesis of a shrinking middle class is confirmed primarily with respect to market income developments.<sup>6</sup> Still, this is offset by public redistribution, meaning that the stability of the household income distribution in some countries and marked changes to it at the expense of the middle in other countries can be attributed to the welfare state (Atkinson 2008: 27; Alderson et al. 2005).

A third stream of research shows a hollowing out of the middle class caused by a *polarization of employment structures*. This research examines labour market processes, not

public policies. Middle class jobs are seen as vanishing due to “skill-biased technological change” (SBTC) connected to globalization or the shift to a service sector economy. Both trends have consequences for the earnings position of the middle class. SBTC approaches assume the middle becomes hollowed out due to changes in the demand for labour. The development of technology calls for higher skills among employees on the one hand, while globalization is assumed to threaten employees with lower qualifications on the other. Shifts to a service sector economy means that what were once mid-level jobs in the industrial sector – the skilled manual worker with adequate pay and social security benefits – vanish and are replaced by jobs that call for either higher or lower qualifications. There is empirical evidence for such polarization, inasmuch as the proportion of employees in professional and managerial positions (higher) as well as employees in personal services (lower) has increased in English-speaking countries since a number of years and is now increasing in most European countries as well (Autor et al. 2006; Goos and Manning 2007; Goos et al. 2009).

Similarly, *organizational processes* within companies are analysed to understand middle class decline (Breen 1997). During the ‘Golden Age of Capitalism’, blue-collar workers and intermediary classes improved their labour market position, with aspects of service class employment conditions being extended to blue-collar workers. With the decline of working-class organizational power, privileges have been reduced. Additionally, changes in technology and new methods of monitoring – performance objectives, outsourcing, smaller entities within a company responsible for labour process and results – have worsened the position of intermediary jobs. The lower service class is especially affected by these new structures and processes (Breen 1997: 480).

There are a number of lacunae in the literature on the crisis of the middle class: a) The shrinking of the middle incomes mainly was part of the description of a changing income distribution. Yet little was done to examine its causes. By analysing different income dimensions, we can probe more closely whether the middle is losing ground due to labour market processes or due to welfare state restructuring. b) The delimitation of the size of the middle class is too broad and misses that it is quite likely that income positions develop differently. Therefore we differentiate between lower, middle, and upper middle class. c) Only scrutinizing the changes in the size of the middle class is too narrow a perspective. Its relative position in the income hierarchy is more informative. Moreover, the position of the middle and its change over time needs to be compared with the relative position of other income groups to determine the extent to which the middle or other strata are under pressure.

### 3 Data and Methods

Much research on the middle class concentrates on changes to its size. To establish this size, relative income limits such as 75-150% of median income are used (Pressman 2007; Grabka and Frick 2008), though they are not the only possible endpoints. Because such limits determine which households do or do not fall within the definition of the ‘middle class’, one needs to be careful about choosing the boundaries.<sup>7</sup> A disadvantage of this method is that it can create a very broad middle class. This article instead defines the middle class in terms of quintiles in order to capture the internal differentiation of the societal middle. The relative income position of the middle (and other) societal groups is defined as the share of income that individual quintiles have, as a proportion of total income.<sup>8</sup> Classifying by quintiles means the “middle” middle class in a narrow sense is the middle 20% of the income distribution (Q3). Below it, one finds the “lower” middle class (Q2), above it, the “upper” middle class (Q4). The three quintiles taken together (e.g., Q2 + Q3 + Q4, equalling 60% of the income distribution) form the entire middle class. Q1 is the bottom or lowest class, Q5 the topmost or upper income class.

Like other methods, this delineation is arbitrary and draws boundaries that may well not be so strict in social reality. However, it yields a more precise quantitative delimitation of different middle income groups than previous research, and their income shares can be compared to other groups.<sup>9</sup> This can be used for both cross-national and longitudinal comparisons. Furthermore, ratios between income shares can be calculated to indicate how *much* the income of a higher quintile exceeds the income of another quintile. Such quintile-based ratios are similar to percentile ratios for deciles (i.e. a tenth of the population) that are often used in studies of income distribution. They can be interpreted in the same way as percentile ratios (e.g., P90/P10 or P90/P50). Thus, a Q5/Q3 ratio of 2.5 means that the 20% of the population with the highest income has 2.5 times more household income than does the middle fifth of the population.<sup>10</sup>

In the literature, the distributive effect that taxes, contributions and social transfers have on the income distribution is assessed by comparing distribution measures for market income with distribution measures for disposable household income (Garfinkel et al. 2005; Kenworthy and Pontusson 2005; Mahler 2004). This distinction between market income and net disposable income a household or person has is crucial for the following analysis. Market income refers to all income derived from involvement in the market, whether through de-



pendent employment or other market activity. Disposable income (or net income) adds taxes, social insurance contributions, and all other transfer payments (child benefits, unemployment compensation, etc.). These two concepts reveal different social dynamics influencing the income distribution. Market income largely reflects trends in labour and capital markets, while welfare state redistribution policies effects are manifested in the concept of net disposable income (Atkinson 2007; Kenworthy 2007). Both income types are usually weighted to take the number and age of persons living in a household into account. Here we calculate distribution measures based on household income, using the equivalence weighting method suggested in the LIS.<sup>11</sup> Accordingly, the redistributive effect of welfare policies is captured in the difference between the share of total market income and the share of disposable income the quintiles receive.<sup>12</sup> It may be positive or negative. If the quintile share of income increases after taxes and transfers, the respective income group gains from redistribution. If the quintile share of income decreases, the income group loses from redistribution.

