

EUI WORKING PAPERS

RSCAS No. 2006/30



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A conceptual and empirical evaluation of pension
reform in Europe

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EUROPEAN UNIVERSITY INSTITUTE, FLORENCE
ROBERT SCHUMAN CENTRE FOR ADVANCED STUDIES

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EUI Working Paper **RSCAS** No. 2006/30
BADIA FIESOLANA, SAN DOMENICO DI FIESOLE (FI)

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ISSN 1028-3625

Printed in Italy in September 2006
European University Institute
Badia Fiesolana
I – 50016 San Domenico di Fiesole (FI)
Italy
<http://www.iue.it/RSCAS/Publications/>
<http://cadmus.iue.it/dspace/index.jsp>

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Abstract

The major wave of pension reform taking place in Europe over the past two decades has radically reshaped existing systems for old-age income protection. As a result, traditional frameworks used for the analysis and classification of countries in welfare clusters have become less suitable to capture the new pension regime types, the dynamics of institutional change, and the distributional principles underpinning new reform directions. The paper proposes a conceptual framework to evaluate and compare the underlying distributional principles of recent pension reform. It is focused on three dimensions: (1) the distribution of rights (eligibility to benefits), (2) the distribution of resources (benefit calculation and distribution), and (3) the distribution of the risks of old-age financing. The empirical analysis is focused on four countries with different pension regime structures, which allows to discern reform directions in originally dissimilar systems. The study shows that, to a greater or lesser extent depending on the specific institutional and historical features of each country, there tends to be a common direction of pension reform towards a similar distributional model. This shared reform direction includes two key features: first, the separation of the functions of poverty-prevention and income-replacement into two different layers of system and, second, the redefinition of the distributional logic of each of these two layers. In the income-replacement layer, pension benefit levels become actuarially determined, according to individually made contributions and life expectancy projections, and risk-pooling within and between generations is sharply reduced. In the poverty-prevention layer the trend is towards means-testing, residual benefits, and an expansion of the pooling of the risk of old-age poverty via general-taxation financing. Although effective outcomes across countries may continue to differ as a result of the different social, demographic and especially labour market structures, the pathway towards a new distribution pattern is found across the four case-studies.

Keywords

Pension reform, social security, distribution, intra-generational transfers, welfare models, pension regime

Introduction¹

Pension systems have been traditionally considered difficult to reform (Pierson 1994; Pierson 1996). Reducing or restricting previously allocated entitlements involves significant political costs. Existing social arrangements generate ‘policy-feedbacks’ (Skocpol and Amenta 1986) which can affect the scope for present and future policy. This explained why social protection systems seemed to be ‘frozen’, maintaining an original design which was conceived for a socio-economic context that no longer exists (Esping-Andersen 1996). Yet, over the past few decades the ‘elephants’ started to move (Hinrichs 2001). Demographic change, new labour market patterns, low economic growth and the process of globalisation and European integration put into question the financial sustainability and the adequacy of the pension systems created in the post-WWII period, and pushed governments to bring the uncomfortable issue of reform to the top of the political agenda. Over this period, most European countries undertook some kind of reform with the explicit purpose to guarantee the long-term financial sustainability of their pension arrangements. The long phase-in process for these reforms to actually take effect meant that their distributional impacts on different types of workers and generations will still have to wait some time to be practically observed. While analyses of the nature of institutional change can help to understand the underlying logic and prospective outcomes of recent pension reforms, existing analytical frameworks do not seem adequately fit to capture some of the key aspects of these changes. This paper proposes a new approach to analyse pathways of reform that departs from both quantitative evaluations of welfare expenditures and existing frameworks for comparative institutional design, to study pension arrangements in their implicit distributional logic or, in other words, the distributional principles underpinning the reform of pension systems.

Part 1. Distributional models in pension policy

1.1. Welfare regimes, alternative classifications and their discontents

Esping-Andersen’s regime theory continues to be one of the most influential pieces of work in recent welfare analysis (Esping-Andersen 1990). The famous ‘three worlds of welfare’ have guided social policy research for over one and a half decades now. Most of the novel explanatory power of regime theory stemmed from the fact that it moved in the direction of characterising welfare institutions by their underlying principles and outcomes, allowing for systematic cross-country comparisons of welfare arrangements without relying on public expenditure data, which are often a poor indicator of welfare outcomes. Regime theory has shown that the nature of each system of social protection can be systematically analysed as reflecting a particular logic of stratification which is politically decided and can have concrete social implications. Critiques to this approach also flourished. Most came from researchers specialised in certain regions, who regarded the classifications deriving from regime theory as insufficient to grasp the particularities of specific countries, and from others who stressed the inadequacy of this classificatory framework for the analysis of groups of countries which were conceived as falling into new categories (Ferrara 1996, Kwon 1997, Castles and Mitchell 1993). Other critiques were more centred on the methodology, in particular, on the problems of combining in a single framework a number of welfare systems which have independent histories and involve different social actors (Kasza 2002). A critique that is particularly important in the context of welfare reform, but has not been sufficiently stressed, refers to the lack of dynamism of the approach, which offers limited scope for evaluating institutional change. The problem is again methodological: the

1 This paper was written under the research project ‘Pathways of pension reform in Europe’, financed by the European University Institute (Jean Monnet Fellowship) and the European Union (Marie Curie Fellowship). I would like to thank Martin Rhodes, Martin Kohli, Helen Wallace, and the participants at the RSCAS Luncheon Seminar and the EUI Workshop on Pension Reform for their comments and suggestions. Errors of fact or interpretation remain my own.

classification of countries in one regime or another is given by their score in a number of indices (index of 'decommodification', indices of 'stratification'), but there is no intrinsic dividing line between one 'regime' and another. Each country is in fact classified in relation to the position of other countries.² Simultaneous reforms in a similar direction in all countries may, under this methodology, yield no change in 'regime type' of each country, thus obscuring the nature of reforms. On the other hand, the indices used to classify countries into welfare clusters combine different welfare services in a single measure, thus changes in one area of welfare may offset or counter the impact of changes in another. The evaluation of pension reform with the tools of regime theory is thus problematic. As the empirical evaluation of 'decommodification' in Esping-Andersen's approach is centred on the comparison of mean pension benefits (disregarding both the intra- and inter-generational distribution of pension resources),³ the study of the distributional impacts of pension reform, in particular, can hardly be undertaken under this methodological framework.

Probably for these reasons, evaluations of pension reform trajectories continued to be based on the old distinctions between Bismarckian and Beveridgean systems rather than on Esping-Andersen's welfare regime classification (for example, Bonoli 2003, Myles and Quadagno 1996, Hinrichs 2001, Myles and Pierson 2001). The Bismarckian-Beveridgean is, however, an extremely broad divide which centres in the major institutional differences across pension regimes (either work-related entitlements that reproduce income differentials or universal flat-rate benefits that equalise income upon retirement), but is not specific enough to grasp the impacts of the pension reforms adopted throughout Europe. Beveridgean systems, in fact, can as well reproduce income differentials when they provide very low benefits leaving the bulk of old-age protection to the market (either via occupational or private pension alternatives). Bismarckian systems, on the other hand, can widely vary in terms of the level of benefits and coverage, the value of minimum and maximum thresholds, and in the size of particularistic privileges, all of which can make the systems more or less status-reinforcing.

In addition, as a result of a long-term reform process, the institutional differences across countries are now less clear-cut than they were some decades ago. As systems evolved and adapted to changing contexts, the original Bismarckian-Beveridgean dichotomy became less useful for comparative analysis. Pension systems originally considered Beveridgean have introduced state and private earnings-related pensions blurring the flat-rate nature of the system, while Bismarckian regimes have, specially over the past decade, tended to reduce privileges and benefit differentials across occupational categories, to cut state replacement rates and to encourage supplementary private or occupational provision, also undermining the overwhelming 'state-based status-reproducing' type of system. In most countries, cost-containment measures have modified the public-private mix in pension provision, tightened eligibility rules, and reduced prospective state pension benefit levels. Although countries with originally Bismarckian or Beveridgean structures still conserve some of their historical features, this distinction (Beveridgean/Bismarckian) is no longer sufficiently rich to be used as the single or main basis for the analysis of pension reform—not least because it is as static as 'regime theory' is. Scholars have nonetheless used the Bismarck-Beveridge dichotomy as a departure point for comparing reform trajectories across countries with different institutional structures, in particular, as a way to evaluate the impact of original arrangements on the scope and direction of reform, in other words, the 'path dependent' nature of institutional change in the pension arena. Bismarckian countries were found to address pension reform differently than Beveridgean countries, confirming the 'feedback' of institutional structures (see for example, Myles and Quadagno 1996, Bonoli 2003, Natali 2005). The

2 For example, in the case of the index of decommodification of pension benefits '[t]he classification into the three scores (low, medium or large decommodification) has been done on the basis of one *standard deviation from the mean*, in a few cases adjusted from extreme outliers.' (Esping-Andersen 1990: 54, my emphasis).

