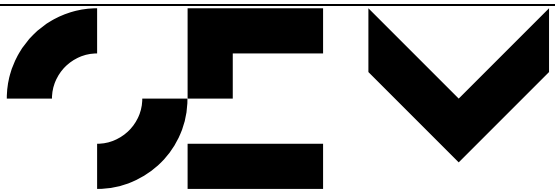

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Collective risk sharing: The social safety net and employment

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Abstract:
The direct effects as well as the policy responses to the financial crisis have raised the issue whether individuals carry too large costs and consequences of changes which are beyond their control and influence. Collective risk sharing is considered insufficient and in need of expansion. The policy focus is thus shifting from incentives to insurance, and it is debated how welfare state arrangements can trade-off efficiency and equity concerns. While this trade-off is core to economics, most policy analyses and advice focus only on the incentive or distortion side. This paper looks at the insurance side based on the fact that it is impossible to separate redistribution from collective risk sharing. It is argued that insurance effects are crucial for behavioural responses and hence the relation between efficiency and equity. However, two factors limit the scope for collective risk sharing, namely, adverse incentive effects (common pool) and the nature of shocks. It is argued that the former depends crucially on policy design, and in particular the extent to which eligibility criteria in the social safety net have an active focus on job search and employment. Collective risk sharing schemes are vulnerable to persistent shocks, and it is an important question whether welfare arrangements themselves are a source of more inertia or persistence in the adjustment process. It is argued that there is no evidence that this is the case, but nonetheless persistent shocks pose a serious challenge to an extended welfare state.

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1. Introduction

The financial crisis has shaken beliefs in markets. The causes of the crisis are attributed to market failures and excesses and market economies have proven not to be crisis-free. Moreover, the economic consequences of the crisis have shown failures in diversifying risks in the market which has intensified calls for governments to step in.

These developments have revived the debate on the division of labour between markets and the state. This applies both in respect to specific issues on regulation of in particular financial markets and institutions, but also more widely in terms of the social safety net. In the immediate aftermath of the crisis it was widely perceived that the social safety net was incapable of coping with the consequences of the crisis. Institutions like IMF and the OECD recommended improvements in the social safety net, and no less than 15 OECD countries took steps to improve income support for jobless (OECD (2009)). On top of this there were several discretionary fiscal policy initiatives to counter the effect of the crisis, and in particular to avoid a steep increase in unemployment. In short, there have been numerous calls for the public sector to step in where markets have failed. In a second wave of fiscal responses a number of countries have been forced to undertake austerity packages due to severe fiscal imbalances. This reflects to a large extent failures to undertake appropriate reforms prior to the crisis.

The upshot of this is that individuals carry too large costs and consequences of changes which are beyond their control and influence, and therefore there is a quest to expand collective risk sharing arrangements. The policy focus is shifting from incentives to insurance, and this has caused a u-turn in the debate on the welfare state. Prior to the crisis there was much stress on the fact that globalization called for a leaner welfare state. Increased mobility of goods and factors of production was taken to put pressure on the financial viability of the welfare state both directly via mobility but also indirectly by increasing the distortionary effects of taxes. However, the financial crisis which itself has a strong global element has shown that there is another side to the debate, namely, both the exposure to shocks and the need for insurance arrangements to cope with such shocks.

This shift in focus is also reflected in macroeconomic policy debates. Prior to the crisis the policy consensus was that stabilization policy is mainly an issue for monetary policy[1]. Discretionary fiscal policies are generally to be avoided, and fiscal stabilization policy should rely on automatic stabilizers. Somewhat paradoxically there was not much debate about the appropriate size of the automatic stabilizers. While automatic stabilizers are usually praised, their size do not derive from macro-design, but rather as a net result of micro-policy decisions in other areas notably tax and social policy. That is, the design of the welfare state determines the strength of the automatic stabilizers, and it is well-known that there is a strong correlation between public sector size and automatic stabilizers (Van der Noord (2000)). Recent policy trends in labour and social policies have focussed on incentive effects, and while this has had clear effects, it has also had the side effect of tending to weakening automatic stabilizers (see e.g. Knieser and

[1] This is clear in the so-called Maastricht assignment for the European Monetary Union leaving centralized monetary policy to stabilize inflation, and decentralized fiscal authorities to stabilize national output by primarily relying on the automatic stabilizers.

Ziliak (2003))[2]. The financial crisis has accordingly initiated a debate on how to strengthen automatic stabilizers (see e.g. Debrun and Kapoor (2010)).

The need and scope for collective risk sharing raises fundamental questions on the rationale for and the design of public arrangements. This is intimately related to the fundamental question of the trade-off between efficiency and equity. While it is standard to highlight this trade-off, it may be questioned whether economic analyses and policy advice have had much to say on this issue. Most work is cast in deterministic settings implying that there is an extensive focus on various distortions arising from public intervention. This is clearly relevant and important, but it is only one side of the story. Analyses of the social safety net have thus mainly considered it from the perspective of how it affects incentives to work and search for jobs etc. However, the social safety net is there to provide insurance which not only has a direct welfare effects, but may also be conducive to behaviour and flexibility. The welfare state in general and the social safety net in particular is not only about redistribution but also about collective risk sharing. Similarly it may be argued in respect to taxes that the traditional focus on distortions tends to neglect both the insurance element in taxation and also that overall implications cannot be assessed independently of what taxes are financing.

In debates on the role and scope of the welfare state reference is often made to the Scandinavian countries[3] for the obvious reason that these countries feature large public sectors and extended social safety net and therefore also large tax burdens. At the same time these countries are high income countries and have high employment rates. In short, they may appear as an outlier or paradox to standard economic models. This paper builds on the experience of the Scandinavian countries and highlights some key points accounting for the fact that they come out well in efficiency and equity comparisons.

This paper considers the need and scope for collective risk sharing. The starting point is a broad look at the efficiency vs. equity issue from a comparative perspective (Section 2). Along the best practice frontier there is a trade-off between efficiency and equity, but notably a cluster of northern European countries stand out by having both high efficiency measured by per capita income and egalitarian outcomes in terms of low income inequality. This is interpreted from a risk sharing perspective based on the observation that it is impossible to separate redistribution from insurance, since schemes which ex post involve redistribution ex ante offer risk sharing. Extended welfare states can thus not be interpreted solely from a redistribution perspective, the risk sharing implications are at least as important. Focussing exclusively on the distortions is a misleading guide both in respect to the behavioural responses and the welfare consequences. The specific implications for the relation between efficiency and equity are discussed in Section 3.

[2] Using measures from van der Noord (2000) and Girouard and André (2005), there is no significant change in the average size of automatic stabilizers for OECD countries from 2000 to 2005, but there is some tendency to levelling in the sense that countries with weak automatic stabilizers in 2000 have tended to get stronger automatic stabilizers in 2005, and vice versa. There are obvious various issues of interpretation here, and the period is very short for identification of trend changes.

[3] In the literature some efforts have been exerted on developing classification schemes of welfare regimes building on Esping-Andersens (1990) seminal contribution. Whether the term ”the Scandinavian welfare model” is well-defined can be questioned. It is used here in the broad sense of universal and generous welfare arrangements, with the explicit proviso that such welfare arrangements are not confined to a particular geographical area.

The scope for collective risk sharing is significantly affected by two factors, namely, adverse incentive effects arising under collective schemes (common pool) and the type of shocks which can be diversified. These two issues are considered in Section 4 and 5, respectively.

Any type of insurance – private or social – suffers from moral hazard or common pool problems. In the case of social insurance they are usually termed tax or incentive distortions. The labelling is immaterial but the point is that these distortions cannot be assessed in isolation from the market failures present and what markets can accomplish. Nonetheless it is important to take these issues into account. At a general a level a distinction may be made between a passive and active orientation of the social safety net, where the former entirely focuses on income maintenance while the latter has a short term income focus and a medium term focus on bringing people back to work and thus self-support. Over time there has been a trial-and-error process in the design of the social safety net to find a balance between incentives and insurance. One important policy lesson is that inclusion of conditionalities in the eligibility criteria in the social safety net expands the scope for balancing insurance with incentives significantly. This points to the importance of policy complementarities, and therefore policy design is important in determining the final outcome in terms of efficiency and equity. This is discussed in Section 4 with outset in some Scandinavian experiences.

A collective risk sharing arrangement is ideal to diversify idiosyncratic individual risk. Moreover there is scope for diversification of risk over time and thus generations via the public budget. The latter type of risk diversification is summarized by the automatic stabilizers and how public budgets respond. Temporary shocks can be diversified while permanent shocks cannot, and although it is a virtue that the automatic stabilizers operate without discretionary policy decisions they suffer from the problem that they do not distinguish temporary from permanent shocks. Permanent or strongly persistent shocks tend to cause systematic budget imbalances and thus threatening the financial viability of the welfare state. Therefore the persistence of shocks is crucial. It is an important question whether welfare state arrangements accomplishes insurance or short term stability at a long term cost in terms of more sluggish or persistence in the adjustment process. Persistent shocks do pose a serious challenge to an extended welfare state, and if welfare state arrangements promote such persistence it is a serious problem. It is argued that there is no evidence that this is the case, but nonetheless persistent shocks pose a serious challenge to an extended welfare state.

Policy implications of collective risk sharing arrangements are collected in the final Section 6.

2. The trade-off between efficiency and equity

The trade-off between efficiency and equity is at the core of the discussion of state vs. markets. The quest for economist is to work out the shape of the trade-off (position and slope), leaving it to the politicians to choose based on political preferences. The trade-off arises because taxes and transfers etc. needed to accomplish more equity distorts incentives and therefore cause efficiency losses. However, as noted, most analyses of policy proposals tend to focus on the incentive and thus efficiency effects of proposals leaving no or only vague information on the trade-off faced by policy makers.