However, one should keep in mind that the difference between pre-tax and transfer income and post-tax and transfer income only *approximates* government redistribution effects. It accounts largely for cash benefits and direct taxation, yet the public delivery of social services (Garfinkel et al. 2005) and indirect taxation (reducing the value of transfers) also have redistributive effects. Furthermore, there is no pure pre-governmental market income because the very existence of public income maintenance programmes influences people's market behaviour. Without redistributive programmes, market activities (e.g., saving for private pensions) would have to fill the gap (Saunders 2010). Also, the welfare state may influence the size and income position of the middle classes by creating employment opportunities in qualified (semi-)professional jobs, such as for nurses, teachers, or social workers. Taking these limitations into account, our data provide reliable indicators of the redistributive impact of direct monetary transfers within social policies.

Longitudinal and comparable data on household market income and net disposable household income is needed to conduct cross-national comparisons of the influence the welfare state has on the income position of the middle class and its change over time. The LIS micro-data provide such a basis because they are generated from high-quality, national-level micro-data that is recoded using a consistent methodology to guarantee international comparability. For the purposes of this article, income distribution measures are calculated only for persons of working age (25 to 60), thereby avoiding effects of differing length of education in individual countries and the bias that would result from zero market income of pensioners in

countries with public pension schemes.<sup>13</sup> The lowest as well as the highest one percent of the observation was cut off to eliminate outliers (top and bottom coding).

Six waves of LIS data are available, but since the first wave only surveyed a limited number of countries, the time period analysed here uses only the second to sixth wave to ensure a consistent selection of countries. These five waves cover the period from the mid-1980s to the mid-2000s, and though the waves are labelled 1985, 1990, 1995, 2000 and 2005, data from the individual countries vary around these time points. The exact dates are given in Table A1 in the appendix. We use the central year of each wave here. For purposes of cross-national comparison, observations summarizing all waves are analysed. Change over time is shown separately. To reduce the complexity of presentation, only the starting (1985) and end-point (2005) are shown, not the three waves in between (see Table A2). The results are not distorted by doing so, because the data on the income position of individual quintiles show no extreme fluctuations or breaks. A presentation of all periods would take up too much space.

Not all countries or waves in this dataset include variables for both market and net disposable income (Table A1 gives the details by country and wave). Nevertheless, observations on both income concepts are available for 19 countries.<sup>14</sup>

#### **4 The income position of the middle class in international comparison**

This section first examines the cross-national variation in the position of the middle classes in the distribution of both market income and disposable income, with differences between the three middle classes of special interest. Second, we analyse the impact of welfare redistribution on the share of income which accrues to the five income groups and show that redistribution could not compensate the growing dispersion of market income over time. Third, we show the growing distance between the middle and the top income group which might provide an explanation for the debate on a middle class crisis.

To compare the position of the middle classes within the distribution of market income, we look at the quintile shares the individual income strata in each country obtain, calculated as an average across all waves. As Figure 2 shows, there is a similar structure – a broad gap between the highest quintile and all other quintiles, and smaller differences between the bottom and the middle – in every country. If we take the example of Germany, the lower middle class has about 12% of the market income, the middle middle class about 16%, and the upper middle class about 22%. The bottom quintile must make do with only 7% of the

market income, while the top quintile has 43%. This structure varies between countries, as one can see by the different horizontal positions of the dots on individual country lines. Figure 2, which sorts countries based on the size of the market income share of Q3, indicates that Scandinavian countries give the middle the best income position, with the highest quintile not pulling away from the middle as strongly as in other countries. Still, the short distance between the shares of market income that the middle and the top receive does not necessarily benefit the lowest quintile: in Denmark and Sweden, in particular, this quintile does not profit from the closer position of middle and top.

The market income share of the middle middle is, from a comparative point of view, the ‘worst’ in France, the Netherlands, Germany and the U.S.. Among continental European countries, the unfavourable position of this group is accompanied by a better position of the lower middle and the lowest quintiles. In some liberal countries, notably Canada and Australia, the middle middle income group occupies a relatively good position when compared to continental European countries. But in all the liberal countries examined here, the lowest quintile is in a more unfavourable position. So, the lower middle and the lowest quintile are relatively better off in continental European countries. Since these results are based on market income, this is likely due to the regulation of labour relations and coordinated wage bargaining. By comparison, the nature of labour relations in liberal countries leads to a distribution that tends to benefit the middle middle and upper middle classes. The upper middle class obtains a larger share of the market income in these countries, while the lower middle class has a relatively smaller share.

It is instructive that in Luxembourg and Switzerland, both market income and disposable income of the middle and lowest quintiles are relatively high in international comparison. Welfare redistribution does not have much left to do, because the market incomes are already relatively balanced.

*Figure 2: Quintile shares of market income (countries ordered by size of Q3)*

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*Figure 3: Quintile shares of disposable income (countries ordered by size of Q3)*

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When the same measure is calculated on the basis of net disposable household income the influence of the welfare state becomes noticeable. As shown in Figure 3, public redistribution results in a gain for the lower income quintiles and a loss to the top quintile. The degree

to which this takes place of course varies by country. Regarding the group the present article is focused on, it is remarkable how little the income share of the middle classes change when we move from market to disposable income. In terms of disposable income, the Scandinavian countries remain the most advantageous for the middle middle class, and after redistribution, the lowest quintile moves considerably closer to the middle. Germany is among the bottom third in terms of the income position of the middle middle, though the lowest quintile does relatively better. In terms of the income distribution that reflects welfare state measures, Germany, along with France, the Netherlands and Spain, range even behind the U.S. and the UK with respect to the position of the middle middle quintile. However, as was true of the market income distribution, the lower middle class and the lowest class quintiles are better off in continental European countries than in liberal countries. Here, the middle receives a more advantageous position, though the lowest quintile receives a relatively disadvantageous income share compared to other countries. Still, one cannot generalize, and there are exceptions among both liberal and continental groups, especially among the former. For example, both Canada and Australia provide more “equality” to the middle – meaning less distance to the top – than do the countries of continental Europe.