3 The decommodification index for pension benefits includes the following elements: '1) minimum pension benefits for a standard production worker earning average wages... ; 2) standard pension benefit for a normal worker ... ; 3) contribution period, measured as number of years of contributions (or employment) required to qualify for standard pension... ; 4) individual's share of pension financing' (Esping-Andersen 1990: 54).

regime outcome could not, however, be classified on the same basis: Bismarckian system followed a similar trajectory but the resulting system could hardly be named ‘Bismarckian’—the same was the case with Beveridgean systems. In both cases, there seems to be a need for new and better conceptual frameworks for pension reform analysis.

In some cases, researchers with an interest on the processes of pension reform throughout the world have abandoned welfare regime classifications and the Bismarckian-Beveridgean divide to centre in more specific features of the administrative and financial organisation of pension systems. Given the nature of the reforms taking place over the past decade, and the influence of the 1994 World Bank report *Averting the old age crisis* (World Bank 1994), pension schemes were increasingly classified either in terms of the mechanisms for financing (pay-as-you-go (PAYG) vs. funded), or in terms of the rules for benefit calculation (defined-benefit (DB) vs. defined-contribution (DC)). Each of these models of resource administration and benefit calculation have singular impacts on the prospective level and distribution of benefits, an issue that has been somewhat blurred by an overwhelming interest on financial sustainability. The framework adopted in this piece of research integrates these two pairs of models of resource and benefit administration (PAYG vs. funding and DB vs. DC) into an analysis that focuses not on mechanisms of administration (of benefits, resources, and so on) themselves, but on their implicit distributional impacts. This simultaneously entails broadening the analysis into the principles of justice and equity underpinning pension policy, as ‘regime theory’ does, but in a more specific way that allows the analysis to capture the distributional direction of alternative reform options which may have a significant impact on prospective outcomes. Even when the empirical evaluation of the outcomes of recent pension reforms will have to wait several decades until the new systems are fully phased-in, the distributional direction of reform can be projected from the analysis of the design changes that are being applied.

1.2. Towards dynamic pension models: the ‘distribution pattern’

‘Income smoothing’, ‘poverty prevention’, ‘insurance’, ‘redistribution’: these have been with greater or lesser strength depending on the country, the aims of pension policy worldwide. The achievement of these aims entails, necessarily, a distribution of resources either inter- or intra-generationally, inter- or intra-personally. From this focus, pension policy is essentially a system of distribution which operates in cross-section as well as over the lifecycle of the individual. Pension schemes can restrict the allocation of benefits to certain groups (according to need, status or merit) or provide them universally to the entire population. They can be conceived as a means to compensate for market inequalities, regarded as an insurance system which covers specific risks, or as a saving scheme, which organises individual accumulation for retirement. In all cases, by reorganising resources among income groups and across the lifetime, the pension system has a time- and country-specific distributional impact. The final distributional outcomes (that is, the net winners and losers) result from the type of pension system adopted in each particular time and country (and its implementation on the ground). The institutional structure of pension schemes across countries has determined the way in which these rights, resources and risks are apportioned across the population. Regime theory has itself addressed these distributional issues. Esping-Andersen’s ‘social democratic’ welfare regime was characterised by providing universal social rights and limited benefit differentiation, the ‘corporatist-conservative’ welfare regime by making pension rights dependent on employment, and the ‘liberal’ welfare regime by providing residual benefits dependent on need. This paper will propose a classificatory framework based on three dimensions which can capture the implicit distributional nature of pension systems and the direction of pension reform in terms of its distributional logic and principles.

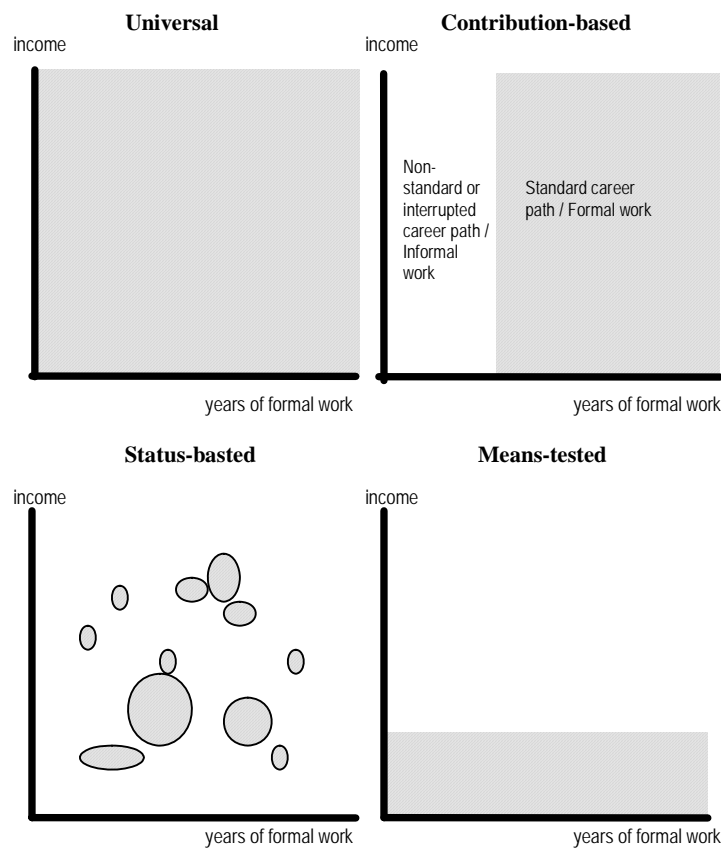
There are three main elements that are distributed by the pension system: (1) right to benefits (access), (2) resources (costs and benefits), and (3) risks (of various types –demographic, economic, financial, labour market risks, which are shared to a larger or lesser extent between and within generations). The distribution of rights has been part and parcel of most of the literature attempting to

comparatively classify welfare arrangements (Castles and Mitchell 1993, Esping-Andersen 1990, Titmuss 1976, among others). The distribution of pension rights often entails a definition of the principle of citizenship underpinning social policy.⁴ Pension benefits can be regarded as an unalienable right for all, an individual achievement, a collective achievement, or a public safety net against deprivation. Each of these four distributional principles can be then embodied in an institutional arrangement (*universal*, *contribution-based*, *status-based* and *means-tested*) which in practice produces particular distributional outcomes (see Figure 1). A *universal* distribution of rights characterises Beveridgean countries where benefit entitlements are independent of individual working-life histories or income, and are offered to every citizen/resident reaching the retirement age. A different approach to the allocation of benefits was adopted in some Bismarckian countries, where pension entitlements were originally *status-based*, initially providing access to benefits to specific occupational groups ('blue-collar' workers in Germany). This particularistic access was also the basis for the emergence of privileged schemes in some countries (e.g. Italy) where certain occupational categories could get 'easier' access to 'better' benefits. Access was, in all cases, based on occupational status rather than on citizenship. Later on, with the generalisation of pension rights to all occupational categories, access tended to become *contribution-based*, a right gained from previous contribution records. The number of years of contributions made to the pension system here become a key for determining eligibility.⁵ Finally, a *means-tested* distribution of rights is characteristic of 'liberal' welfare regimes in Esping-Andersen's classification ('residual' in Titmuss's), and focuses on the poverty prevention function of the pension system, restricting pension entitlements to the needy population only. Figure 1 illustrates the association between work, income and access to pension benefits under these four models of distribution of pension rights. While under a *universal* type pension rights are independent of years of work or income, under a *contribution-based* model, the right to benefits is based on the number of years of (formal) work but independent of income level, and under a *status-based* model, access is dependent on occupational position and thus scattered across the figure for individuals with different income and working patterns (those corresponding to the occupational group in question). Under a *means-tested* model access to benefits is preceded by a test of means: benefit rights are dependent on income level but independent of work history and years of contributions. Each of these four models underlies a principle of economic inclusion (by citizenship, work, status or need), and defines the subjects of state attention, and thus the political implications of pension reform.

4 The conceptions of citizenship in different policy designs have been key for social security research in and before Esping-Andersen's *Three worlds of welfare capitalism*. Raymond Plant distinguishes the two types of citizenship that can be implicit in different social insurance models (basic status or achievement-based) and unpacks Beveridge's ideas (and British pension policy) as promoting a different notion of citizenship from the purely entitlement-based model that prevailed in Scandinavian countries (see Plant 2003).