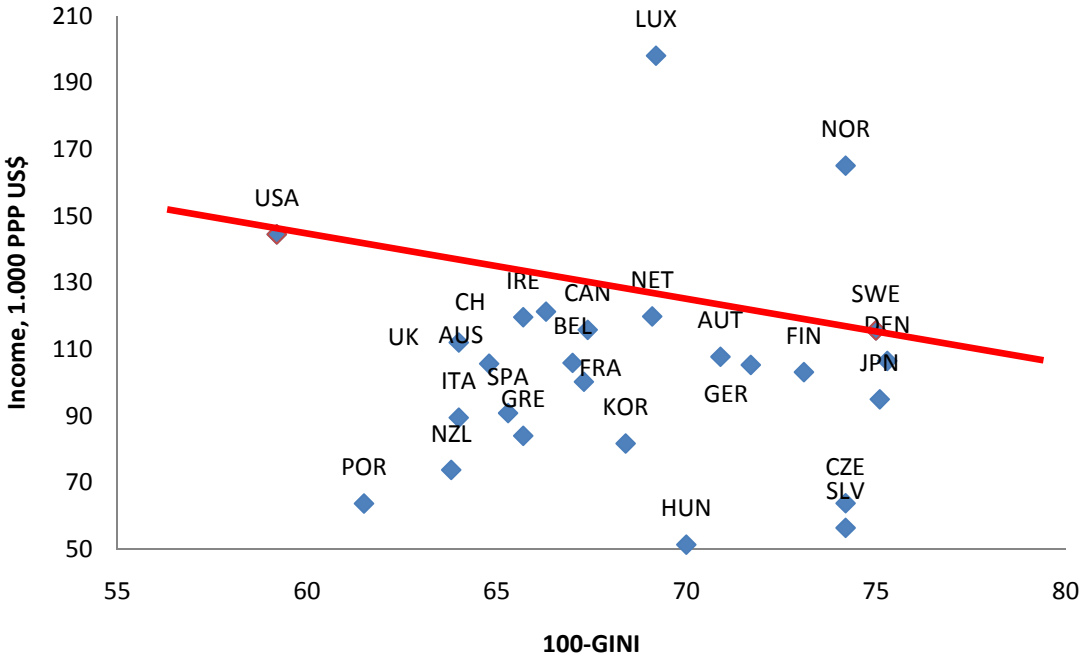
2.1 Income levels and distribution

A very broad and aggregate perspective on the trade-off can be taken by exploiting cross-country evidence on economic performance. While obviously crude, the trade-off should show up rather clearly in such data if it is so profound. Accordingly, it is of interest to consider the lessons to be learned from cross country data.

Numerous measurement problems are clearly at stake but in a broad perspective efficiency can be associated with per capita income[4], and equity by the equality in the distribution of income. Rankings of countries routinely use these measures for comparisons. The standard metric of income in international comparisons is per capita GDP (in PPP corrected US$) and inequality is measured by the Gini-coefficient for equalized disposable income, implying that an equity measure is given as 100-Gini coefficient.

Figure 1 gives a cross-country plot of these measures of equity and efficiency for 32 OECD countries based on 2008 data. In this context Luxembourg (financial sector, country size) and Norway (Oil) are considered as outliers. There are two striking observations to make from the figure. First, a number of countries manage to have both relatively high efficiency and high equity, including the Scandinavian countries. Second, the simple correlation between efficiency and equity is positive, that is, more equity tends to be associated with more efficiency (correlation coefficient is 0.3).

Figure 1: The efficiency-equity trade-off – OECD countries 2008



Note: Efficiency is measured by GDP per capita in US$, PPP, and equity as 100-Gini-coefficient, where the latter is computed on the basis of equivalent disposable incomes. Data applies to 2008.
Source: www.sourceoecd.org

[4]This is supported by the general finding that tax distortions tend to imply a too low level of employment and thus activity as compared to the social optimum. However, it does not necessarily follow that this gap is increasing in the tax rate, although this is usually taken for granted in discussions.

It would be misleading to draw policy conclusions from the simple positive correlation observed in the data for several reasons. The data in the figure does not control for various background factors, convergence processes may be at play, and political inefficiencies may be a barrier to reach the efficiency frontier. The best practice frontier can be assessed by selecting the group of countries who have high efficiency for a given level of equity or vice versa. Table 1 below reports the result of a simple panel estimation based on data for the mid 80s, mid 90s, and mid 00s for seven countries identified to constitute the best practice frontier[5][6].

At the frontier there is a trade-off, and the elasticity of efficiency wrt. equity is approximately -1. The estimated relation is drawn as the red line in the figure. In accordance with the parsimonious approach taken here, the overall tax burden is used as a metric of welfare arrangements. According to standard view a higher tax burden should be associated with lower efficiency and higher equity. This is considered for countries at the best practice frontier in Table 1.

Table 1: Efficiency-Equity trade-off and the role of the tax burden

Dependent variable: Independent variable:	Efficiency	Efficiency	Equity
Constant	9.32 (0.07)	11.04 (0.24)	-1.62 (0.24)
Equity	-0.93 (0.21)		
Tax burden		-0.37 (0.07)	0.34 (0.03)
Dummy 1995	0.43 (0.03)	0.45 (0.03)	-0.015 (0.012)
Dummy 05	0.82 (0.03)	0.86 (0.03)	0.027 (0.011)
R2	0.98	0.98	0.91
RSS	0.07	0.05	0.08
DW	1.1	1.0	1.45

Note: Estimated on the basis of data underlying figure 1. The tax burden is total public revenue as a share of GDP.
Data: www.sourceoecd.org

These simple regressions confirm the standard interpretation of the mechanisms taken to imply a trade-off between efficiency and equity. A higher tax burden lowers efficiency by an elasticity of about 1/3, while it at the same time improves equity with an elasticity of about 1/3, consistent with the trade-off between efficiency and equity having an elasticity of about -1.

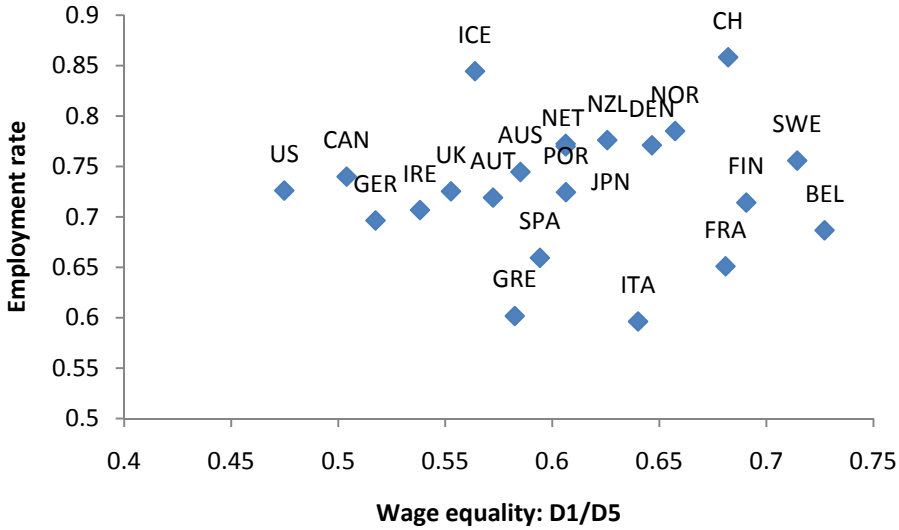
[5] The trade-off is estimated using data for mid 80,s, mid 90s and mid 2000s for OECD countries. Luxembourg and Norway are treated as outliers, and countries are selected such that income per capita is not 25 % or more lower than that of the US for any for the periods, and subject to data availability for all three periods. This leaves seven countries: USA, DEN, NET, BEL, SWE, AUT, and CAN.

[6] Doing a DEA analysis where efficiency and equity are outputs and the tax burden the input, a selection criterion of a NIRS score (decreasing returns) of no less than 0.99 would leave the same set of countries at the frontier.

Note that the dummy variables are significant in the efficiency equation but not in the equity equation. This suggests that the dummy captures a general growth effect which affects efficiency measured by income equally in all countries, but it has no separate effect on equity (for a given tax rate). Hence, this is suggestive that growth implies a parallel upward shift in the best practice frontier between efficiency and equity. This is consistent with the fact that it has turned difficult to pin down a clear effect of the size of the public sector on the growth rate.

Whether the trade-off between efficiency and equity identified here is steep or flat is in the eyes of the beholder. A recent debate provoked by Prescott (2004) takes the trade-off to be more steep, whereas empirical studies of e.g. labour supply usually find small elasticities suggesting a relatively flat trade-off[7]. In any case one politically interesting issue is the cluster of northern European countries in the north-east part of figure 1 having both high efficiency and equity in comparative perspective, and the fact that these countries have extended welfare states. The following focuses on some key mechanisms accounting for this position.