### ***Which income class is protected by government redistribution?***

The effect redistribution makes is visible more detailed in figure 4 which shows the difference in income shares individual quintiles received before and after taxes. For each country, the five bars show the size of redistribution in each of the quintiles, the first set for the mid-1980s, the second for the mid-2000s in order to assess a changing influence of the welfare state on the income distribution over time. In all countries, and for both dates, government-directed redistribution increases the income share of the first quintile and decreases the share of the fifth quintile. The share of wealth the quintiles in the middle receive, by contrast, changes little, when comparing pre-tax to post tax/transfer income. Relative to market income, the share of the lower middle and the middle middle classes increase slightly in most of the countries, while the share of the upper middle class decreases. In terms of redistribution, the three middle classes thus do not show the same patterns.

All in all, welfare state interventions provide a larger volume of income for the lowest class, and reduce the volume of the highest. The middle classes are much less affected by such redistribution than are bottom and top quintiles. The middle income groups are therefore neither sucked dry for the benefit of the lower (or upper) incomes, nor do they benefit more from welfare state redistribution than does the lower class. These findings substantiate a “pro-

poor pattern” of welfare state intervention. In international comparison, the variation is only with respect to scope: “The redistribution effects of net social welfare transfers have the same pro-poor pattern in all nations, differing only by degree, not direction... The majority of the net costs of supporting the welfare state are paid by the top income persons in each nation” (Garfinkel et al. 2005: 15, 16).<sup>15</sup>

*Figure 4: Change in redistribution by the welfare state.*

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The variation over time in how strong the welfare state’s influence is on the income distribution is instructive. Between 1985 und 2005, the expansion of the income share of the lowest income class through redistribution increased, other than in the UK. The extent to which the income share of the top quintile is reduced through government intervention grew during the same period – again with the exception of the UK. In short, over these two decades, the effect of welfare state-induced redistribution increased in advanced industrial nations (a result confirmed f.e. by Mahler and Jesuit 2006). Its impact is much less significant for the middle classes than for groups at the top and the bottom in a given society. It is true that the importance of redistribution to the lower middle, as well as to the lowest class is of increasing importance in most countries. But only in a few countries (U.S., Sweden, Poland, Luxembourg) the extent of redistribution became more significant for the middle middle between 1985 and 2005.

#### ***Public redistribution without compensation of market income inequality***

That the welfare state increasingly influences the distribution of income does not necessarily mean improvement for the lower class, or that the upper class is at a disadvantage. For though the welfare state tries to improve the “welfare-share” of the lowest income group(s) more than that of other groups, a betterment of their situation does not occur due to the dynamics of market income. On the contrary: despite an increasing redistribution, the position of the lower income group has worsened. This can be seen in Table A2 in the appendix, which shows the income shares of individual quintiles in terms of both market income and disposable income, and changes to these shares between the mid-1980s and the mid-2000s. The losses in market income share of the lower income groups were moderated, but not fully compensated for at the level of disposable income. Instead, the top income group shows an increase in market income share, which persists despite an increase in redistribution (a pattern again with cross-national variations). Net growth took place at the top of the income hierarchy. At the bottom,

despite compensation provided by the welfare state, the share of income accrued has become smaller.

The three groups in the middle differ significantly with respect to the consequences of changes to market and welfare state income distribution. In many countries, the upper middle quintile benefitted from the gains to the upper income quintile. The lower middle and middle middle by contrast had to accept a net worsening of their positions. Still, their shrinking market income share was almost completely compensated for. Thus, the lower middle shares the destiny of the lowest quintile, but only has to take small losses in market income and disposable income into account.

How much losses at the bottom are compensated for, and gains at the top moderated, varies by country. In Germany, for example, the bottom quintile's share of market income declined between 1985 and 2005 by 2.35 percentage points, but disposable income by only 0.5 percentage points. The market income share of the topmost quintile rose by 2.46 percentage points, while disposable income grew by merely 0.76 percentage points. However, losses at the bottom and gains at the top, even after welfare state intervention, are more evident in most countries than in Germany, including in the Scandinavian countries. Only in Denmark and Switzerland do the quintiles below the top show gains (data only for 1990 to 2005).

As noted above, changes to market income distribution and changes in the income distribution resulting from welfare policy are far more significant at the top and bottom than in the middle. In that middle, the welfare state has to compensate for far less relative losses over time than it has to at the bottom, and it skims off fewer resources from the middle than from the top. Redistribution partially compensates for growing market disparities, but it is unable to compensate for the far more serious worsening in the distribution of market income. Thus, the "pro-poor pattern" of welfare state intervention has its limits.

### ***Middle classes left behind - the growing gap between top and middle***

The "pro-poor pattern" of welfare state redistribution and the stable participation of the middle in market income do not seem congruent with the diagnosis of a threatened middle class. Both aspects – few losses to middle class market income, as compared to lower incomes, and the impression decline is occurring – become more plausible if one looks at the distance between middle and top. This can be done by measuring the ratio between the income share of the top fifth (Q5) and the share of the middle fifth (Q3; the ratio is then Q5/Q3). The magnitude is shown in Figure 5, calculated first using market income and then using disposable household income, for those countries which have data for both 1985 and

2005. The light grey section of the bars shows the reduced distance between middle and top achieved through welfare state redistribution; countries are sorted by the magnitude of the Q5/Q3-ratio, lowest values first. These show a comparatively short distance between middle and upper class in the four Scandinavian countries, for both market and disposable (household equivalent) income. In 1985, Luxembourg was still one of the countries where middle and top were closer than in other countries, because the top quintile's income was reduced and distributed primarily to the two lowest quintiles. Greater discrepancies between middle and top are allowed in conservative and liberal countries.

The discrepancies between middle and top increased substantially until 2005, especially in market income, and to a lesser degree in disposable income. The *relative* position of the middle has worsened because the upper class now receives a larger share. The welfare states make more efforts to reduce the growing gap in market income between middle and top, but cannot wholly compensate. The degree with which the welfare state reduced the income distance has markedly increased especially in Denmark, Norway and Luxembourg and the liberal U.S.. The UK is an exception again here, as it reduced its redistributive effort.