5 Bismarckian systems have often been characterised as 'work-based'. In the classification proposed here, 'contribution-based' systems are also based on the work nexus, but the key factor determining eligibility is not work as such but contribution payment. The distinction is particularly relevant for countries with a large informal sector, like southern European (see e.g. Pereirinha 1997), where the existence of a work relationship does not necessarily mean that the worker is covered by the pension system (if sufficient contributory records are not registered).

Figure 1. Pattern of distribution of rights (access by income and career path)

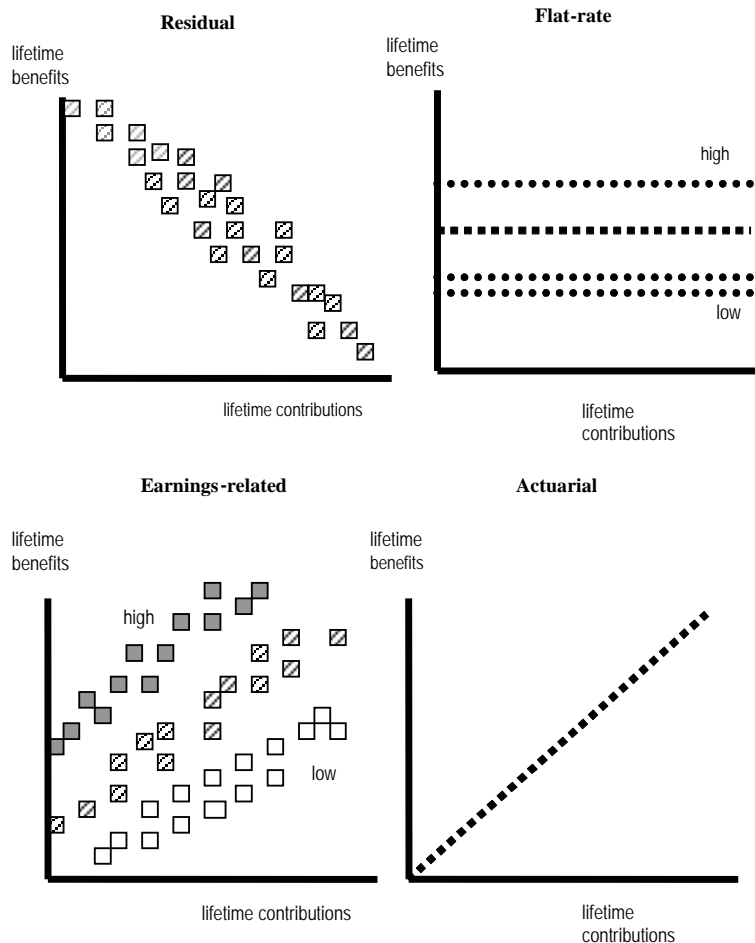


The second dimension of the distribution pattern is the distribution of resources (Figure 2). It is determined by the association between pension financing and benefits at the individual level, which is embodied in the benefit calculation formula. Each of the four models of distribution of resources (*residual*, *flat-rate*, *earnings-related* and *actuarial*) captures the extent to which social security contributions paid over the working life of each individual are ‘paid back’, as it were, upon retirement in the form of pension benefits, thus determining the individual lifecycle cost/benefit function. While most existing classifications have considered the difference between flat-rate and earnings-related benefits (mainly integrated in distinctions between Bismarckian and Beveridgean systems), up until recently, there was little reference to the actuarial model of resource distribution which has been increasingly adopted in latest reform, and is indeed the type of resource distribution underpinning the DC pension schemes that have spread around the world over the 1990s.

The *residual* model of distribution of resources is always associated with a *means-tested* distribution of rights. In this type of system the level of pension benefits (from zero when the test of means is failed, up to the minimum income threshold) is negatively associated to the level of income (or ‘means’ in general, depending on the testing procedure) that each individual has available upon retirement. Thus benefit levels are not directly related to past contributions (or taxes) but to current income or means after retirement age. However, as contribution rates paid over the working life are usually earnings-related, and as post retirement income is usually associated to pre-retirement income (higher lifetime income entails higher pension entitlements and/or higher savings), there is a loose negative association between lifetime contributions (or taxes) and benefits (which is by no means perfect), and thus the illustration in Figure 2. The underlying aim of a system of resource distribution

like this is poverty prevention—there is no role for this pension system beyond the minimum income threshold.

Figure 2. Pattern of distribution of resources (lifetime benefits by lifetime contributions)



The *flat-rate* model of distribution of resources also keeps the level of benefits unlinked from past contributions individually paid. The benefit level is instead set administratively at the same level for all, thus also breaking the association between post-retirement income and benefit entitlements found in the residual model. As aggregate contributions tend to depend on earnings, but benefits do not, the flat-rate model has a strong distributional potential. Under a system like this, low income groups obtain upon retirement more than they have contributed, while high income groups receive less—in other words, the rate of return to contributions is positive for low income groups and negative for high income groups. The level at which the flat-rate benefit is set is relevant in distributional terms to draw the line between winners and losers from the system.⁶ If a 45° line was drawn in the flat-rate diagram (the line of ‘actuarial equivalence’) the point at which it intersects with the flat line is the point dividing distributional winners (on the left) from distributional losers (on the right).

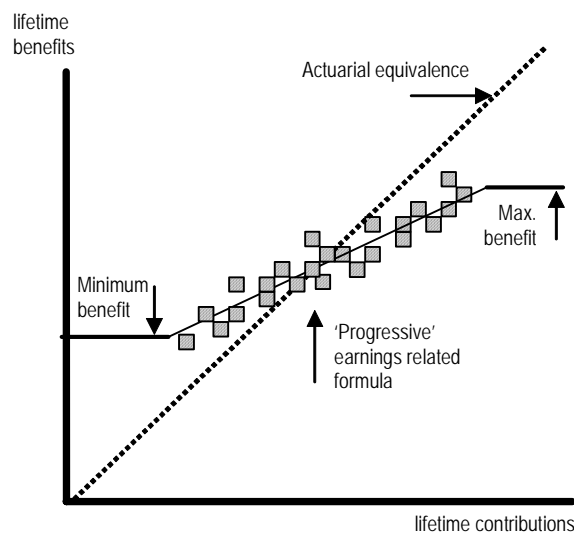
Under an *earnings-related* distribution of resources there is a closer link between contributions and benefits, although still not a full actuarial equivalence. Both contributions and benefits are based on

⁶ That is, to simplify the illustration, assuming equal retirement age and life expectancy for all individuals.

individual wages but, as benefits continue to be ‘defined’ the equivalence between lifetime aggregate contributions and benefits will depend on statutory replacement rates (which determine whether the distribution of benefits is closer to the ‘high’ or the ‘low’ types), effective retirement ages, and individual career history. In a ‘high’ earnings-related distribution of resources all individuals obtain different but positive rates of return to their contributions (as benefits situate above the 45° line of actuarial equivalence), and negative in a ‘low’ one. This is the type of resource distribution traditionally found in most Bismarckian systems in which benefits and contributions are earnings-related, but there is nothing in the benefit calculation formula that actuarially ties one to the other at the individual level—rates of return to contributions may be high or low (depending on the statutory rules of the system and demographic and labour market dynamics) and they differ across individuals according to their working and contributory histories.

Many pension schemes aiming to produce both redistribution and income replacement have adopted a model of distribution of resources that lies somewhere between a fully flat-rate and a fully earnings-related model (for example, the US). This model typically sets lower replacement rates for high income groups, and/or applies minimum and maximum benefits thresholds (Figure 3). This ‘progressive’ earnings-related formula implies that low income groups tend to obtain benefits above the line of actuarial equivalence, and higher income groups below that line.⁷ The system is not as progressive as a flat-rate model but it still produces some intra-generational distribution from high to low income groups, specially between those at the very top (due to the impact of the maximum benefit) and those at the very bottom (due to the minimum benefit). While pension formula of this type (in particular, with maximum and minimum benefit thresholds) has been more common than a fully-earnings-related benefit formula, the two ‘pure’ models (fully flat-rate and fully earnings-related) are adopted here as ‘ideal types’ from which to identify the direction of pension reform, towards either one or another side of the distributional spectrum.

Figure 3. Pattern of distribution of resources: a ‘progressive’ earnings-related model with maximum and minimum benefits



7 For the sake of simplifying the illustration, earnings-related contributions are assumed. If career paths were equal for all workers (for example, all workers having continued working careers until retirement), lifetime benefits would be a direct function of lifetime earnings (a straight line with different slopes depending on the ‘progressivity’ of benefits). The heterogeneity of career paths is illustrated by the spread of the points around this straight line.

