The evolving relationship between pay-as-you-go and funded pension schemes across Europe

Processes and consequences

Guillaume Filhon

Summary

1. Demographic ageing and the consecutive disequilibrium in pay-as-you-go (PAYG) schemes has led to a new paradigm between PAYG and funded pensions

The relationship between pay-as-you-go and funded pensions has greatly evolved across Europe in the last two decades. This process could be said to be mainly due to the demographic ageing process shared by all European countries.

> **BOX 1. AGEING**
>
> Data relating to Europe, for the years 2000, 2020 and 2050 show that the proportion of people aged 60 and over compared to the rest of the population will grow substantially and quickly over the next half century. By contrast, in the last 50 years, that proportion has remained fairly stable because the number of young people has risen.

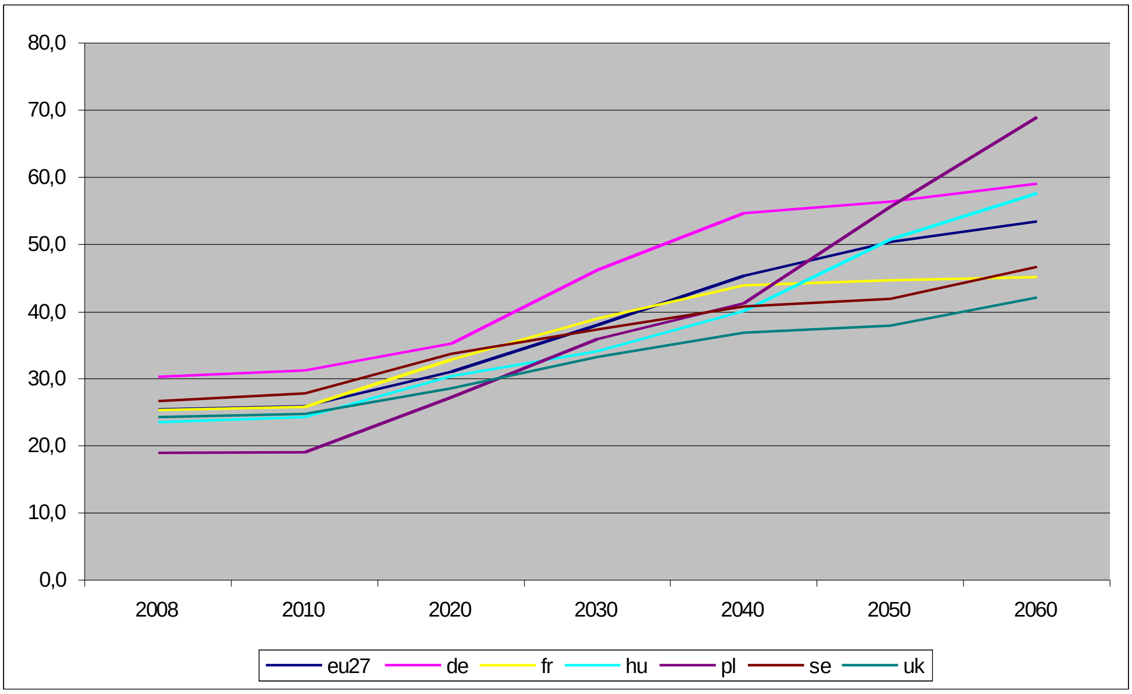
Table 1. People aged 60 and over as a percentage of the total population up to 2050 – The example of 5 Western European countries

Country	2000	2020	2050
Germany	22.9	30	41
France	20.7	29	38
The Netherlands	18.5	29	35
United Kingdom	20.7	27	37
Sweden	22.2	29	36

Source: Eurostat, 2001

This situation has severe consequences on the balance of PAYG pension schemes, since at the same time life expectancy raises slightly every three months each year. To sum up, that situation induces that more and more people will have to be paid, and for a longer period of time. This is what is called old-age dependency (number of pensioners for 100 contributors).