Figure 2: Employment and wage equality -2007



Note: Employment rate for the age group 16-64.
Data: www.sourceoecd.org

2.2. Labour markets

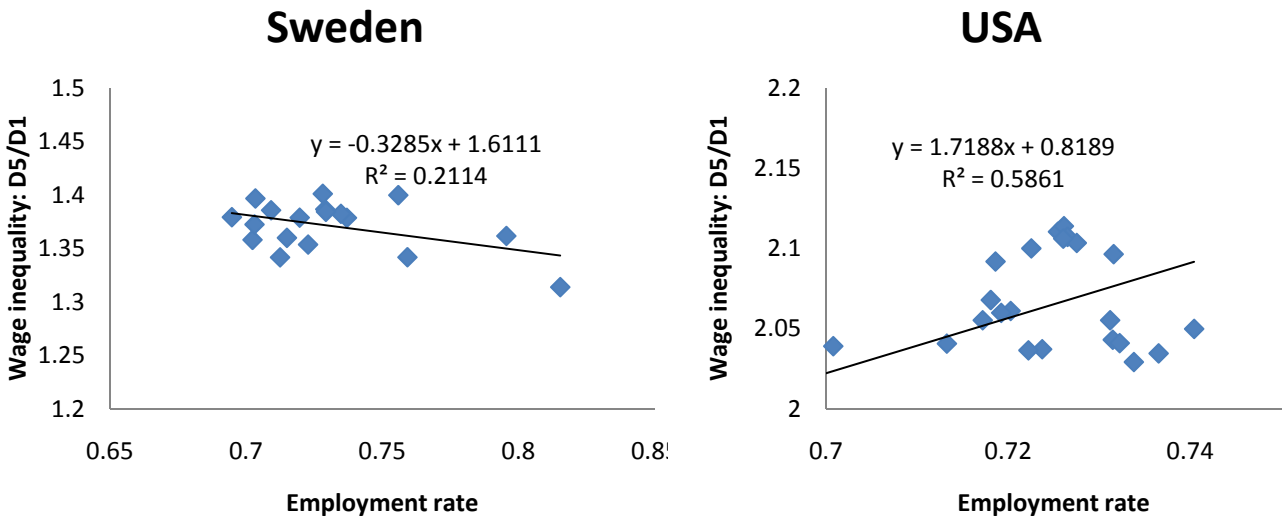
The trade-off between efficiency and equity can also be considered from a labour market perspective. Clearly measurement problems are at stake but a basic insight is gained by looking at summary measures of wage inequality and employment rates, cf. Figure 2. Also here it is noteworthy that the cluster of northern European countries is matching low wage inequality in the labour market with a high employment rate. This shows that the finding in Figure 1 not only reflects that the welfare state repairs consequences of

[7] In a recent controversial Prescott (2004) assumes a labour supply elasticity of nearly 3. This is significantly larger than in micro studies which usually find the elasticities to be small and below one. For recent surveys see e.g. Evers, De Moij and van Vuuren (2005) and Meghir and Phillips (2008).

market outcomes, but that there is a more active role of the welfare arrangements shaping the distribution of income[8].

For the cluster of extended welfare state countries it is noteworthy that changes in employment are only very vaguely associated with changes in the relative wage structure compared to e.g. the US. According to standard views more egalitarian outcomes in terms of a compressed wage structure come at the costs of lower employment levels. In particular compression of wages at the lower end of the wage distribution is taken to be costly in terms of employment. Likewise decreases in employment often are taken to be a reflection of failure of wages to adjust, and more wage inequality is asserted to be needed to increase employment.

Figure 3: Wage inequality and employment



Note: See table 2

While these views seem to be supported in the case of the US, some northern European countries display a striking difference to the US as illustrated in figure 3. Table 4 gives the similar information for five countries. Note that all these countries are at or close to the frontier identified in figure 1. While changes in employment are strongly associated with changes in wage inequality for the US, there is no such close relationship for the four other countries. Note in addition that the levels of wage inequality differ between the two groups of countries, but levels of employment do not, cf. Figure 2. Moreover, using summary measures there is no indication that employment fluctuates more in the northern European countries than in the US. In considering the performance of the four countries (DEN, FIN, NET and SWE) it is particularly noteworthy that it has been possible to increase the employment rate without a marked increase in wage inequality in contrast to the US where employment increases have been associated with increasing wage inequality. This is suggestive that the incentive structure has been maintained without resorting to more inequality, cf. discussion in Section 4.

[8] A similar point can be made by noting that the GINI coefficient for disposable income and for market income have a correlation coefficient of 0.76 base on 2000 data reported in OECD().

Table 2: Association between wage inequality and employment level, selected countries.

	Denmark	Finland	The Netherlands	Sweden	USA
Constant	0.86	1.01	1.24	1.61	0.82
	(0.41)	(0.05)	(0.04)	(0.12)	(0.20)
Employment	0.77	0.61	0.55	-0.33	1.72
	(0.54)	(0.07)	(0.06)	(0.16)	(0.28)
R^2	7.30	79.80	79.70	21.10	56.20

Note: Dependent variable is wage inequality measured as the D5-D1 ratio. Employment is the employment rate for the population age 16-64. Data for the period 1980 to 2007, expect for Sweden where it is 1990-2007
Source: www.sourceoecd.org

3. The social safety net: Insurance vs. incentives

The debate on efficiency vs. equity usually takes its outset in the deterministic textbook case where more equity can be achieved via redistribution through taxes and transfers, which however distorts incentives and therefore have an efficiency costs. The key distortion arises from changes in the incentive structure tend to cause labour supply to be inefficiently low. This is reasonably straightforward in a deterministic setting.

Modern theories of the welfare state points out that this view is too simplistic. Schemes which redistribute ex-post given income, health, labour market position etc. do ex ante serve an insurance function. The redistributive schemes are conditional on events like job, income, health, ability to work etc., and this is ex ante perceived by agents who therefore take into account how the schemes ex-post reduce risks. It follows that a sharp distinction cannot be made between insurance and redistribution. In the following risk diversification or insurance via tax financed schemes will be denoted social insurance.

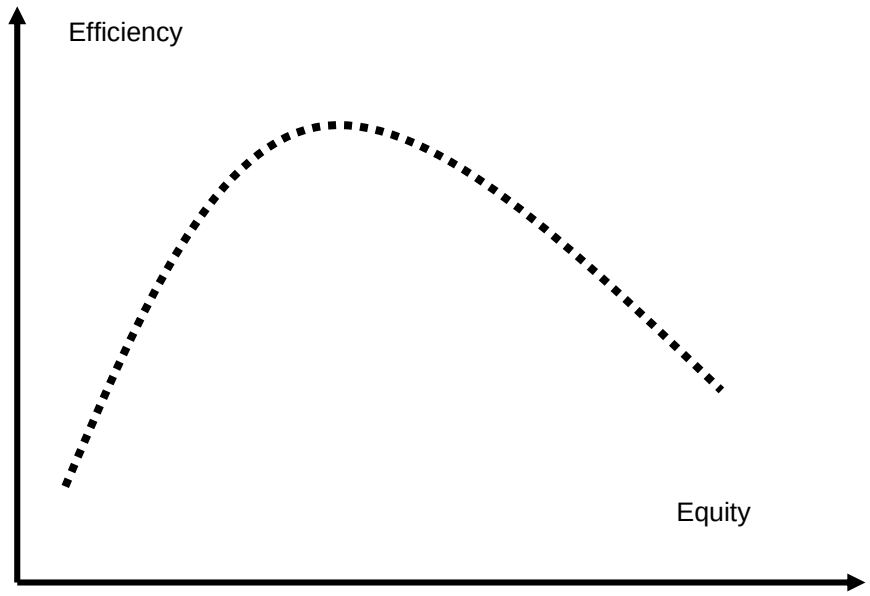
Social insurance has important direct and indirect effects. The obvious direct effect is that such insurance has a positive welfare effect for risk averse agents if risk diversification is achieved at better terms than in private markets (which may offer no such scope). Insurance may also affect behaviour[9], and much attention is on the adverse incentive effects or distortions (see below). However, risk can be an impairment to adjustment, work, job search or investment in human capital, and it follows that insurance may be conducive to efficiency (flexicurity)[10]. Such behavioural responses to the insurance effect of social insurance are important because they may be counteracting the distortions arising from the schemes[11].

[9] See e.g. Domar and Musgrave (1944) and Varian (1980) on taxation, Eaton and Rosen (1980) on education, and Sinn (1995, 1996) and Andersen (2010) on tax-transfer schemes. Agell (2002) and Barth and Moene (2009) on the labour market. See also Barr (2001).
[10] It holds, of course, generally that if private markets offer incomplete insurance that social insurance may lead to a Pareto improvement and thus more efficiency. The implicit assertion here is related to activities where agents undertake "too little" of an activity compared to the social optimum.
[11] By distortion effects are here understood the effects on incentives arising in a deterministic setting where there by definition is no issue of risk diversification.

To clarify this, return to the standard case where a tax causes an inefficiently low labour supply in a deterministic setting. In the presence of risks which cannot be diversified in private markets the situation is much different. If agents are risk averse it follows that insufficient risk sharing may cause them to choose a level of labour supply which is inefficiently low. The reason is that while the cost of work is deterministic (disutility from work or opportunity costs of foregone home production) the return to market activities may be risky. In this setting the effects of taxation is much more complicated. Consider a simple tax-transfer scheme, that is, a scheme where a proportional tax on market income finances a lump-sum transfer to all participants (see e.g. Sinn (1995) or Andersen (2010)). In an ex-post sense this scheme is clearly redistributive since agents with high market income will be net contributors and agents with low market income will be net receivers. In an ex ante sense the scheme reduces the risk associated with income, and this may make risk averse agents choose to supply more labour to the market. Hence, changing the tax rate has an insurance effect on top of the traditional incentive effect

The presence of the insurance effect creates a situation similar to the well-known fact that substitution effects are countered by income effects in text-book models of labour supply. The insurance effects runs in general counter to the incentive effects, and it may even dominate the latter. This implies that the relation between efficiency and equity is not necessarily given by a trade-off but rather by a hump-shaped relation as shown in figure 4 (see e.g. Sinn (1995) and Andersen (2010)).