A full link between individual contributions and benefits is found in the *actuarial* model of resource distribution (Figure 2). This model is usually named ‘defined-contribution’ as opposed to the ‘defined-benefit’ system which includes all the other models of resource distribution identified above. In fact, the label ‘defined-contribution’ is confusing and blurs the distributional nature of the system (see Arza 2005 for a wider discussion). Distinctions between DB and DC models have originated in concerns for pension financing equilibrium: while the former adjusts pension balances modifying contribution rates (under PAYG) while keeping benefits ‘defined’, the latter operates in the opposite direction, by fixing contribution rates and letting benefits fluctuate according to individually accumulated resources or ‘rights’ to resources (under financial or notional resource accumulation). While research oriented to assess alternative pension models in terms of their impacts on financing largely focused on the distinction between DB and DC arrangements, welfare researchers with an interest in the principles of stratification of pension policy (Titmuss, Esping-Andersen and Castles, among others) have not distinguished in their classificatory frameworks actuarial pension models from previous earnings-related arrangements, thus making the analysis of pension reform necessarily incomplete. Being the actuarial linkage between contributions and benefits one of the key elements of recent pension reform throughout the world, and an essential element determining the distributional impacts of new models of pension policy, it seems imperative to include this feature in any comprehensive evaluation of pension regimes and pension reform trajectories.

In an *actuarial* model of resource distribution lifetime benefits are calculated in a way as to exactly reflect the present value of aggregate contributions made by each individual. In its typical-ideal form, an actuarial model of resource distribution can be identified with private saving schemes which provide a market rate of return on accumulated contributions. However, latest developments in pension reform have created a new pension design which aims to mimic the operation of private accounts, but on unfunded basis. This is known as notional defined contribution (NDC) schemes, a model that combines PAYG financing with DC benefit calculation, and has already been adopted in a number of European countries (Italy, Sweden, Latvia, Poland, among others, with the German ‘point system’ being a very close adaptation). Under NDC models, the pension benefit is determined for each worker on the basis of aggregate individual contributions re-valued with a rate of return which, depending on the country, can be the rate of GDP growth, wage growth or a combination of the two. The yearly benefit is simply calculated as the present value of aggregate contributions divided by the number of years of remaining life expectancy, which is usually established for the entire cohort (that is, without differentiation by gender, income or occupation). This system continues to operate on PAYG basis, and there is thus no real warrantee of financial equilibrium beyond projections of expected labour market participation rates, economic growth, and contribution rates (Cichon 1999). However, at the individual level, there is a strong link between contributions and benefits and thus an actuarial distribution of resources. As will be discussed below, NDC pensions differ from typical market-based actuarial models in the types of risks involved, and the way in which these risks are distributed between and within generations.

The last dimension in the distribution pattern of pension systems refers to the distribution of risks. The development of universal pension schemes over the twentieth century was an element of the public management of social risk (Esping-Andersen 1999, Baldwin 1996). An individual risk becomes a social risk because the consequences of the fate of the individual are shared by the broader population (negative externalities). Risks also become ‘social’ due to the public acceptance that, in a complex society, risks originate from forces beyond the control of the individual, who should not therefore be solely responsible for their consequences (Esping-Andersen 1999: 37). While negative externalities (as well as market failure in the coverage of social risks—see Barr 2001) may justify public intervention, individuals themselves may consider it in their own interest to have a social security system that could provide security against social risks, and thus support the creation of a risk-pooling institutional device like the pension system. Baldwin (1996) argued that solidaristic social policy is indeed sustained by the fact that all social classes are to benefit from risk-pooling because risks are not determined by social class but cut across the entire social structure. From the outset, one

of the main aims of social security has been to insure against risk (the risk of living longer than expected, the risk of lacking sufficient savings for retirement, the risk of old-age poverty) (Barr 1998), but different pension arrangements have covered against these risks in different ways: the types of risks that were pooled, and the way in which they were pooled across the population have differed. However, the comparative evaluation of the breadth and type of the risk-pooling mechanism included in each pension model has not been directly considered by any of the main classificatory frameworks for welfare analysis. As pension systems throughout the world started to shift towards more individualistic types of arrangements, the pooling of risks reduced. At one end of the risk-pooling spectrum, a pension scheme fully organised on individual basis excludes virtually all risk-pooling within or between generations, and thus simultaneously eliminates the intra- and inter-generational income transfers that have largely operated via pension policy.

Broadly speaking, pension policy organises lifetime resources across generations in a way as to cover the individual risk of old-age poverty, either in absolute terms (post-retirement income being below a minimum threshold), or in relation with previous living standards (post-retirement income being below the necessary to maintain pre-retirement consumption). This loss of income and/or previous living standards can occur either because individuals are unable to adequately plan and save for retirement (due to ‘myopia’ or persistent poverty), or because some financial, macroeconomic, demographic or political shock has affected the value of the resources allocated to finance their retirement (either individual savings or resources in the social security system). Pension schemes with alternative designs, cover against these risks to different degrees. Coverage against the risk of ‘myopia’ or inadequate individual provision for retirement is itself at the basis of the creation of pension schemes with compulsory membership, which also often guarantee benefits for workers who earn below the contributory threshold (the lifetime poor) in contributory systems, or shifts the financing burden to the broader population in tax-financed systems. This both reduces the incidence of the risk of old-age poverty (by compelling workers to contribute) and pools the remaining risk across the entire working (or tax-paying) population.

Alternative pension designs differ, on the one hand, in terms of the types and incidence of macro and micro-economic risks affecting their financial standing (see Barr 2002) and, on the other, in the way in which they deal with these risks, that is, the breadth of the risk-pooling mechanism embedded in pension resource administration. Pension systems with broad risk-pooling transfer resources from ‘low risk’ to ‘high risk’ individuals and generations. Universal DB systems are a typical case of broad intra- and inter-generational risk-pooling. As these systems have no complete link between individual contributions and benefits, within each cohort, the risk of some workers not saving (or contributing) enough for retirement is pooled in a way which produces income transfers from low to high risk individuals. If access to benefits is conditional on, for instance, a job position, or a given number of contribution years, then the pooling of risks is ‘narrowed’ and restricted to the group in question. On the other hand, a PAYG system is actually financed by younger generations, who thus tend to bear the costs of systemic financial imbalances. If aggregate resources do not meet the level necessary to pay for retirement benefits, under a PAYG DB system, the difference is often covered by the working population via higher contributory rates (or by the whole population via higher taxes): the risk of inadequate actuarial valuations is borne by the state and the taxpayer generations. This entails an inter-generational sharing of economic, demographic or labour market shocks which may affect the finances of the system. It has however also simultaneously allowed for the political utilisation of social security resources to benefit some generations over other –that is, not a pooling of risks but a politically motivated reallocation of resources, which has been, however, one of the key criticism to the operation of PAYG DB systems.

In contrast, in a DC system, some of the political manipulation of resources can be avoided by reducing the risk-sharing properties of the system. Indeed, in a fully DC arrangement no risk-pooling exists between workers with different career paths or income levels, nor between generations. If individually accumulated resources are not sufficient to reach a reasonable level of benefits (due to

poor performance in the financial market, discontinued labour market histories, insufficient saving, and so on) under DC systems, the individual bears the costs in the form of lower pension benefit. NDC lay somewhere between fully PAYG DB and fully-funded DC systems. The risk of low ‘theoretical’ accumulation is borne by the individual, as in DC systems, but as they entail no financial accumulation, financial market risks are excluded and, as they are financed on PAYG basis, they still levy part of the demographic risk on the state and taxpayer generations (depending on how financial imbalances are set to be managed by the system rules).

Over the history of pension policy development, both Bismarckian and Beveridgean systems consisted of DB schemes which protected workers and citizens against the risk of old-age poverty and the end of earnings capacity. Old-age is not an easily-definable risk as others such as the risk of illness, or the risk of having a car accident: there is no straightforward way to determine when the ‘risk’ (old-age) happens. ‘Old-age’ is a socially constructed reality; the age of retirement is also culturally and politically defined. This is not a minor point since the size of the inter-generational transfer strongly depends on the age at which benefits start. If the age of retirement could move automatically following changes in life expectancy, (net) inter-generational transfers could be at least partly reduced. But it is precisely the cultural nature of ‘old-age’ and lifecycles that makes changes in the age of retirement politically difficult. In this context, the trend of recent pension reform has been not only to increase the retirement age over long transition periods, but also to move towards DC models which make the benefit level fluctuate following future changes in life expectancy –the retirement decision is thus expected to adapt following the ‘disincentive’ to retire early that was introduced from the benefits’ side. Before recent reforms, both Bismarckian and Beveridgean systems broadly pooled the risk of old-age within and across cohorts: with (relatively) fixed retirement ages and benefit levels, longevity changes were largely borne by younger generations. The gradual shift towards DC schemes that has been taking place throughout Europe, instead, has completely reorganised the risk-pooling mechanisms embedded in previous systems.