The distance between middle and top clearly grew in some liberal countries (see also Smeeding 2005: 963). The upper class in the UK now has 3.3 times more market income share than does the middle class. In the U.S. it is 3 times, and in disposable income, the distance between middle and top has also grown despite increased governmental involvement. In the UK, the gap has grown because the welfare state has not tried to halt it. In Poland, there were remarkable gains to the top fifth of the market income share, leaving the middle behind. The welfare state largely equilibrated this trend, and the relative situation of the middle has only moderately worsened. In Sweden, the upper class in the mid-1980s had more than twice the middle class's market income, but due to redistribution this has been reduced to only 1.6-fold. In 2005, the market income of the top quintile grew to 2.2 times that of the middle class. But the discrepancy in disposable income merely rose to 1.7 times. Due to the welfare state, the relative distance between middle and top remained almost constant. In Germany, as in Australia, the situation is quite stable. The share of market income of the top to the middle quintile rose very little, and the welfare state intervened a bit more, with the result that the income position of the middle class relative to the top remained almost stable.

*Figure 5: Changes in the income position of the middle class and welfare state effects*

About here

Overall, the top quintile has pulled away from the middle in market income. This trend is less visible in disposable income, because in most countries the welfare state thereupon intensified its redistribution efforts – other than in the UK, where it decreased, and Sweden, where it remained constant, dampening the distance to the topmost quintile. The top quintile distanced itself in market income from the middle, and because the middle did not take part in this improvement, this may have engendered the impression of “being left behind”. This impression produces subjective insecurity, even if it is the lowest income quintile that is losing much more ground.

## 5. Conclusion

This article has contributed to the on-going public debate over the shrinking middle class by adopting research methods that make it possible to scrutinize the *relative* income position of the middle and to address the impact of public redistribution. By differentiating between middle classes and by also comparing the changing income position of the middle with those of low and high income groups, an overall picture of gains and losses of individual income groups over time and in cross-national comparison could be drawn. It became clear that the decline of the middle class in most countries is much more visible in market incomes than in disposable income. There are exceptions where the market already provides a favourable position to the middle and the lower strata, as in Switzerland and Luxembourg.

Income redistribution primarily stabilized the socio-economic situation of the lowest income groups. The income position of the three middle classes is far less dependent on public redistribution than is the position of the lowest income group. Only the lower middle income group achieves an improvement of its share of total market income by redistribution. However, it would be wrong to infer from the results the irrelevance of income redistribution for the income position of the middle. Rather, what is taken away from the middle by the state flows back through benefits and taxes (and through other channels not analysed here, such as education). By contrast, the market income shares of the upper middle and especially the topmost quintile is reduced as one moves from market to disposable income. “In sum, welfare states are large engines of redistribution. The bottom three quintiles and elders are net beneficiaries in all societies” (Garfinkel et al. 2005: 18). The top two quintiles are net contributors, though the lead the topmost quintile has is by no means nullified by taxation and social contributions.



Over time, income redistribution increased (except the UK), of course with cross-national differences. In 2005 public policies have been doing more to smooth the rising dispersion of market incomes as compared to the mid-1980s, but a compensation of the much more dynamic market changes has not been achieved. Redistribution processes increased, still the proportion of disposable income the upper middle and the highest quintile get, has increased, while the share of disposable income flowing to the lowest income group, decreased. Our finding that government increasingly cushions the impact of growing market income disparities accords with other studies: “The moderate increase in inequality recorded over the past two decades hides a larger underlying trend. In developed countries, governments have been taxing more and spending more to offset the trend towards more inequality – they now spend more on social policies than at any time in history.” (OECD 2008: 16).

Public redistribution supported the lowest incomes more strongly and prevented the remarkable decline at the level of market income. The income position and its change of the lower middle quintile tends to be like that of the lowest income quintile. The upper middle, rather, shares the ‘fate’ of the upper income strata. This underlines that the middle class can not be treated as a homogenous group in terms of its position in the income dispersion.

The question about *regime patterns* in the position of the middle class partly is confirmed. Continental European countries, in particular Germany, France, the Netherlands and Spain, have especially lifted the welfare position of the bottom quintile and of the lower middle. In these countries, the middle quintile position is merely preserved, with payments and benefits rather balanced. In the Scandinavian countries, the low welfare share of the bottom quintile, based on market income, was strongly boosted, but also the gap between the middle and the top was kept smaller than in other countries studied. With some caution, this seems to support that social democratic states do more for the beneficial involvement of the middle incomes than other countries. But liberal countries are quite heterogeneous with respect to the position of their middle income groups, weakening the support for a regime approach.

Our approach looking at the relative income position of groups both in terms of market and disposable income furthermore made visible, that labour market *and* welfare state institutions in combination shape the patterns of the income distribution. The positions of the middle income classes already at the level of the market income distribution differs cross-nationally which points to the different labour market regulations and collective wage bargaining regimes.

If the relative income position of the middle has remained largely stable, what drives the public debate over the decline of the middle class? We suggest an answer lies in looking at the growing distance between the middle and the top of the income distribution. The proportion of market income going to the topmost quintile has increased so substantially that the middle has been left behind. The strong gains in market income were partly offset by welfare state redistribution, which prevented the upper income bracket from pulling away even more remarkable.

The results presented in the article differ from those obtained by looking at the *size* of the middle income class. Because of different methods, the results are not directly comparable. Our findings on cross-national and over time variation in the relative income position of the middle income groups deliver a macro-perspective. Further research should strive for closer insights in the perception of an endangered middle class by including the role of cognitive mechanisms or reference groups. The analyses of different sub-groups like individual birth-cohorts might provide fresh results at the level of objective inequalities.