Figure 4: Relationship between efficiency and equity in the presence of insurance effects



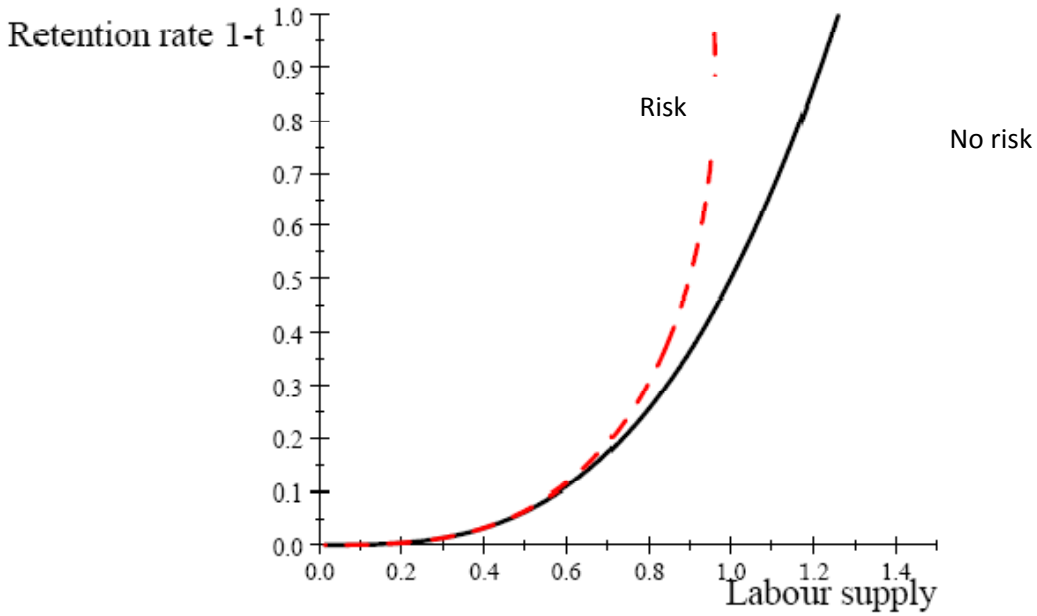
Note: Based on Andersen (2010b).

In this figure the upward sloping part (arising when starting from a situation without the social insurance scheme) arises because the insurance effect dominates the distortions, that is, an expansion of the social insurance scheme leads not only to more equity ex post (more insurance ex ante) but also to more efficiency by overcoming a market failure. At some point, a further expansion would have the incentive effect to dominate the incentive effect, and a trade-off arises in the sense that more equity is achieved at the costs of more efficiency. If political preferences depends positively on both efficiency (e.g. mean

income) and equity (a measure of equality in income distribution) optimal policies would situate the economy on the negatively sloped segment of the relationship. It would not be optimal to be on the upward sloping part since both efficiency and equity can be improved by expanding social insurance. However, even though a marginal policy change involves a trade-off between efficiency and equity, it is the case that policy overall has contributed to enhance both efficiency and equity. Though, political inefficiencies may cause the economy to be situated on the upward sloping part, and it is thus possible that countries may end up with similar levels of efficiency but different levels of equity depending on the political system.

The finding illustrated in figure 2 has several important implications which also points to critical aspects with mainstream policy evaluations. First, in most policy analyses focus is entirely on the distortions. To the extent that risk is important this may be potentially misleading since the insurance effect is neglected. This is illustrated in figure 3 showing a calibration (US data) of the basic text-book labour supply model under standard preferences adopted in the literature[12] but in the presence of wage risk. The model has a basic tax-transfer scheme where a proportional tax levied on income finances a lump-sum transfer. The dashed line shows in the deterministic case how labour supply depends on the retention rate (one minus the tax rate), while the solid line shows how it depends on the retention rate in the case of risk. As is seen labour supply is in the risky case fairly inelastic to the tax rate and the reasons is the counter-balancing insurance and distortions effects of taxation. This has the important empirical implication that low estimated labour supply elasticities may arise do to a failure to separate between the disincentive and insurance effects of taxes.

Figure 5: Labour supply and taxes – the role of risk and insurance



Note: Source Andersen (2010b)

[12] The specification implies constant relative risk aversion.

Hoynes and Luttmer (2010) consider the redistribution and insurance effects of taxes for the US[13]. They focus on the effects on consumption, and thus do not consider the effects of taxes on incentives. They distinguish the role taxes have in redistributing based on ex ante perceived differences and its role in providing insurance due to ex post arising differences. They find that both effects are quantitatively important and that their relative roles depends on the income level, that is, the insurance value increases and the redistribution value decrease with income. They find that there are net-gains from the scheme at all income levels.

Second, although not always made explicit, standard assessments of incentive effects take a complete capital market structure for given. However, when the initial situation is marred by imperfections the standard trade-off view does not follow. Intervention which explicitly addresses market failures have the potential of leading to a Welfare (Pareto) improvement. It is striking that analyses of unemployment insurance are often cast in a deterministic setting or take agents to be risk neutral. Recent events have made it quite clear that simply assuming that risks can be diversified in markets is a very misleading starting point.

Third, it may be questioned whether the above arguments depend critically on an assumption that social insurance can accomplish something which private insurance cannot. Clearly, if such insurance dominance is present, it leaves a clear-cut case for the potential beneficial effects of social insurance. However, even if such dominance is not clear cut it should be noted that if there is a political desire to redistribute it does also imply some insurance, and this does in turn reduce the costs of redistribution (see e.g. Boadway et. al (2006)).

An important element of the welfare state which involves a strong capital market and insurance elements is education. The capital market function arises because public education is free, but individuals are assumed to use their human capital in the labour market, and hence they will effectively pay back in the form of higher tax payments. The insurance function arises because the "payment" depends on how successful the education has been in terms of employment and wage prospects. The importance of risk and borrowing constraints as impediments to education are reduced under tax financed education. In its absence education will presume either previous savings (typically by parents) or borrowing in capital markets. Both are associated with problems since not all parents will have the possibility to save enough for their children's education, and the private market will in general offer insufficient borrowing options for education. Hence, private financing of education may imply an inefficiency in the sense that the human capital potential of the population is not used appropriately. Since human capital is known to be an important driver of growth, it follows that insufficient education may show up in lower average income in society.

Moreover, focus on education targeted to avoid un/low-skilled in the labour market may be a way to make it easier to achieve distributional aims; that is, decent wages and good employment prospects for all members of society. Maintaining a compressed wage structure and a high employment level requires that

[13] See Gruber (1997) for an analysis of how unemployment benefits in a significant way contributes to consumption smoothing.

the qualification structure is such that supply of low skilled labour is small[14]. To put it differently, egalitarian outcomes can not be obtained passively and an equal distribution of education (qualifications) is a prerequisite for an egalitarian labour market outcome (employment and wages). It is well-known that human capital has an important role for growth and thus the level of income. This also stresses the point that the effects of taxes on overall economic performance like average income or income growth cannot be seen independently of what the taxes are financing.

Finally, when discussing social insurance an individual (micro) perspective is taken for obvious reasons. It is however important to note that the contingencies implied by social insurance aggregate to the automatic stabilizers (Section 5). While social insurance schemes for obvious reasons can diversify idiosyncratic shocks, it is important that aggregate shocks can be diversified over time and thus generations via the public budget. Moreover, this points out that the size of automatic stabilizers tends to arise due to coincidence rather than design as the net-product of the design of taxation systems and the social safety net. These schemes are important from an individual perspective in providing insurance, but in an aggregate perspective they also sum to the automatic stabilizers which are cushioning the economy to aggregate shocks.

4. Common pool problems

Any type of insurance – private or social – suffer from potential problems due to moral hazard and adverse selection. For social insurance some adverse selection problems do not arise since participation is mandatory[15] (enforced pooling equilibrium). However, not all problems are solved since there is still a problem of targeting under incomplete information, that is, to ensure that the scheme only attract those for whom it is intended.

Moral hazard problems arise for both private and social insurance, in the latter case they are often termed tax distortions. It is worth observing that the debate often stresses the incentive problems arising under social insurance without noting that the same problems would in principle arise if the insurance was organized in a private market. The moral hazard problem arises due to a common pool problem and is in this sense generic. This does not, however, imply that one should not take moral hazard problems serious, but only that the incentive problems arising under social insurance should be evaluated taking into account what the realistic alternatives are.

4.1. Conditionalities in the social safety net

Policy designs are important for the moral hazard or incentive problems arising from insurance. Such design issues are reflected in actual policy schemes. Most observers are focussing on the generosity of the transfer levels in extended welfare states like the Scandinavian, and they are portrayed as paying people for not working (Rogerson(2007)) or as making work unnecessary (Esping-Andersen (1990)). This effectively amounts to assuming that there is a basic income or demo grant implying an unconditional minimum income for everybody. This is a poor characterization of social insurance in the Scandinavian countries

[14] Skill-bias driven by technology and globalization reduced demand for unskilled labour, and it is important to keep supply low so as to imply that the wage level is in accordance with distributions objectives.
[15] Strictly speaking there is an exit option in the form of migration. This is of importance for the scope of social insurance, but it is beyond the scope of this paper to discuss this aspect.