Figure 4. Pension distribution pattern, models of risks-pooling

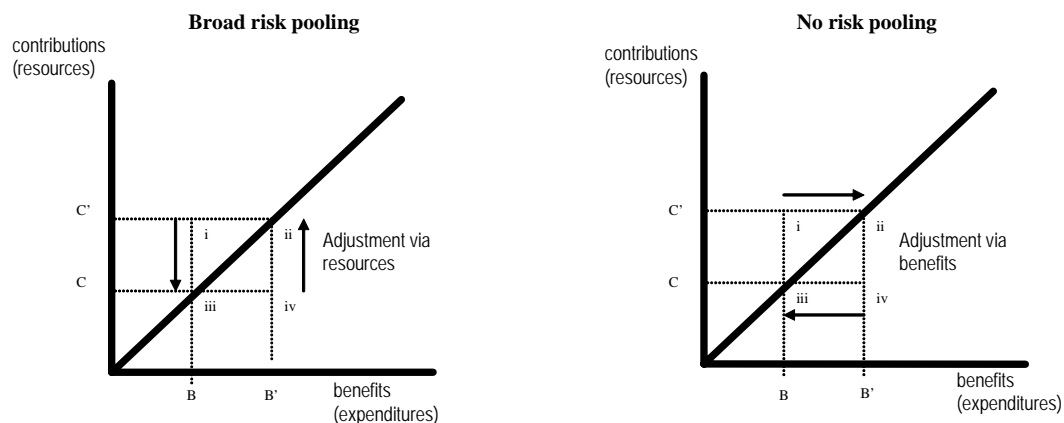


Figure 4 provides a schematic illustration of an ideal-typical model of risk distribution in pension financing. The first diagram corresponds to a system of broad risk-pooling. Imagine a population where the size, life expectancy, working and contributory patterns of different birth-cohorts (at each given age) are the same (in other words, an equal-sized working population today and in 50 years). If the rules of pension systems also remain stable over time, a PAYG DB system should produce no net inter-generational transfers. Under broad risk-pooling, if for any reason (for example, low income, insufficient contributory history, higher post-retirement survival than average) any single individual does not contribute the amounts ‘actuarially necessary’ to finance her given (that is, ‘defined’) pension benefit, the financing gap is covered by the rest of the population via intra- or inter-generational

income transfers. The actuarial equivalence between contributions and benefits at the individual level (resources and expenditures at the aggregate level) is represented by the solid line in the two diagrams. Under broad risk-pooling, if an individual falls outside the solid line, for instance in point *iv*, the gap between necessary resources to finance her due benefit B' and actually paid contributions C (the gap C-C') is covered by the rest of the population –the risk-pooling mechanism takes this individual to point *ii* where she receives the statutory benefit partially financed by others. While individual *iv* is a 'high-risk' distributional winner, individual *i*, for instance, is a 'low-risk' distributional loser (her 'extra' contributions (C'-C) are used, as it were, to cover the gaps of high risk individuals in the risk-pooling mechanism).

Now, if instead of equal-sized birth-cohorts we assume a population constantly growing in size (again under equal working and contributory patterns, and equal pension rules), in a DB system the result is just an increased rate of return to contributions for all workers (following the Aaron-Samuelson rule) (Aaron 1966). In a dynamic model, where generations change in size, life expectancy and working patterns, risk-pooling under a DB system also operates inter-generationally, and the first diagram in Figure 4 can be interpreted at the cohort level. In this case, 'resources' do not refer to what each individual has paid in, but to the resources available in the social security system (receipts from current workers), and benefits refer to aggregate 'expenditures' of the social security system (each individual, *i*, *ii*, *iii*, *iv*, can be considered to represent a generation). If, for any generation, resources and expenditures do not match, under a PAYG DB system resources need to be raised (rather than expenditures cut) in the so-called adjustment via the contribution rate characteristic of DB systems. If resources are lower than necessary to pay for statutory (that is, 'defined') pension benefits of a given generation, younger generations will cover the gap (C-C'). This is how net inter-generational transfers are generated.

In contrast, in a pension system with no risk-pooling, benefits simply represent the value of accumulated contributions or savings: there is no *ex ante* 'defined' benefit value. Under no risk-pooling, resources available cannot be modified after retirement: resources are 'given' and financial equilibrium both at the individual and cohort level is obtained by changing the value of individual (and thus aggregate) benefits. Within each cohort, every individual and generation bears the costs and the risks of financing her own retirement. In principle, the winners and losers in one and another diagrams reverse: low risks (all individuals on the left hand side of the solid line) gain from dropping from the risk-pooling device while high risks (those on the right hand side) lose. With regards to both intra- and inter-generational transfers, the key policy question seems to be whether 'high' and 'low' risks are considered to result from forces outside the individual, from individual choices (the moral hazard problem), or from the political manipulation of social security resources –in practice, the shift to DC models around the world has been mostly concerned with the 'perverse' redistribution produced by moral hazard and the so-called 'political risk' in DB schemes.

But (apart from political risk and moral hazard), what types of risks affect different pension designs and how are these distributed between individuals and generations? In fully-funded DC schemes there is very limited risk-pooling. Labour market risks are fully borne by the individual. Low wages, interrupted or short working histories, informal employment –they can all result in low pension accumulation and a low value for pension annuities, but only for the individual in question. Macroeconomic risks are also largely borne by the individual: low economic growth, high inflation, and poor financial market performance, can affect the level of resources in individual pension accounts and thus the value of benefits. Despite it was initially argued that privatisation of pension schemes would eliminate political risks, it is now widely acknowledged that key political risks (for instance, irresponsible modifications of pension rules, bad macroeconomic administration, poor pension and financial market regulation) continue to affect private pension schemes (Barr 2002, Barr 2001, Holzmann et al. 2005). In DC schemes, however, these 'political risks' tend to affect pensioners (via lower benefits) rather than workers, because they are less capable of transferring costs inter-generationally. The only area where risk-pooling is maintained in fully-funded DC schemes is

precisely where the pension scheme performs as an ‘insurance scheme’: the pooling of longevity risks. When workers buy an annuity with an insurance company the risk of individual longevity (that is, the risk of a single individual living longer than expected) is pooled across the members of the insurance scheme (intra-generationally). In some cases, when different life expectancy tables are used (for instance, for men and women), intra-generational risk-pooling is further restricted to the group in question. Cohort longevity, in contrast, if properly projected by the insurance company, is borne by the individual who receives a lower benefit in the face of increasing (projected) life expectancies. Ageing demographic structures (due to lower mortality and/or lower fertility) can also affect fully-funded DC schemes indirectly in the form of lower economic growth, lower savings by workers and thus a mismatch in supply and demand of savings which can result in a lower real value of benefit annuities (Barr 2002). The cost is again borne by pensioners rather than workers.

While fully-funded DC schemes tend to shift risk-bearing to the individual (reduce risk-pooling), DB PAYG public pension schemes entail broader risk-pooling and share most pension financing risks across society. In DB schemes, macroeconomic, labour market and demographic risks are borne by the working population –but also political risks, and policy failure in the maintenance of proper actuarial balances in social security financing. NDC schemes are a middle case between funded DC and PAYG DB schemes. Under NDC schemes, the labour market risk is borne partly by the individual, partly by society. On the one hand, individuals bear the risk of their personal discontinuous or short working histories, and low wages, all of which rebounds in lower benefit entitlements. Simultaneously, as NDC systems continue to operate on PAYG basis, changes in the labour market (such as lower participation rates, unemployment, falling productivity) affect the financing base of the system. As benefits are calculated on the basis of the contributions made in the past (and not on the basis of the resources currently available) there can be a financing gap which may be covered by the state, by the working population, or shared between workers and retirees, depending on system design. In NDC systems the individual bears the cost of cohort longevity which is fully introduced into the calculation formula. The risk of low economic growth and inflation can be borne by the individual or society depending on the specific rules of benefit indexation and the up-rating of accumulated ‘assets’. Unlike in funded DC schemes, there are no financial market risks in NDC systems.