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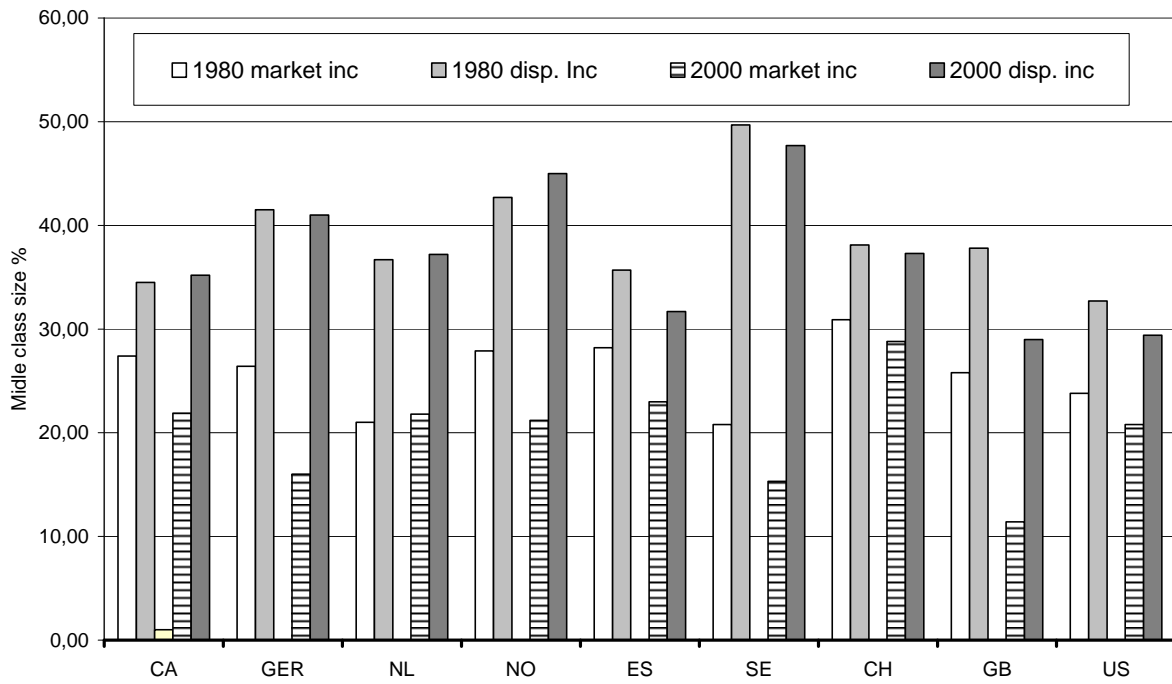
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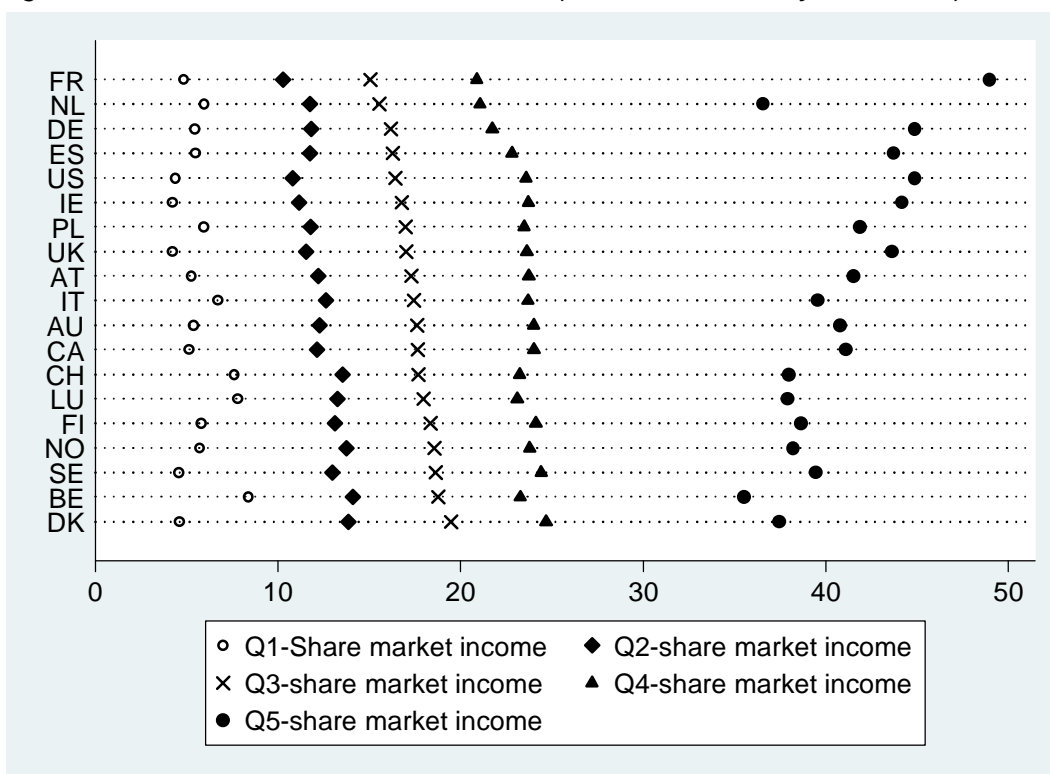
**Figures**