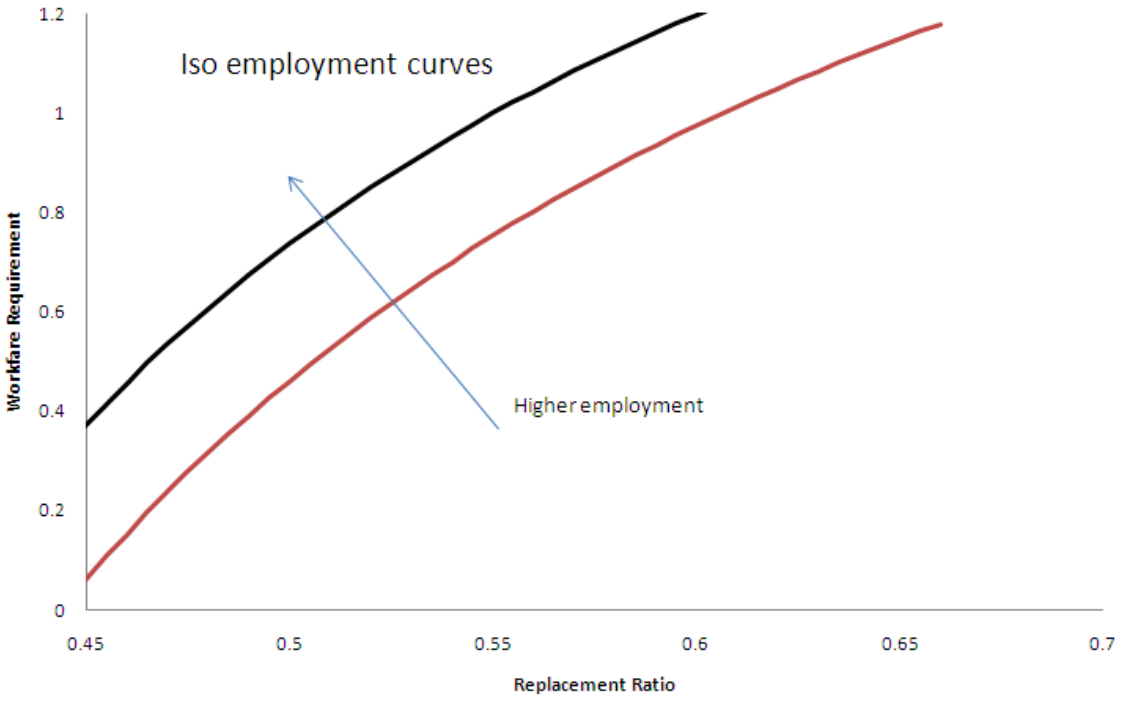
which includes numerous conditionalities, that is, although eligibility is universal in the sense that all have a formal right, there are conditions to be fulfilled to qualify for the transfers. These conditions apply both to the situation in which the person or family finds itself, but also to behavioural variables like active job search, participation in education programmes etc. The gateway into more permanent types of support like disability pension is narrowed by medical conditions, external monitoring etc.

Obviously, this does not completely eliminate moral hazard problems, but it does point to important design issues which are crucial in striking a balance between insurance and incentives. As an example it may be worth to highlight two important dimensions of social insurance in the Scandinavian countries. First, as in most countries, the basic social transfer (social assistance) is means tested on a family-basis. Second, there are crucial workfare elements in the design of social insurance, that is, the right or entitlement to a transfer is accompanied by a duty or requirement to participate in certain activities to receive the transfer. Such conditionalities serve to reduce both moral hazard and adverse selection problems.

These conditionalities include various elements ranging from control/enforcement of job search and availability criteria to enhancement of qualifications to improve job findings rates. To see the implications of these conditionalities consider the limiting case of a participation requirement for unemployment benefit recipient when programme participation does not affect qualifications but only serves as an availability test. Participation in such a programme increases the opportunity costs of receiving benefits which reduces both adverse selection problems and the moral hazard problem in individual search activities by lowering the net gains from claiming benefits. As an illustration of how the trade-off between employment (efficiency) and inequality (equity) can be affected by such conditionalities consider a simple search model of the labour market (Andersen and Svarer (2009)). In this setting unemployment benefits distort search incentives, and if benefits are financed by general taxation there is a standard common pool or moral hazard problem. Higher benefits (replacement rate) will lower the gain from working and lead to less search and thus reduce employment. Including a workfare element into the scheme implies higher opportunity costs from claiming benefits which makes unemployed search more for the basic reason that employment becomes more attractive for given benefit levels. Therefore such conditionalities serve to maintain incentives in the labour market and thus support high employment despite a high level of income insurance (replacement rate). Job search incentives can thus be strengthened either by a benefit cut or by strengthening of workfare elements. This is illustrated in figure 6 showing combinations of the replacement rate and the workfare requirement (measured in terms of the time requirement relative to normal working hours) delivering the same employment rate (see Andersen and Svarer (2009))[16].

[16] In the model the benefit scheme is associated with possible participation in a workfare programme. The programme has two dimensions, the likelihood or share or unemployed being asked to participated in the programme (the extensive margin) and the work requirement (the intensive margin). The intensive margin is measured as the time requirement relative to normal working hours, see Andersen and Svarer (2009).

Figure 6: The role of the replacement rate and workfare conditionalities in a basic search framework



Note: Workfare requirement is measured as the time requirement relative to normal working hours. The figure is based on model and simulations in Andersen and Svarer (2009).

The important point of this example is that incentives can be strengthened without necessarily deteriorating the level of support offered by the social safety net. Economic deprivation is not necessary to create incentives! This can also be interpreted in the sense that there is a complimentarity between replacements rates and workfare requirements, or that the total package matters. From a policy perspective the important lesson is that incentives in the labour market can be maintained without retrenchment of the social safety net, cf. Section 2.

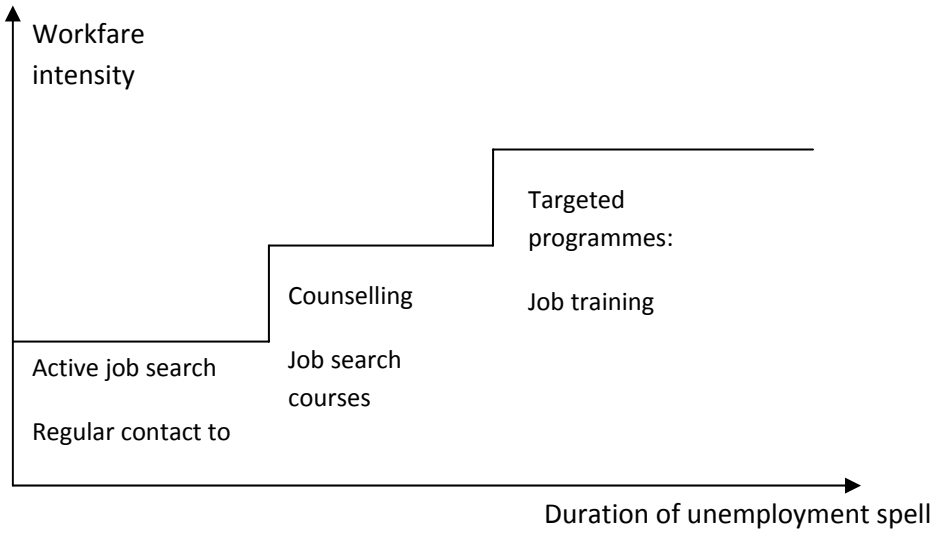
The point is not to deny the incentive problems arising from an extended social safety net. There are many examples of policy designs which have caused large drops in employment rates (including the early retirement scheme in Denmark, and sickness pay in Sweden). The point is that the solution to these problems is not necessarily retrenchment of the social safety net, but design changes which via conditionalities reduce the incentive problems. Thereby incentives can be maintain without increasing income disparities. It is noteworthy that Denmark, Finland, Sweden and the Netherlands since the mid 1990s have been able to increase employment rates considerably without significant increases in inequality, cf. Section 2.

Designing active labour market policies involves a number of concerns. Such activities are costly (direct costs of active labour market policies amount to 1.3 % of GDP in Denmark), and the shift in the trade-off between incentives and insurance is thus not obtained for free. Two aspects are particularly important, namely timing and programme types. Frontloading of workfare requirements will strengthen incentives the most, but it will also be very costly, and it would entail a large deadweight loss from programme

participation for many who in any case would find a job after a short unemployment spell. This is particularly so in a labour market with a high incidence of short-term unemployment spells. Hence, workfare requirement should be imposed after some duration of an unemployment spell. The group of unemployed is heterogeneous, spanning from some who have the qualifications and experience making them readily employable to some who lack these properties (e.g. due to long-term unemployment) and therefore find it very difficult to get a job. For the former group, help with job search may be sufficient, while for the latter more specific programmes may be needed to specifically address the constraints lowering their job finding rate. In some cases, it may be easy to identify these constraints (e.g. if the unemployed lacks specific skills) while in others it may be more difficult and also depend on market conditions (qualifications become obsolete due to structural changes). In the latter case, avoidance of deadweight losses gives an argument for making workfare programmes duration dependent.

These considerations lead to an optimal profile for workfare requirements as illustrated in Figure 7 where the requirements run from general and relatively costless activities to specific and more costly activities, depending on the duration of the unemployment spell. The duration dependent sequencing of workfare requirements works to minimize deadweight losses and programme costs while maintaining the incentive effects and addressing the more specific programmes to groups for whom it may make a difference. At the same time it introduces a forward looking element into the scheme, where the stepping up of workfare requirements strengthens work incentives.

Figure 7: Active labour market policy – duration dependent programme requirements



4.2. Labour supply enhancing policies

The argument that taxes are detrimental to labour supply overlooks the point that it depends on what taxes are financing. Various public sector activities can promoting labour supply both quantitatively and qualitatively.