Risks, resources, and rights are distributed in a particular manner by each type of pension arrangements. The combination of a certain model of distribution of rights, resources and risks makes the distribution pattern of a given pension system in each given moment in time. ‘Types’ should not be considered as absolute or definitive states, but as ‘ideal types’, a tool to identify patterns of change in pension systems. Indeed, given the path-dependencies involved, pension systems are generally modified in a piecemeal fashion. Change is here always a question of degree. Rather than evaluating pension reform as an absolute shift from one system to another, the focus is centred in the *direction* of the reform, capturing the effects of policy changes which ‘move’ the pension system towards one or another distribution type. Part 2 of this paper will turn to the empirical analysis of the distribution pattern that has characterised latest pension reform in four European countries –four ‘worlds of welfare’.

Part 2. Pension reform in ‘four worlds of welfare’: Italy, United Kingdom, Sweden and Poland in comparative perspective

Italy, the United Kingdom, Sweden and Poland are characteristic of four different types of welfare ‘regimes’. These countries represent four clusters with different original institutional structures both in terms of existing welfare classifications as well as in terms of the ‘distribution pattern’ of their pension schemes, according to the framework presented in the previous section. Following Esping-Andersen’s work, Italy is taken as an example of a corporatist-conservative regime where welfare benefits have

the key aim to reproduce status positions and existing living standards.⁸ The UK, in contrast, is one of the few members of the ‘liberal’ cluster in Europe. It is in fact a mixed regime that combines a wide expansion of private pensions in the social security arena (typical of the ‘liberal’ regime type), with comprehensive state provision in the health arena with the National Health Service (typical of the ‘social democratic’ regime type). Sweden is one of the uncontested representatives of social-democratic welfare regime with social protection provided universally to the entire population under a system design aiming at income equality of high standards. Finally Poland is taken as an example of a transition country, which has particular features both in terms of pre-reform system design and reform direction shared with other Central and Eastern Europe countries (Natali and Arza 2005). In fact, CEE countries have not been included in the seminal Esping-Andersen’s work but their analysis is key for European comparative research, not just in view of the expansion of the European Union to the east, but also given the radical nature of pension reform in this region. While countries in CEE originally shared some of the key features of typical conservative-corporatist regimes, they have been reshaped over the socialist period and radically reformed afterwards. All four countries selected as ‘most different’ pension regime cases share one feature which is relevant for the analysis here: they have all gone through substantial reform processes in the past few decades. This shared experience makes them a good sample for the evaluation of how recent pension reform has reshaped the distribution pattern of pension system design in countries with different original structures for pension provision. This sample also includes countries representing the original Bismarck-Beveridge divide, and could thus help to assess the pattern of change across these lines (with Poland and Italy as Bismarckian, the UK as Beveridgean, and Sweden as an originally Beveridgean system which later adopted some features of the Bismarckian type).

Across European countries with different welfare regimes, there tends to be a common direction of pension reform, which moves systems towards a more similar distribution pattern. Although countries clearly maintain their original differences as a result of the path dependent process of reform, and the different ‘degrees’ to which the new distribution pattern is adopted (e.g. the contrast between Poland and Sweden), there is a shared direction of reform which entails the following key features. First, there is an increasing separation of the functions of poverty prevention and income replacement into two different kinds of system, which is completely novel especially for countries with Bismarckian schemes which used to combine both functions within the same institutional structure. Second, this separation is followed by the redefinition of the overall distribution pattern of pension policy, and the establishment of two models of distribution, one for each of the two layers of the system. In the income-replacement layer, there is a shift towards a contribution-based distribution of rights, an actuarial distribution of resources, and a sharp reduction of risk-pooling. In the poverty-prevention layer the trend is towards a means-tested (rather than contribution-based or universal) distribution of rights, a residual (rather than flat-rate) distribution of resources, and an expansion of the pooling of the risk of old-age poverty via general-taxation benefit financing. Outcomes may continue to differ, not only as a result of the differences in system design which continue to exist, but also as a result of the different social, demographic and especially labour market structures across European countries.

In Italy the shift in the distribution pattern was introduced by the Dini reform in 1995 and deepened by Berlusconi reform in 2004 (Table 1). The Dini reform reorganised the Italian pension system under a NDC model, replacing the so-called *sistema retributivo* with a *sistema contributivo*. In the new system, pension benefits are calculated according to the amount of contributions that each individual

8 Italy has also been classified as part of the so-called ‘Southern European’ cluster (Ferrara 1996), characterised by the existence of major scheme fragmentation, privileges for influential groups and gaps in protection for others. This differentiates Italy from typical conservative welfare regime types, like the German, and can have specific implications for both the politics of reform and the size of perverse (regressive) intra-generational resource transfers. The main structure of pension regimes in terms of their model of distribution of rights, resources and risks (work-based access to fully-public earnings-related benefits), however, remains similar in Italy and other typically conservative pension schemes, and substantially different from other social-democratic and liberal regime types.

worker has accumulated over her entire working life. These contributions are capitalised following GDP growth, and accumulated in ‘notional’ accounts to be transformed upon retirement into a pension annuity following residual life expectancy. The reform establishes a strict system of equivalence between contributions and benefits, separates the poverty-prevention function from standard social insurance, and redesigns the distribution pattern of each layer of the system. Poverty prevention is dealt with by the creation of the *Assegno Sociale*, a non-contributory benefit financed from general taxation, and allocated after strict means-testing at a value to top up existing resources up to the minimum income threshold. While the social insurance system itself, under the *sistema contributivo*, tends to transfer the *individual* risk of old-age pension financing toward the individual worker (making it more closely dependent on her contributory history), the *Assegno Sociale* broadly pools the risk of financing across the entire population, but defines this risk in a very narrow way as the risk of absolute poverty (and not income-replacement). Workers with insufficient benefits and/or income receive basic benefits financed by the whole population, but workers with low income-replacement do not, unless they fall below the minimum income threshold. As the NDC system continues to be financed on PAYG basis, the *aggregate* financing risk continues to be borne (at least partly) by current working cohorts even when contributions are fixed (in the case of unbalances, general taxation may have to be used to finance pension promises).

Table 1. Pension reform trajectories in Italy

Pre-Reform		Post-Reform	
	→ created →	‘Open’ and ‘closed’ pension funds and TFR Contribution-based, actuarial, FDC (no risk-pooling between generations or workers with different working/contributory histories)	} Voluntary/Optional contributions
Social insurance ‘sistema retributivo’ Contribution-based, earnings-related, DB (pooling of risk between generations and types of workers to some extent)	→ converted in →	Social insurance ‘sistema contributivo’ Contribution-based, actuarial, NDC (limited risk-pooling between generations or workers with different working/contributory histories)	
Minimum benefit ‘Pensione Sociale’ Contribution-based, residual, DB (broad risk-pooling within occupational category)	-- eliminated --		
	→ created →	Basic benefit ‘Assegno Sociale’ Means-tested, residual, DB (broad risk-pooling)	} Non-contributory

A further step to DC models and narrower risk-pooling was simultaneously introduced via the creation and encouragement of private pensions to compensate for the fall in future state benefits that were already projected to result from various parametric reforms and the introduction of the DC model. In a country where private pensions were rare, increasing incentives were introduced for the development of personal and occupational funded pension schemes. In 1993, a regulatory framework for the creation of voluntary complementary pensions was set up, with tax incentives to foster their development. The Dini reform introduced a contributory ceiling for the public system, opening the chance for workers on high wages to direct contributions on wages over the ceiling to private

accounts. In 2004, a bill was passed (which has not yet been implemented) establishing the automatic redirection to private pension accounts, of worker and employer contributions currently allocated to finance a sort of severance pay (the *trattamento fine rapporto*). As a result of this incremental process of reform, and once the transition to phase-in these changes has finished, the Italian system will find its original structure fully redefined towards a multipillar system, characterised by three main layers of pension provision, and three distribution patterns: a means-tested, residual poverty-prevention pillar with broad risk-pooling (the *Assegno Sociale*), a contribution-based, largely actuarial system of income-replacement which transfers the individual risk of financing to the worker (the NDC system), and a contribution-based, fully actuarial system of equivalence in which risk-pooling across individuals and generations is largely eliminated (private pension accounts).