**Figure 1: Size of the middle class, pre- and post tax and transfer income.**



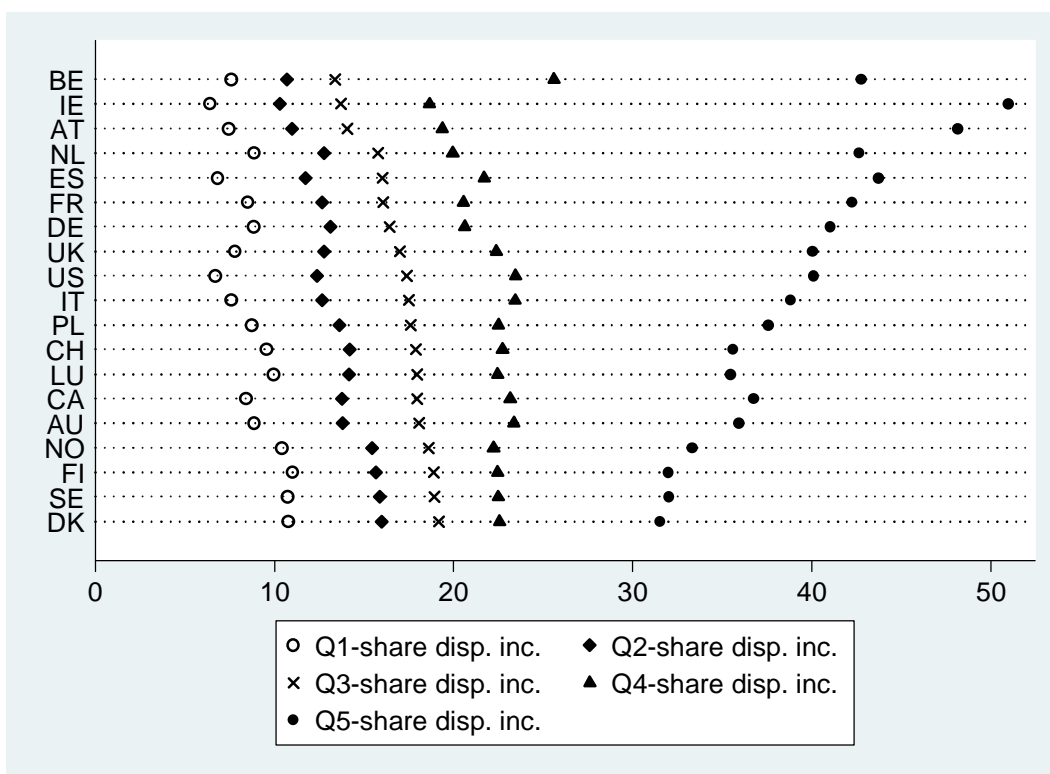
Source: Pressman 2007; own presentation.

Figure 2: Quintiles share in market income (countries sorted by size of Q3)



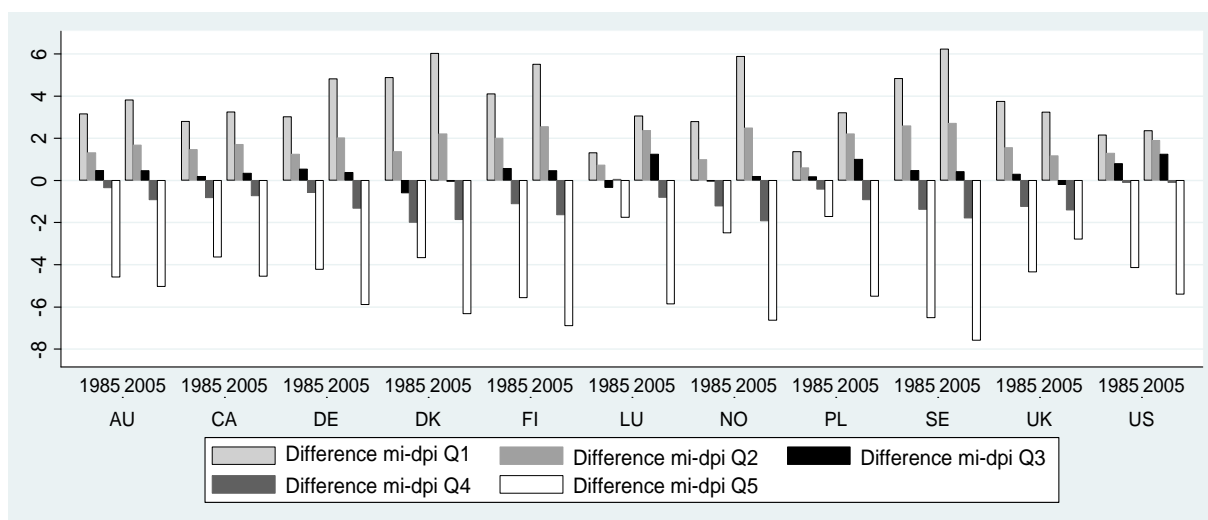
Source: LIS, several waves, own calculation.

Figure 3: Quintile shares in disposable income (countries ordered by size of Q3)



Source: LIS, own calculations.