The fact that key welfare tasks like child and old age care are embedded in the welfare package has important gender implications since it shifts a traditional task out of the family sphere for which women have traditionally been mainly responsible. This goes in the direction of ensuring more equal opportunities for males and females to pursue a labour market career. It can also be interpreted in the sense that economies of scale in child and old age care are exploited, which makes it possible in net terms to expand labour supply, and therefore strengthen the financial basis of the welfare model. An additional aspect of child care is that it may play a role in a socialization process. International differences in labour force participation rates are to a large extent driven by differences for women, and the reason the Scandinavian countries have a high labour force participation rate can largely be attributed to a high labour force participation rate for women.

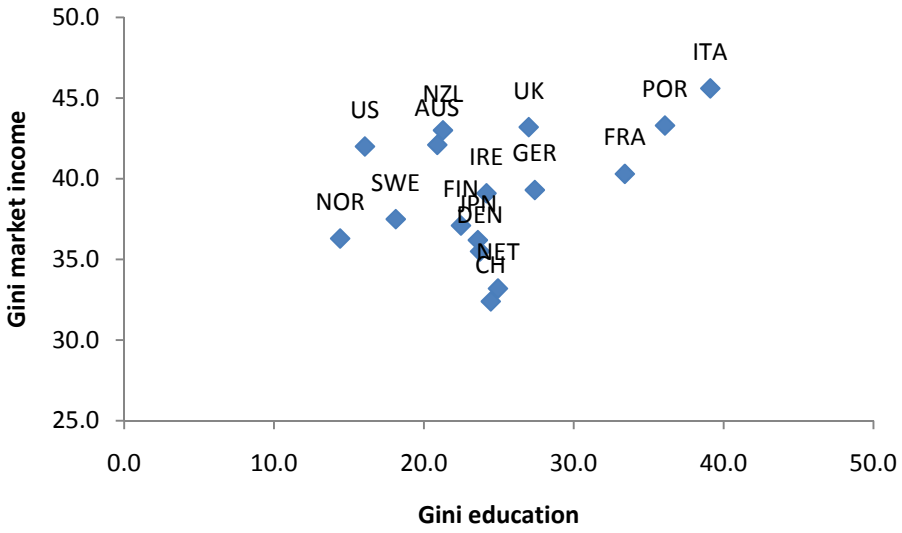
This is related to the paradox that the Scandinavian countries have high labour force participation and employment rates despite high tax burdens and thus high marginal effective tax rates on work. The latter would in isolation impair work incentives. The Scandinavian experience seems to suggest either that incentives do not matter or that there is a particular preference structure. However, accounting for pro-employment policies in terms of active labour market policies and policies promoting labour force participation like day care old age care etc., the apparent puzzle is resolved. Economic incentives matter, also in the Scandinavian countries, but other elements in the policy package implies that the net result is consistent with a high employment level (Andersen (2010c)). In particular active labour market policies and labour supply supporting policies (day care, old age care) counter-balance the effects of high marginal effective rates of taxes. The implication being that this makes it possible to maintain a generous social safety net without destroying the incentive structure.

The conditionalities discussed above addresses incentive problems arising at the supply side. However, there is an additional aspect which in a dynamic context is equally or more important in reconciling equality with high employment rates. Strong egalitarian preferences rule out working-poor and thus minimum wages are high[17]. This implies a higher entry threshold in terms of qualifications to find a job. To ensure equal opportunities and to make an egalitarian outcome consistent with a high employment level it is thus a requirement that the qualification structure is reasonably compressed. To put it differently, it is impossible to maintain a high employment level for a large group of unskilled workers.

Cross country data on inequality in education and income is shown in figure 8. It is seen that the Nordic countries are positioned with both low inequality in education and income. It is worth noting that the high tax countries are also the countries with strongest focus on public involvement in school. That is the overall level of spending on school is high (and the larger part is public) and the major part is on basic education, see OECD (education at a glance). This underscores the points that policy designs are important to make high efficiency consistent with low inequality.

[17] In the Scandinavian countries minimum wages are determined in labour market negotiations. Clearly the level is related to transfer levels offered in the social system.

Figure 8: Inequality – education and market income



Note: The Gini coefficient for education is for the whole population age group 15 and over in 2000. The Gini coeffient for income is market income before taxes and transfers in 2003.
Source: Vinod, T., Y. Wang, and F.X. Yan (2003) and www.sourceoecd.org

4.3. Centralized labour markets

Scandinavian countries are characterised by centralized labour markets and a strong tradition for seeking cooperative solutions (tripartite settlements). In relation to the common pool property of the welfare state, this is particularly important. The common pool problem arises because each single actor perceives that a change in behaviour to its own benefit will have no influence on the whole group (society). When all reason in this way, problems arise, cf. discussion above. However, centralized wage setters will realize that if they change wages or other work conditions, it will have an effect on the whole (or a significant subpart) of the labour market and therefore also the public budget, which in turn will affect workers (see Summers et al. (1993)). Likewise union leaders will not formulate an agenda where they ask for tax increases to finance a more extended welfare state and at the same time ask for wage increases to compensate for the implied tax increases. In short, centralized wage setters take the effect of their actions on the public budget into account (the common pool problem is partly internalized). This may be one important contributory factor to explain why it has been possible historically to maintain a relatively high labour input despite high taxes. While individuals may perceive that the price of shorter working hours is small (the wage after tax), the centralized wage setters will realize that the cost to society is much larger since the lost tax revenue should also be taken into account. Hence, centralized determined working hours will take this into account and tend to be too long as seen from an individual perspective!

Finally, it is noteworthy that major reform initiatives conducive to employment increases in e.g. Denmark and the Netherlands have been based on cooperation with parties in the labour market.

5. Persistence – the Achilles heal of the extended welfare state

Social insurance handles not only idiosyncratic shocks but also aggregate shocks. The insurance provided to the individual in respect to work, income etc. translates into an economy wide response when sufficiently many are affected by the same shock as happens in respect to business cycle fluctuations. The net result of this is summarized in the so-called automatic budget responses or automatic stabilizers showing how the public budget responds to a change in aggregate income (GDP) (see e.g. van der Noord (2000) and Girouard and André (2005)). In this way micro and macro aspects meet.

The automatic stabilizers clearly stabilize disposable income of individuals and families and thereby provide income insurance to aggregate shocks (see e.g. Dolls et.al. (2010)). The effects are showing up in the budget balance, and thereby it is possible to diversify shocks across time and thus generations. This is also widely considered to contribute to aggregate stability by making private consumption less sensitive to the current business cycle situation[18].

It is well established that the size of automatic stabilizers are strongly correlated with the size of the public sector. This is no surprise given that the budget response derives from the design of social, labour and tax policies, and hence the more extended the welfare state, the stronger these responses. This strong budget response can also be seen as pointing to the importance of maintaining a high employment level to ensure the financial viability of an extended welfare state. For Denmark a drop in employment of 1 % would imply a deterioration of net-public revenue of about 0.8 % due to the combined effects of lower tax revenue and increasing expenditures on transfers (see Andersen (2007)). Hence, if employment drops by 1 %, the financial burden resting on the remaining employed increases by almost 1 % if the welfare arrangements are to remain financially viable. The reason is straightforward, a lower employment level reduces tax revenues and increases expenditures in the social safety net. In short the financial balance of an extended welfare state depends critically on maintaining a high employment level.

In theory there are good arguments for letting the public balance serve the insurance function which is basically embedded in automatic stabilizers. If we think of business cycles as driven by exogenous shocks propagated by internal adjustment mechanisms there is a strong smoothing argument for using the public budget as a buffer (the basic rationale for stabilization policy).

It is a crucial question whether short-term insurance achieved via the social safety net comes at the cost of more sluggish adjustment and hence more persistence in the response to shocks. If so, the social safety net is impairing flexibility and adjustment. This question is particularly important in the wake of large employment decreases following the financial crisis and the discussion both about the need for improvements in the social safety net, and the possible pressure on public finances arising due lack of adjustment.

This question is further made relevant by the experience of many countries during the period with high an persistent unemployment from the 1970s/1980s onwards. The adjustment in the labour market turned out to be very sluggish which in itself was a problem, but it also had very large effects on public finances. It is accordingly important whether there are any lessons to be drawn from the experience during this period.

[18] It is important to note that there may be a welfare rationale for such insurance even if it does not stabilizes output or employment.

Moreover, it is particularly important whether an extended welfare state via its social insurance arrangements itself is contributing to making the adjustment process more sluggish and thus to strengthen persistence.

Given the importance of the persistence issue there is surprisingly little empirical research attempting to identify its causes. Persistence remains also a problem in business cycle models which as a standard procedure replicate the strong persistence seen in the data but assuming strong persistence in the shocks driving the business cycle (for a early critique see (Cogley and Nason (1995)).

5.1. Persistence and public budgets

However, automatic stabilizers do not distinguish between temporary and permanent shocks. A temporary shock can be diversified, a permanent cannot[19]. This is illustrated in Table 3 showing the implication of a 1% decline in GDP for fiscal sustainability measured by the so-called S2 indicator[20]. The S2 indicator measures the permanent change in the budget balance needed to meet the intertemporal budget constraint. That is, current budget deficits have to be accompanied by surpluses in the future, and vice versa. However, the scope for risk diversification depends crucially on the nature of the shock. The table considers various levels of the automatic budget reaction and persistence in the underlying adjustment process. If shocks are only vaguely persistent with an autoregressive parameter of e.g. 0.5 a 1% drop in GDP only has a very marginal effect on fiscal sustainability. In other words, such a shock can easily be diversified. It is seen that the stronger the persistence, the stronger the effect on the needed consolidation, and in the limit of complete persistence (random walk) the permanent budget consolidation corresponds to the initial automatic budget response. In this case there is no scope for risk diversification.