From the early 1980s onwards, a sequence of pension reforms in the United Kingdom has consistently moved the pension system in the same direction as the Italian. The outcomes of this redirection in the distribution pattern of pension policy in the UK case has been much deeper than elsewhere, mainly as a result of the original characteristics of the pension system in this country. British pension policy has for a long time combined Bismarckian and Beveridgean logics, flat-rate and earnings-related benefits, public and private pensions. This heterogeneity made it much easier for the UK to transform original pension structures than in countries with a large and well-rooted Bismarckian system like Italy. The outcome was more radical in the UK, even if the change itself was not. In the late 1970s, pension policy in the UK was made of three layers: the basic state pension (BSP), the state earnings-related pension (SERPS) and the occupational pension. One particular feature of pension arrangements in the UK has been that the public earnings-related benefit (SERPS) was not compulsory for everybody: workers who had an occupational entitlement could choose to ‘opt-out’. So, in contrast to Italy, in the UK the separation of pension policy into poverty-prevention on the one hand (with the BSP), and income-replacement on the other (with the SERPS or occupational pension), was already there when the wave of reforms started in the early 1980s. Reforms passed from then onwards tended to reinforce this separation and the different distribution patterns of each layer of the system: on the one hand, a basic poverty-prevention layer, which includes redistribution and wide risk-pooling administered by the state and, on the other hand, a system of equivalence, largely administered by the private sector, in which benefits are increasingly actuarially determined and most financing risks are transferred to the individual.

Reforms consisted in two main elements which together reinforced the direction of British pension policy towards a new distributional logic: first, the role of public pensions was restricted to basic income protection, and second, private pensions gained ground in income-replacement while simultaneously shifting towards DC models. In the 1980s, policy efforts centred in the development of private personal pensions, to compete with both the SERPS and the occupational pensions for the provision of income-replacement benefits in the second layer of the system. This augmented the incidence of a pattern of distribution characterised by contribution-based distribution of rights, actuarial distribution of benefits and very narrow risk-pooling. Personal pension differed from occupational pensions, even if both were privately administered, because while occupational pensions were largely DB types, personal pensions were exclusively DC: in distributional terms, the pattern of distribution of rights, resources and risks can matter more than the administering body as such. This shift to actuarial benefits was first introduced by Margaret Thatcher in the early 1980s with the creation of personal pensions but later reinforced by the creation of the Stakeholder Pension to cater lower income groups, the incremental redesigning of occupational schemes from DB to DC, and the conversion of the SERPS into the so-called State Second Pension (S2P) under a benefit formula that encourages middle and high income groups to opt out. The S2P is a benefit with a flatter distribution than the SERPS (which was fully earnings-related) and was designed to become completely flat at a second stage of reform. The facility for workers to ‘opt out’ of the S2P (towards private or occupational alternatives) effectively reduces risk-pooling to the lower income groups (the only ones that continue to have some incentive to stay in the public scheme). As a result, the S2P becomes only relevant for workers at the bottom of the income distribution; its flattened distribution of benefits

means that it is closer to a basic income scheme (a complement to the BSP in the first layer of the system) than a truly income replacement scheme like the SERPS. The conversion of the SERPS into the S2P is, in fact, a paced way to eliminate public provision of income replacement benefits in a context of path dependent reform. Public pensions remain important at the bottom of the income distribution as a device for poverty-prevention. The BSP is maintained across time, although its real value decreases in relation to the national mean wage because from the early 1980s, its value is indexed to prices rather than wages (another element of British cost-containment reforms). It keeps, however a contribution-based distribution of rights, flat-rate benefits and broad risk-pooling. As only workers with a full career get a full BSP entitlement, poverty prevention efforts led to the creation of the Minimum Income Guarantee and the Pension Credit, both largely following the typical distribution pattern of public poverty prevention at the bottom: means-tested access, residual benefits, and broad risk-pooling at the bottom.

Table 2. Pension reform trajectories in the United Kingdom

Pre-Reform		Post-Reform	
Occupational schemes Employment-based, earnings-related, DB (risk on employer)	→ converted in	Occupational pension Contribution-based, actuarial, FDC (risk on worker)	Optional contributions (at least to one)
	→ created	Private Personal Pension Schemes Contribution-based, actuarial, FDC (risk on worker)	
	→ created	Stakeholder Pension Contribution-based, actuarial, FDC (risk on worker)	
SERPS Contribution-based, earnings-related, DB (some risk pooling between generations and types of workers)	→ converted in	State Second Pension Contribution-based, partially earnings-related, partially residual, DB (broad risk pooling only among those who do not opt out)	Mandatory contributions
Basic State Pension Contribution-based, flat-rate, DB, broad risk-pooling.	→ maintained	Basic State Pension Contribution-based, flat-rate, DB, broad risk-pooling.	
[income support for pensioners]	→ created	Pension Credit Partly transfer-tested, partly-residual, DB (broad risk pooling)	Non-contributory
	→ created	Minimum Income Guarantee Transfer-tested, residual, DB (broad risk pooling)	

The policy shift produced by pension reform in Sweden was usually regarded as one of the most radicals in Western Europe. The pathway of reform was however similar than elsewhere. In fact, the reform was more ‘radical’ not in terms of the resulting system but in terms of the nature of the shift: the move towards an actuarial type of benefit distribution in a country regarded as an ‘icon’ of the social-democratic welfare regime.⁹ The reform process operated almost simultaneously in the two main layers of the system, the statutory (public) and the negotiated (occupational). In the statutory

9 The resulting system including however some features which tended to compensate for the reduction of risk-pooling with some effective cushioning mechanisms, such as generous pension credits for child-rearing, earnings-based indexation of the NDC benefit, and other regulations of funded accounts (e.g. guaranteed nominal 3 per cent return included in the calculation of the annuity and public administration of individual accounts to reduce management costs and risks), which reduced the risks and costs borne by the individual.

system the reform completely reshaped existing institutional arrangements. Before the reform, the statutory pension scheme was made of a flat-rate universal benefit provided to all residents (*folkpension*), complemented with an earnings-related benefit provided to those with a contributory-history (ATP), and a 'supplement' aimed at increasing the flat-rate value for individuals who could not accumulate sufficient ATP entitlements. In all cases, benefits were administered by the state and financed on PAYG basis. Like in Italy, in Sweden, pension reform reorganised the system under a DC model and followed an actuarial logic of benefit distribution. The new system is made of three elements. The first one is the Income Pension, a NDC benefit administered by the state which provides benefits closely related to lifetime contributions and life expectancies upon retirement. This is complemented by the Premium Pension, a publicly administered funded system that invests workers' contributions in the financial sector to later calculate a benefit annuity according to individually accumulated resources. And finally, the Guaranteed Pension is a non-contributory, transfer-tested and residual benefit, which has been introduced as the poverty-prevention layer of the system. As in Italy and the UK, the separation between contributory/income-replacement, and non-contributory/poverty-prevention benefits is made clear.

This redirection of pension policy towards actuarial models of calculation was also found in the negotiated sector. Occupational pensions have followed the same direction as state pensions, by reforming their arrangements from DB to DC. As in the UK, where the same process has been taking place in the past few years, in Sweden, the passage from DB to DC in the occupational sector meant the shift from earnings-related to actuarial model of resource distribution and, simultaneously, the conversion of a system where the risk of financing was mostly borne by the employer, towards another where risks are largely born by workers and very little risk sharing exists between workers and employers.

Table 3. Pension reform trajectories in Sweden

Pre-Reform		Post-Reform	
Occupational schemes Employment-based, earnings-related, DB (risk on employer)	→ converted in →	Occupational schemes Contribution-based, actuarial, FDC (risk on worker)	} Negotiated (quasi-mandatory) contributions
ATP Contribution-based, earnings-related, DB, limited risk-pooling.	→ converted in →	Premium Pension Contribution-based, actuarial, FDC (no risk pooling)	
Supplement Universal, residual, DB, broad risk pooling		Income pension Contribution-based, actuarial, NDC (limited risk pooling)	
Folkpension Universal, flat-rate, DB, broad risk pooling	→ created →	Guaranteed Pension Transfer-tested, residual, DB (broad risk pooling)	} Non-contributory

Pension systems in Poland inherited a structure similar to other former socialist countries with a fully public system, financed by employer contributions only, and including generous options for early retirement. Benefit generosity and the use of pension benefits as a sort of unemployment insurance for workers laid out during the transition process produced a major increase in system dependency ratios, pension expenditures and contribution rates (which had to be raised from a level of 15.5 per cent of wages before 1981 up to 45 per cent in 1990) (Chlon-Dominczak 2002). Although proposals for radical reform in Poland were made by both the Ministry of Labour and the Ministry of Finance before

1995, during the mid 1990s only parametric reforms were enacted. The official reform project for the structural transformation of the Polish system was presented in 1997 by the Ministry of Labour, legislation was soon enacted in 1998, and the new system implemented in 1999.