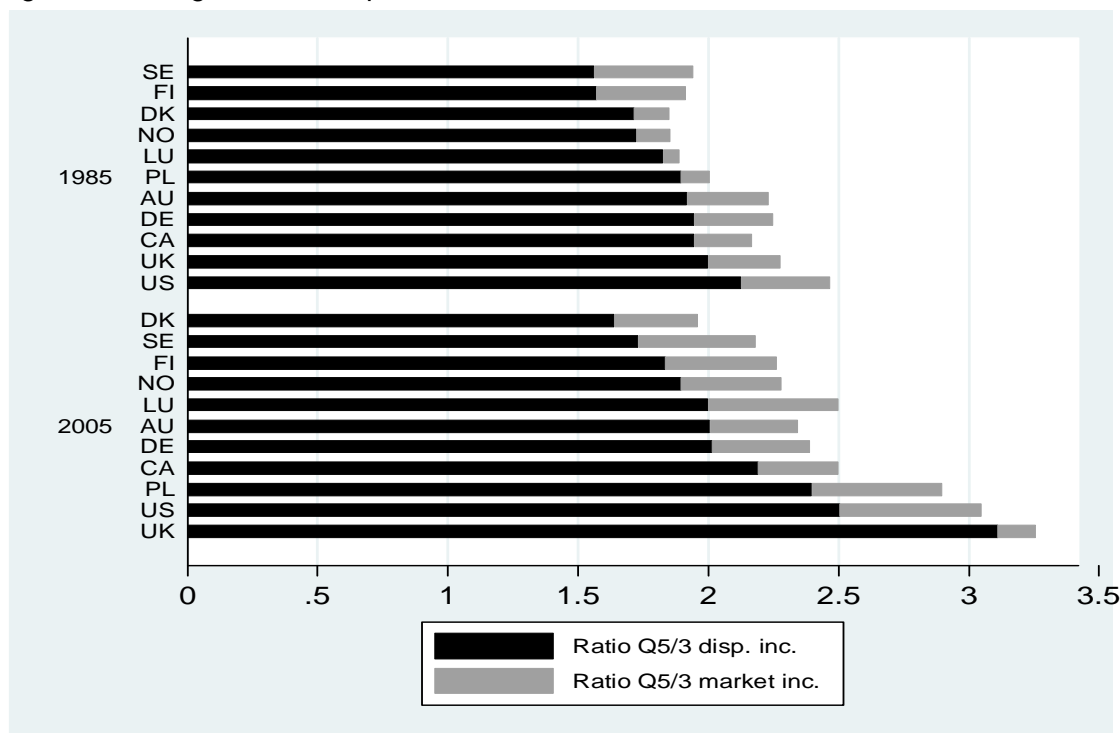
**Figure 4: Effects of public redistribution by quintile and its change**



Source: LIS, own calculations.

Note: Countries are in alphabetic order. Some countries do not appear because they have no data for the waves 1985 and/or 2005 (IE, FR, NL, ES, IT). Switzerland is not included because the first observation is 1990.

**Figure 5: Change of income position of the middle class and welfare state**



Source: LIS micro-data, own calculations.

Note: The ratio Q5/3 indicates the relation between the income share the topmost and the middle quintils receive. A figure of 1,6 for Sweden 1985 (referring to disposable income) means that the top quintil has 1,6 times of the total income as the middle quintile. Countries are ordered by the size of the Q5/3 ratio. The reasons why not all of the 19 countries are included, see note in figure 4.



## Appendix

Table A1: Data-sets of the LIS with both market and disposable income.

	Wave I	Wave II	Wave III	Wave IV	Wave V	Wave VI
Liberal						
AU (Australia)	1981	1985	1989	1995	2001	2003
CA	(1971) 1981	1987	1991	1994/97	1998/00	2004
UK	(1974) 1979	1986	1991	1994/95	1999	2004
US	(1974)1979	1986	1991	1994/97	2000	2004
IE	-	1987	-	1995	2000	-
Social democ:						
DK	-	1987	1992	1995	2000	2004
FI	-	1987	1991	1995	2000	2004
NO	1979	1986	1991	1995	2000	2004
SE	1981 (67/75)	1987	1992	1995	2000	2005
Co. market ec.						
DE	1981 (1973)	1983/84	1989	1994	2000	2004
CH	1982	-	1992	-	2000/02	2004
NL	-	1983/87	1991	1994	1999	-
AT	-	1987	-	1995	2000	2004
BE	-	1985	1992	1995	2000	2004
FR	-	-	1989	1994	2000	-
LU	-	1985	1991	1997	2000	2004
IT	-	1986	1991	1995	2000	2004
PL	-	1986	1992	1995	1999	2004
ES	-	-	1990	1995	2000	2004

Source: LIS Net Income datasets. <http://www.lisproject.org>

Remark: Datasets only covering disposable household income are printed in italics.

Table A2: Quintile share of total income for both market- and disposable income and change between 1985 and 2005.

country	1985		2005		difference 1985 - 2005	
	market inc.	disp. inc.	market ink.	disp. inc.	market inc.	disp. inc.
<b>AT</b>						
Q1	-	11.40	5.25	9.31	-	- 2.08
Q2	-	15.13	12.21	14.26	-	- .87
Q3	-	18.91	17.30	17.88	-	- 1.02
Q4	-	22.78	23.73	22.42	-	- .36
Q5	-	31.79	41.52	36.12	-	+ 4.33
<b>DE</b>						
Q1	6.83	9.84	4.48	9.31	-2.35	- .54
Q2	13.23	14.46	12.38	14.40	- .85	- .05
Q3	17.56	18.10	17.51	17.88	- .05	- .21
Q4	22.94	22.37	23.73	22.40	+ .79	- .03
Q5	39.44	35.22	41.90	36.01	+2.46	+ .79
<b>LU</b>						
Q1	9.63	10.9	6.07	9.13	- 3.56	- 1.82
Q2	14.02	14.75	11.77	14.14	- 2.25	- .61
Q3	18.66	18.32	16.81	18.05	- 1.85	- .26
Q4	22.46	22.50	23.36	22.56	+ .90	+ .05
Q5	35.24	33.49	41.98	36.12	+6.74	+2.63
<b>DK</b>						
Q1	5.45	10.33	4.82	10.84	- .64	+ .52
Q2	14.47	15.84	13.73	15.94	- .74	+ .09
Q3	19.57	18.97	19.21	19.15	- .36	+ .19
Q4	24.34	22.37	24.54	22.67	+ .20	+ .30
Q5	36.17	32.50	37.71	31.40	+1.54	- 1.10
<b>FI</b>						
Q1	7.17	11.28	4.79	10.31	- 2.38	- .97
Q2	14.16	16.16	12.53	15.08	- 1.63	- 1.10
Q3	18.81	19.38	17.95	18.41	- .86	- 1.0
Q4	23.84	22.74	24.1	22.42	+ .22	- .32
Q5	36.0	30.45	40.67	33.78	+4.65	+3.34
<b>NO</b>						
Q1	8.23	11.01	3.9	9.78	- 4.33	- 1.23
Q2	14.64	15.62	12.61	15.10	- 2.02	- .51
Q3	18.7	18.66	18.16	18.34	- .55	- .32
Q4	23.72	22.50	23.93	22.01	+ .21	- .49
Q5	34.71	32.21	41.40	34.77	+6.69	+2.56
<b>SE</b>						
Q1	5.95	10.78	4.38	10.61	- 1.57	- .17
Q2	13.92	16.51	12.82	15.53	- 1.10	- .98
Q3	18.0	19.45	18.38	18.80	- .60	- .65
Q4	24.25	22.88	24.3	22.51	- .04	- .37
Q5	36.9	30.38	40.12	32.54	+3.22	+2.17