Table 3: Need for permanent budget consolidation in % of GDP in response to a 1 % drop in GDP

		Persistence				
		0.5	0.75	0.9	0.95	1
Automatic Budget response	0.3	0.01	0.02	0.04	0.13	0.30
	0.5	0.01	0.03	0.07	0.21	0.50
	0.7	0.02	0.04	0.09	0.30	0.70

Note: Based on formula in footnote 19. Persistence is measured by the autoregressive parameter in an AR(1) process, and the automatic budget response gives the changes in the primary budget balance in % of GDP to at change in GDP.

Table 3 has two important implications. First, automatic budget responses are vulnerable in the sense that they do not distinguish between transitory and persistent (permanent) shocks, and the scope for risk diversification differs significantly across types of shocks. Secondly, strong persistence implies that rather larger budget consolidations are needed to restore the financial viability of the system. The implication of

[19] Risk diversification runs via capital markets. In principle, with a complete market structure the government could diversify even permanent country specific shocks in international capital markets. However, this is not possible in reality where the possibility of diversifying future negative persistent shocks to national output is very restricted.

[20] Let output measured in deviations from long-run levels (y) follow the process

$$y_t = \rho y_{t-1} + e_1; t \geq 1, 0 < p < 1$$

where e_1 is a shock appearing in period $1(y_0 = 0)$. Hence, $y_{t+j} = \rho^j e_1 \quad j \geq 1$, i.e., adjustment is here assumed to be generated by a sluggish adjustment process. Denote the budget sensitivity to output variations by α implying that budget variations are given as $\Delta b_t = \alpha y_t$.The effect of the shock on the sustainability indicator is therefore $\Delta s = -\frac{r}{1+r}\sum_{j=0}^{\infty}\left(\frac{1}{1+r}\right)^j \rho^j \alpha e_1 = -\frac{r\alpha e_1}{1+r-\rho}$.

this point can be seen historically in the aftermath of persistent crises in Denmark (1970s and 1980s), Sweden (1990s) and Finland (1990s) which produced a severe deterioration of public finances.

It is thus an important question how much persistence there is in shocks and the adjustment process, and in particular whether an extended welfare state in itself is contributing to strengthening persistence. The latter may derive from the possibility that insurance implies more sluggish adjustment.

3.2. Persistence and the social safety net

Possible causes of persistence in the labour market include depreciation of human capital increasing with the length of unemployment spells, changes in the wage setting mechanism if it primarily is affected by insiders (the employed) with little weight given to the outsiders (unemployed), or a reduction of production capacity as a response to the crisis. The key question here is whether these sources of persistence are strengthened by the social safety net. Noord et.al. (2006) find a weak positive relation between persistence measured by the half lives of output gaps and social expenditures as a share of GDP.

Ljungqvist and Sargent (1998) describe a generous welfare state as a "time bomb" in the sense that it may operate efficiently in tranquil times but be vulnerable to turbulence which easily translates into persistent unemployment[21]. The latter is caused by weakened job search activities and higher reservation wages due to a generous social safety net. In particular, shocks tends to depreciate skills and thus requires workers to accept a wage cut to find a new job, but unemployment benefits depending on past wages tend to create inertia in the adjustment of reservation wages. As a consequence the safety net hinders the process of restructuring the economy. It is also an implication of a generous tax financed social safety net that the level of mobility across jobs is lowered (Ljungqvist and Sargent (1995)). This may contribute to reduce frictional unemployment, but induce higher structural unemployment in a situation with turbulence.

A different explanation of persistence has been advanced by pointing to the role of norms in counteracting the incentive effects of a generous social safety net (see e.g. Lindbeck (1995) and Lindbeck et.al (2003)). A strong norm to be self supporting counters the economic incentives created by a generous scheme. Allowing for the norm to be endogenous and depending (possibly with a lag) on the number of individuals being self-supporting implies that a generous social safety net can be maintained if the employment rate is high. However, if employment falls due to e.g. a severe business cycle downturn norms may be eroded, and the welfare state is caught in a situation with persistent non-employment and fiscal problems.

While there is a voluminous empirical literature addressing the role of various institutional factors including the social safety net for labour market performance (see e.g. Blanchard (2006) for a survey and discussion), there are very few studies who explicitly addresses the persistence issue. Two different conceptual issues are at stake namely on the one hand the structural unemployment rate, and on the other hand the responsiveness of the labour markets to shocks. The latter involves both the impact effect (volatility) and the adjustment process (persistence). These issues are clearly highly relevant in the current situation where there have been large decreases in employment. These changes are irreversible, but it is crucial to minimize the extent to which this translates into persistent reductions in employment. The following accordingly

[21] A possibility of multiple equilibria also arises when taking into account the financing of the safety net. Similarly if incentive problems are countered by costly monitoring, the effectiveness of such monitoring is large at low levels of unemployment reinforcing this situation, and oppositely in a situation with high unemployment (Ljungqvist and Sargent (1995)).

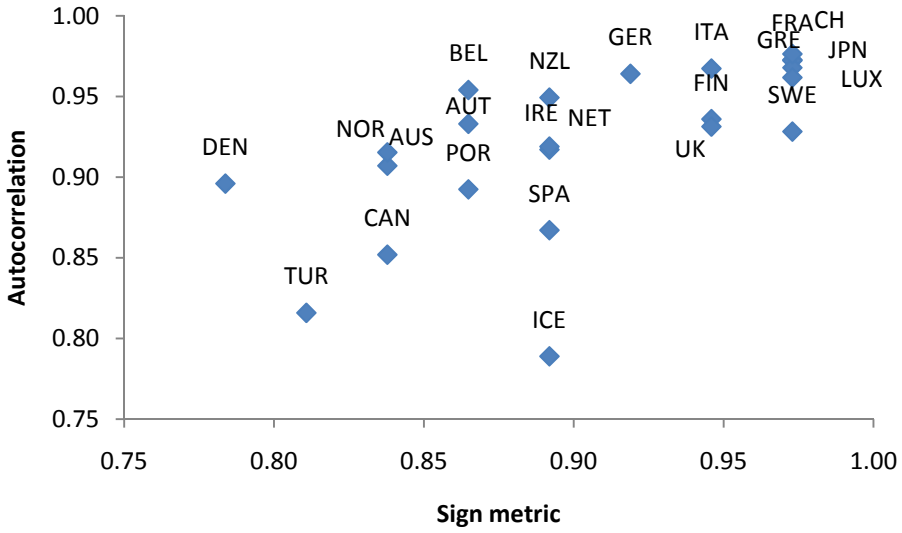
takes a closer look at the empirical support for the social insurance sclerosis hypothesis, and also what lessons there are to be drawn for policy.

3.3. Persistence in the labour market

It is not straightforward how to measure persistence in the adjustment process. Ideally one would want to separate exogenous persistence (driven by persistence in shocks) from endogenous persistence (driven by adjustment mechanisms in the system). This is obvious very difficult and will invariably rely on identifying assumptions which may be open for debate. It is beyond the scope of this paper to go into details with this, and rather a more simplistic approach is pursued by presenting various metrics of persistence.

For the period 1970-2007 figure 9 gives both the autocorrelation and a sign metric of persistence in unemployment for 24 OECD countries for both the employment rate (age group 16-64). Various other measures of persistence, also applied to unemployment and employment rates are reported in Andersen (2010c). While there are some variations across the different measures they are strongly correlated. These different measures leave the same relative ranking of the countries and hence the particular choice of metric is of less importance. It is an implication that there is strong persistence for a number of countries, that is, the adjustment process is long lasting, cf. figure 9.

Figure 9: Unemployment persistence – OECD countries

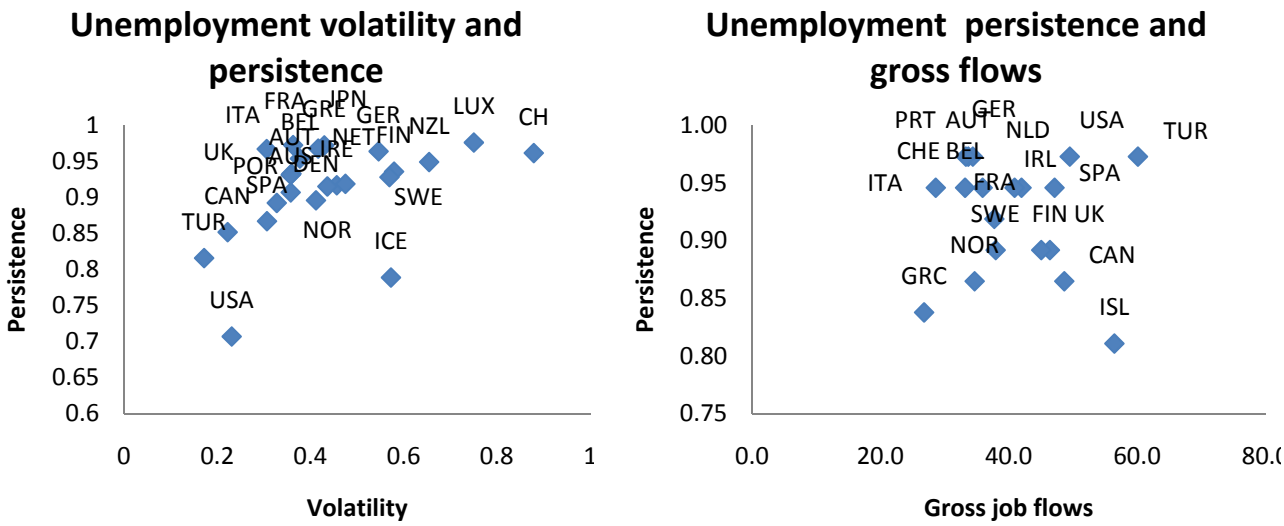


Note: Data is for 23 OECD countries 1970 to 2007. The sign metric of persistence is calculated based on formula in Dias and Marques (2005). Both measures are computed for the unemployment rate. The correlation between the two measures is: 0.61
Data: www.source.oecd.org

It is a crucial question whether there is any relation between the volatility and persistence in the labour market. Is it the case that labour markets exposed to volatile shocks also display more persistence, or the reverse? Figure 10 presents two measures of volatility in the labour market, namely, the standard deviation of unemployment and the gross job flows (sum of job separations and creations). For both measures there is a weak positive correlation with the persistence measure. Hence, it does not seem that countries with

low volatility are more exposed to persistence in the adjustment process, neither is it clear that more volatility is associated with more persistence.