As in the other case-studies in this paper, pension reform in Poland also moved the system towards DC models, including in this case, a major role for private administration of funded individual accounts within the statutory system. The Polish reform replaced the existing ‘single-pillar’ earnings-related scheme, into a ‘three-pillar’ system as the one proposed by the World Bank (1994). Old-age security shifts from DB to DC and partly from PAYG to funding. Two types of benefits are introduced as the core of the pension system: a NDC benefit administered by the state (similar to the Swedish one) and a financial defined-contribution (FDC) system of individual accounts administered by private firms. Social security contributions, previously paid by employers, were also individualised: each individual would pay his or her own contributions and have his or her future benefits calculated on the bases of these payments. In both the NDC and the FDC layers of the system, eligibility to benefits is dependent on years of contributory history, and benefit levels are actuarially calculated according to individually made contributions and projected life-expectancies after retirement. At the bottom, the previously existing minimum benefit, which was included within the structure of the old earnings-related system, is separated from contributory social insurance, and financed via general taxation, and provided under strict means-testing.

Table 4. Pension reform trajectories in Poland

Pre-Reform		Post-Reform	
	→ created	Third pillar Contribution-based, actuarial, FDC (no risk-pooling between generations or workers with different working/contributory histories)	} Voluntary contributions
Social insurance Contribution-based, earnings-related, DB (pooling of risk between generations and types of workers to some extent)	→ converted in	Second pillar Contribution-based, actuarial, FDC (no risk-pooling between generations or workers with different working/contributory histories)	
Minimum benefit Contribution-based, residual, DB (broad risk-pooling within occupational category)	→ converted in	First pillar Contribution-based, actuarial, NDC (limited risk-pooling between generations or workers with different working/contributory histories)	} Mandatory contributions
	→ created	Guaranteed minimum Means-tested, residual, DB (broad risk-pooling)	} Non-contributory

FDC: Financial defined contribution (funded)
 NDC: Notional Defined Contribution (PAYG)
 DB: Defined benefit (PAYG)
 Source: Own elaboration.

Two elements further reduced the redistributive features of the system previously in place. First, the flat-rate benefit worth 24 per cent of average wages, which existed in the previous system, was eliminated and benefits fully dependent on individual contributions and wages. Second, a maximum wage level (250 per cent of mean wages), which was previously used as a ceiling over which benefits

could not be claimed, is also taken as a ceiling for contributions, further reducing the intra-generational distributive properties of the system. As pension policy becomes increasingly actuarial, the pooling of risks across generations and workers with different career paths is severely restricted. Intra-generational redistribution between workers with different career paths is only maintained through the application of some pension credits for specific life events (motherhood, ‘involuntary’ unemployment, military service) (Natali 2004), while the use of a unisex life expectancy for the calculation of annuities in the public system explicitly transfers resources between gender groups. The projected outcomes in terms of replacement rates and benefits levels is quite worrisome, with replacement rates estimated to fall from roughly 50 to 30 per cent with retirement at 60 years old and from 65 to 49 if retirement is at 65 (Chlon-Dominczak 2002: 128) in a period of 25 years.

All the countries studied in this paper, and many other European countries, have also often included in the reform process a revision of existing benefit indexation mechanisms. While in the past, pension benefits in the post-retirement period were generally adjusted to earnings growth, reforms have tended to change indexation rules to make benefits follow the evolution of prices, rather than earnings. In Italy both the NDC benefit and the AS (means-tested) are to be adjusted following prices. In the UK, both the flat-rate BSP and the earnings-related S2P follow prices (although the newly created PC was set to grow with earnings). In Poland, both the NDC benefit and the guaranteed minimum currently adjust to 80% of prices, and 20% of earnings, and there is an official project aiming to fully shift indexation to prices. Sweden is the only case where benefit indexation continues to be largely based on earnings: only the Guaranteed Pension (transfer-tested) is indexed to prices, while the NDC follows earnings growth. The shift of indexation rules from earnings to prices had an implication in terms of the distribution of welfare between the active and inactive population—while in the past, the rationale for earnings-based indexation was to make pensioners ‘share’ the relative income improvements of workers, recent policy has conceived benefit indexation as a tool to maintain the real purchasing power of benefits rather than to assimilate income improvements between workers and pensioners. This has been certainly a cost-containment decision, as in a context of real earnings growth, price indexation tends to reduce the relative growth of both benefits and expenditures. But it has also been an element of the process of individualisation of benefits, in which the inter-generational sharing of risks and resources is restricted: workers and pensioners are less connected in the financing a benefit rules, the income position of one is not directly related to the income position of the other. The particular situation of Sweden as one of the few countries where indexation of the main income replacement layer continues to be based on earnings-growth indicates still the less pronounced (or better cushioned) process of individualisation of pensions in this country.

Conclusion

The similar way of redirecting pension policy across European countries which initially belonged to different ‘worlds of welfare’ may be taken to suggest that countries are getting closer in the pension policy arena.¹⁰ Although pension systems continue to differ as a result of their original institutional structures and the varying organisational and political capacities of the key actors in the reform process (Myles and Pierson 2001), the distributional *direction* of policy seems to be shared across countries. Nations may not necessarily converge in levels of expenditure –but they are moving in a similar directions in terms of the distributional underpinnings of pension design, distributional objectives, and their likely distributional outcomes. While there has been a long discussion on whether countries converge or diverge, the distinction requires a proper definitional background (convergence on exactly what, when, which countries), and even then, it risks to be artificial as most social process tend to include elements of both convergence and divergence. In fact, the change of the distributional

10 Discussion on social policy convergence in Europe are quite wide. See, for example, Overbye (1992), Overbye (2001), Overbye (2003), Cornelisse and Goudswaard (2002) Rhodes (1997) and Johnson (1999) for some conceptual and empirically based evaluations of the process of social policy convergence in Europe.

logic of pension systems identified in this paper could be conceived by some as part of a process of convergence in pension policy design, but it could also be regarded by others as the result of cross-border ‘policy learning’, as well as the outcome of the diffusion of policy paradigms across countries. Following a path-dependent reform process, original structures seem to have affected the extent and rapidity with which new models could be applied, but the distributional underpinnings of pension reform seem to respond to deeper questions of ‘how should risk be apportioned’, ‘what is the role for the state and individuals in providing for retirement’, ‘how much paternalism, how much self-reliance’, which tended to be answered in a similar way across countries.

In fact, following the conceptual definition of the ‘distribution pattern’ identified in the first part of this paper, the pathways of reform in the four European countries analysed here, suggest the reorganisation of pension schemes towards more ‘individualised’ types of arrangements. In practice, this entailed the separation of pension policy into at least two pillars, a first poverty-prevention pillar, following a *means-tested* model of distribution of rights, and a second income-replacement pillar, following a *contribution-based* model. These two models of distribution tended to prevail over previous the *status-based* and *universal* models that have existed over the history of pension policy in Europe. The pattern of distribution of pension resources has also suffered a remarkable redirection towards a *residual* model in the first pillar, and an *actuarial* model in the second. Previously existing *earnings-related* and *flat-rate* types of systems may continue to exist here and there, but their incidence has weakened. Finally, the shift from DB to DC models in all four countries suggests that the distribution of risks in pension policy has also been modified. The narrowing of the risk-pooling mechanisms previously embedded in pension policy meant both that future workers are less likely to have to bear the costs of inadequate actuarial valuations for the payment of the benefits of older generations, but also –crucially– that each individual will have to bear its own risks of financing retirement (and those of the particular historical period over which she works and retires).

In the context of this ‘individualisation’ of pension policy or, in other words, the increasing effect of individual ‘biographies’ on pension benefit levels, three key policy questions arise. First, how to ensure that ‘high risk’ individuals are properly covered, that is, how to guarantee the wellbeing of the ‘losers’ previously protected by the risk-sharing device. Certain policies in this direction have been the provision of child credits (to protect mothers), and the use of unisex life expectancies in the calculation of annuities (to protect women). Pension credits (specially those oriented to childbirth and child-rearing) differ across countries, with Sweden being the country where these have been more generous and effectively assigned. Pension credits reintroduce risk-pooling for specific categories of people who get part of their benefits financed by the whole population. In countries where these credits are more limited (like Italy), the policy issue of how to manage the well being of ‘high risk’ individuals in a system with limited risk-pooling is more severe. The second policy question that emerges from recent reform is how to avoid the reproduction of poverty typically generated by targeted benefits which will soon make an increasing share of pension provision at the bottom of the income distribution. Finally, there is the issue of how to secure workers against financial shocks affecting fully-funded systems—something that has not been fully addressed here, but becomes increasingly important as individual accounts expand their coverage as expected. Many of these questions will have to wait for some practical experience to be fully answered—international comparative analyses of similar systems that have existed for longer elsewhere around the world, may also be a useful device for policy learning in the pension arena.

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