Table continued

country	1985		2005		difference 1985 - 2005	
<b>UK</b>	market inc.	disp. inc.	market inc.	disp. inc.		
Q1	4.96	8.71	3.87	7.12	- 1.07	- 1.59
Q2	12.35	13.91	10.15	11.31	- 2.20	- 2.6
Q3	17.76	18.05	15.17	14.98	- 2.56	- 3.07
Q4	24.51	23.27	21.43	20.02	- 3.09	- 3.25
Q5	40.42	36.07	49.37	46.57	+8.95	+10.50
<b>US</b>						
Q1	4.77	6.93	4.11	6.47	- .67	- .17
Q2	11.73	13.02	10.0	11.93	- 1.71	- .98
Q3	17.1	17.86	15.54	16.78	- 1.55	- .65
Q4	24.2	24.1	22.91	22.8	- 1.30	- .37
Q5	42.2	38.07	47.42	42.03	+5.22	+2.17
<b>AU</b>						
Q1	5.81	8.95	5.04	8.87	- .76	- .09
Q2	12.91	14.23	11.96	13.64	- .95	- .59
Q3	17.78	18.26	17.54	18.00	- .24	- .27
Q4	23.83	23.48	24.29	23.37	+ .46	- .11
Q5	39.67	35.10	41.17	36.13	+1.50	+1.06
<b>CA</b>						
Q1	5.90	8.7	4.47	7.71	- 1.43	- .099
Q2	12.84	14.3	11.40	13.1	- 1.43	- 1.20
Q3	18.10	18.26	17.25	17.59	- .82	- .67
Q4	24.00	23.18	23.80	23.06	- .20	- .11
Q5	39.20	35.56	43.1	38.54	+3.88	+2.98
<b>CH</b>	1990					
Q1	7.84	9.28	7.39	9.75	- .46	+ .48
Q2	13.62	14.07	13.71	14.55	+ .10	+ .48
Q3	17.35	17.63	18.16	18.12	+ .81	+ .48
Q4	22.60	22.33	23.67	22.93	+1.07	+ .60
Q5	38.59	36.69	37.07	34.65	- 1.52	- 2.05
<b>PL</b>						
Q1	7.65	9.01	4.5	7.71	- 3.15	- 1.3
Q2	13.72	14.32	10.46	12.66	- 3.25	- 1.66
Q3	18.28	18.46	15.88	16.87	- 2.4	- 1.59
Q4	23.65	23.22	23.19	22.28	- .45	- .94
Q5	36.71	35.0	45.97	40.47	+9.27	+5.47

Source: LIS Micro-data. Own calculation.

Note: Countries are omitted when the waves 1985 and/or 2005 are missing (IE, FR, NL, ES, IT).

<sup>1</sup> Services and infrastructure provided by the state for free or at low cost, as well as occupational options in the public sector, affect the welfare position of the middle class as well, but are not part of this study.

<sup>2</sup> Such deregulation of employment is a factor among cohorts newly entering the workforce, making the threat to the middle class a problem in younger cohorts, as Chauvel (2007) showed for France.

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<sup>3</sup> Even if one takes the relative income position of the middle, based on the ratio between median and average income, Germany is among the countries (CA, DK, FR, FI, IT, NO, SW, US) in which the middle has lost ground. Only in a few countries (TR, MX, IE) was the middle able to gain or did stability prevail (NL, NZ, JP) (Growing Unequal 2008).

<sup>4</sup> The basis here is the annual disposable equivalence-weighted household income.

<sup>5</sup> Pressman includes the entire population. Given that pension systems create special disparities, analyses based on income distribution often only consider the population under 60.

<sup>6</sup> Another study by Pressman (2009) examines the influence of transfer payments by the welfare state (e.g., benefits for families) on the size of the middle class. This allows him to show that social security transfers in particular are what support a large societal middle.

<sup>7</sup> See Foster and Wolfson (1992/2010) for the details.

<sup>8</sup> Mahler et al. (2010).

<sup>9</sup> Foster and Wolfson (1992/2010) distinguish between “income-space” and “people space”. The approach used here is like the latter.

<sup>10</sup> For other methods of analysing the relative income position of the middle class, see Förster and d’Ercole (2005), OECD (2008), Chauvel (2007).

<sup>11</sup> This is the square root of the household size. Equivalence weighting not only accounts for different numbers of household members but also accounts for their age-specific financial needs and the financial advantages of living in a household (e.g., ‘economies of scale’).

<sup>12</sup> The method can also be applied to quintile ratios (Q5/Q3).

<sup>13</sup> For example, the bottom quintile (Q1) contains many elderly persons whose income is derived from public pensions. This biases the results. Market income will appear overly low, while the effect due to social transfer payments will seem larger than it would be without senior citizens.

<sup>14</sup> Because of data gaps, the countries in the figures below are not always identical.

<sup>15</sup> The “pro-poor pattern” differs between countries. In the Scandinavian countries (Sweden, Norway, Finland, Denmark) as well as in Germany, the income share of the lower class increases more significantly due to redistribution than in Luxembourg, Poland or the U.S.. But one has to keep in mind that change is being described, not the starting level of the quintiles. Hence, the lowest income group in Luxembourg or Poland already has an advantageous market income share, while this income share is lower in Scandinavian countries, giving the process of redistribution more work to do.