Figure 10: Labour market volatility and persistence



Note: Persistence is the autocorrelation for unemployment over the period 1970-2007. Volatility is the standard deviation of the unemployment rate over the period 1970-2007. Gross job flows is the sum of hiring and separation rates over the period 2000-07. Data: www.sourceoecd.org

The persistence measures reported above are open to various interpretation problems and an alternative way to approach the same problem would be to look at cases of large unemployment crises. In Andersen (2010) a large employment crises is defined as a fall of 3 percentage points or more in the employment rate within a three year period, and this leaves 18 such events among OECD countries over the period 1970-2007. All these cases display very strong persistence in the sense that there are no cases where employment has recovered within five years and only few instances where it is the case within ten years after the onset of the crisis. There is thus evidence that deep employment crises tend to be highly persistent.

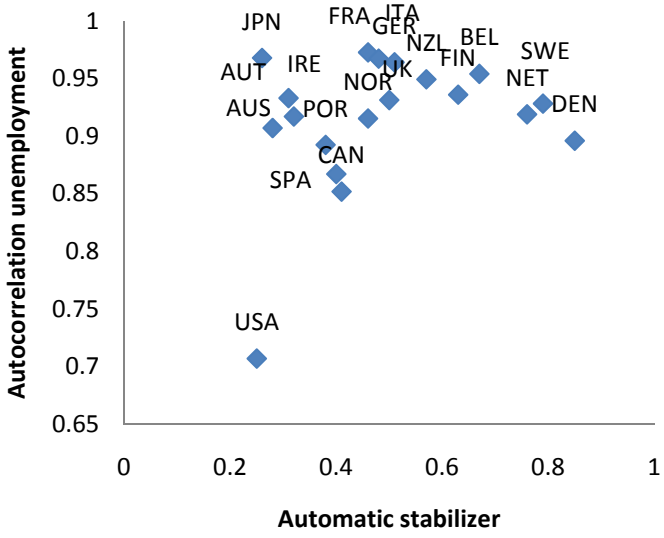
3.4. Policies, institutions and persistence

The next step is to consider whether there are any empirical regularities linking persistence to policy design and institutions in the labour market. This is a difficult endeavour since the metrics of persistence are imprecise and since it is difficult to characterise and summarize policies and institutions in a few simple measures. The following takes two different approaches to this issue both considering automatic stabilizers as a summary metric of the extent of the social safety net, and by considering various indicators related to policies and institutions.

Automatic stabilizers play an important role in the macro literature since they measure the extent to which income variations are absorbed by the public budget and in this way cushions income to shocks. The quantitative size of the automatic stabilizers reflects in a summary way the consequences of the way in which the social safety net and its financing is arranged. Hence, it can be taken as a simple summary

measure of the extent of the social safety net in the wide meaning of including the state dependencies of transfer, taxes and expenditures. Figure 11 gives a cross plot of automatic stabilizers and unemployment persistence. There is no clear relation between the two. Interestingly the group of countries with the strongest automatic stabilizers (DEN,SWE, NET) has a lower level of persistence than a large group of countries with middle-sized automatic stabilizers suggesting a non-linear relationship[22].

Figure 11: Automatic stabilizers and unemployment persistence



Note: Automatic stabilizers metrics are from van der Noord(2000), Unemployment persistence measured by the autocorrelation over the period 1970-2007, cf. figure 9. Regression line: $y=0.25+0.33x$, $R^2=0.26$.
Source: ww.sourceorcd.org and van der Noord (2000).

Finding that persistence is only weakly related to the size of automatic stabilizers may reflect that the latter is a too summary measure, and that a clearer picture emerges by considering indicators of labour market institutions and policies. In the following consider the role of active labour market policies, employment protection legislation, generosity of the unemployment insurance scheme and the degree of centralization in labour markets. Table 4 shows how these various indicators are correlated with the different measures of persistence. Considering the various metrics for persistence in unemployment does not leave a clear picture. The correlations are weak and there are no statistically significant relations in the data, neither when estimating a relation linking a persistence measure to the four indicators.

[22] Estimating unemployment persistence (y) on automatic stabilizers (x) in levels and squared yields (t-values in paranthesis) yields:

y	=	0.67	+0.92x	$-0.77x^2$	;$R^2=0.26$
		(0.11)	(0.45)	(0.49)	

Table 4: Simple correlation measures of persistence and policy/institutional indicators

		ALMP	EPL	UIB	CENT
Persistence	Autocorrelation	0.09	0.32	0.20	0.35
	Sign metric	0.23	0.21	0.00	-0.53

Note: Persisetnce measures as in figure 9. ALMP= expenditures on active labour market policies as a share of GDP, EPL = OECD index for employment protection legislation, UIB = unemployment insurance generosity index, CENT= degree of centralization in labour markets.
Source: www.sourceoecd.org

In conclusion we thus have that while there on the one hand is strong evidence of persistence in the labour market, it is on the other hand unclear how this is related to policies/institutions. The latter finding may of course suggest that persistence is exogenously driven by the shocks, but this is implausible since there is quite some difference across countries.

Important for the present discussion there is no evidence supporting that countries with more extended welfare state suffer from more persistence. Nonetheless as noted above this is not implying that persistence is unimportant for countries with extended welfare state. Quite the contrary the strong automatic budget responses imply that persistent declines in employment rates will have dramatic consequences for public finances. It is interesting to note that the countries with extended welfare state are among the countries which prior to the financial crisis did most to consolidate public finances and the undertake reforms to address fiscal sustainability problems arising from ageing[23].

VI. Policy implications

The financial crisis has shown deficiencies in the scope for diversification of shocks. Prevailing arrangements did not have a proper balance between efficiency and equity and this has prompted calls for improved collective risk sharing.

When markets are incomplete there is scope for social insurance to make improvements both in terms of efficiency and equity. In the presence of risk it is difficult to separate redistribution and insurance. Collective risk sharing arrangements have direct welfare effects when agents are risk averse but may also have important behavioural effects. With market incompleteness it is possible to improve upon allocation via risk sharing arrangements, and hence concerns for efficiency and equity need not always conflict, although optimal policies will always feature a trade-off at the margin. The question of the welfare state is more than a repair of unfair outcomes produced by the market economy.

The latter point is supported by comparative evidence. Empirically the paper has identified a trade-off between efficiency and among the best practice countries. Whether the trade-off is steep or flat is open to discussion, but a cluster of northern European countries stand out by having both high income levels and low income inequality. These countries have extended welfare states and thus arrangements for collective risk sharing. Moreover, these effects do not only show up as repairs of market outcome. Considering the trade-off in the labour market these countries have both high employment rates and a compressed wage structure.

[23] In European Commission (2009) on fiscal sustainability the Scandinavian countries are found to be among the countries with the smallest sustainability problems.

However, collective risk sharing arrangements imply common pool problems, and the resulting incentive problems may be a serious problem. To counteract these two active policy arms are crucial. First, the extent of the incentive problems depends critically on policy design. The purpose of the social safety net is to provide temporary and not permanent support. It is therefore essential to build in conditionalities in the safety net with a job focus (job search, labour market programmes etc.). This makes it possible to maintain relative generous benefits without jeopardizing the incentive structure. Second, education and qualifications constitute a fundamental factor in making a high employment level consistent with a compressed wage structure. If a large group has no or low qualifications high wage ambitions (no working poor) will result in permanent unemployment for this group, which in turn will call the financial viability of collective schemes in question. Collective risk sharing arrangements depend critically on maintaining a high employment rate.

For the same reason such schemes are vulnerable to persistent shocks. A persistent decrease in employment will via automatic budget reactions have serious implications for public finances. It is a virtue of collective risk sharing arrangements that they can deal not only with idiosyncratic but also aggregate shocks. However, the latter applies only to temporary shocks. Permanent shocks cannot be diversified. Experience shows that persistence in labour markets is strong in many countries. It has also been suggested that social insurance may be contributing to such persistence by making adjustment processes more sluggish. Empirical evidence presented here does not provide support to the hypothesis that the persistence is stronger in countries with extensive collective risk sharing arrangements. Nonetheless persistent shocks are a serious policy challenge, and experience from the financial crisis shows that prudence in fiscal policy is important to maintain a room for manoeuvre in deep crises.

A further aspect is crucial for collective risk sharing arrangements, namely, that the underlying institutions are considered efficient and well-managed. It has been beyond the scope of this paper to discuss this issue, but it is important to stress the role of institutional set-up as a prerequisite for political support to extensive collective risk sharing arrangements. An important issue is through what mechanisms political support for collective risk sharing arrangements is established and maintained.

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