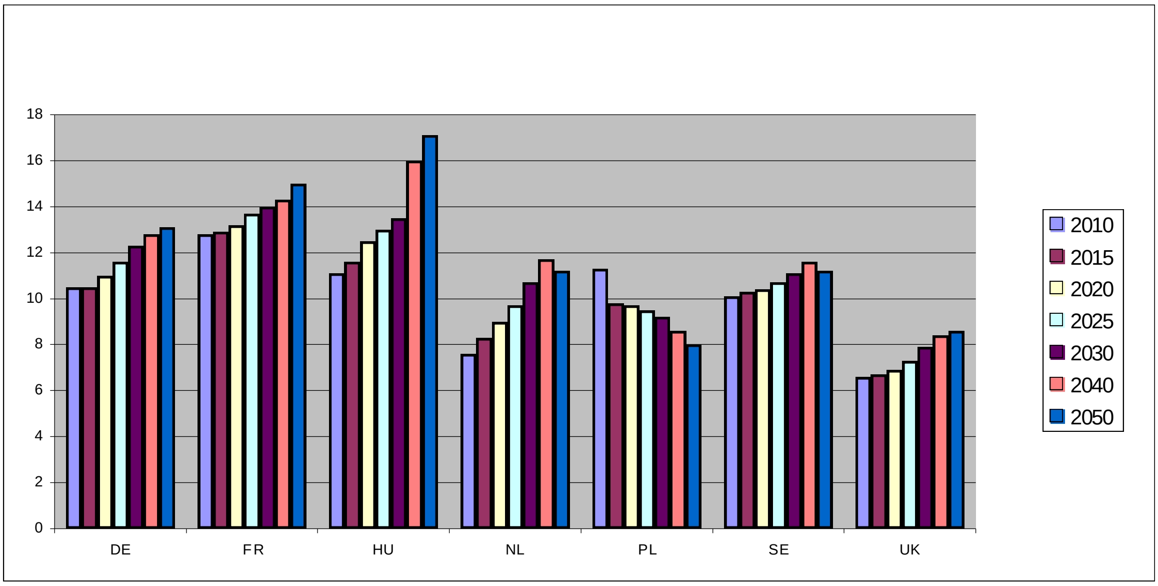
Graph 1. Demographic old-age dependency ratio in 2008 projected for 2010, 2020, 2030, 2040, 2050 and 2060



Source: Eurostat (2008).

This has been denounced as having direct and unsustainable consequences on public pensions expenditure, as showed in the following graph (Graph 2).

Graph 2. Gross public pension expenditure as a share of GDP between 2004 and 2050 according to the 2005 projections



Source: Eurostat (Feb. 2008).

Concerns about growing dependency, projected expenditure of PAYG existing schemes, and therefore the huge "implicit debt" due to future generation of retirees have been voiced, under the growing influence of the monetary approach on the question of pensions. They have been relayed by international institutions heavily influenced by the Anglo-Saxon model such as the Organisation for Economic Co-operation and Development (OECD), the World Bank and the International Monetary Fund (IMF), to favour funded schemes development. The 1994 World Bank report[1] developed a doctrine on the subject that was a huge success : the "three-pillar concept".

BOX 2. THE THREE-PILLAR CONCEPT

According to the 1994 World Bank report, all pension systems can be seen as organised in three main "pillars".

- The first pillar is primarily devoted to providing poverty relief. It is mandatory. Though usually publicly organized and pay-as-you-go, its form can vary widely.
- The second pillar's mission is smoothing consumption over each individual's lifetime. In principle it can be funded in advance or be pay-as-you-go; and it may or may not be integrated into the first pillar.

[1] See: World Bank (1994).

- The third pillar is private, funded, voluntary, and aims at increasing the range of individual choice.

Beyond these apparently consensual considerations, the three pillar concept followed a political agenda, the purpose of which was to support the development of private, alternative and funded schemes, enlarging their field of action to the second pillar, the Public pension schemes would deal with "bad risks", that is to say people unable to save enough to prepare their retirement period. Logically, IMF bailouts, for example, have been conditioned to systemic plans which, regarding pensions, led countries receiving help to change their pension system, focusing the pay-as-you-go system on needy people (as a kind of "security net"), and allowing private and funded pension funds to cover larger parts of the contributing population.

Hence strong support in favour of what was described as the partial "privatization of pensions",[2] that means a shift from pay-as-you-go public schemes to funded private schemes through the third and second pillars. Funded schemes were shown as a solution against the ageing process, a way to develop work incentive, and also a tool for improving financial markets and new sources of profit, that is to say, at the end of the day, collective wealth.

The main question remains: what is the most efficient articulation between PAYG and funded schemes, according to the objectives of social security pension?

According to Nicholas Barr's analysis,[3] and from an economic perspective, the difference between pay-as-you-go and funding is nevertheless secondary, since PAYG and funding are simply different financial mechanisms for organizing claims on future output.

The objectives of all pensions systems are the key issue. And these objectives can be summed up as following:

- There are two groups of *primary objectives*, the first being *individual*, the second being *associated to collective organisation:*
    - *Provide insurance against low income and wealth in old age* and offer a mechanism of consumption smoothing across one's lifetime. Consumption smoothing is an individual objective, modelized in microeconomic theory by the illustration of the "Fisher's model" individual choice between immediate consumption and savings for future consumption. In a world of certainty,

[2] See: Orenstein (2008).
[3] See: Nicholas Barr (2002).

individuals would save just enough during their working life to finance their retirement. However, people do not live in a world of certainty, mainly because they do not know how long they are going to live. Consequently, in principle, a group could agree to pool their pension savings, with each person drawing a pension based on the total amount he or she has contributed to the pool and his or her actual life expectancy. This is the principle of actuarial insurance and annuities, that would constitute a correct answer to the social risk of ageing if information and understanding were widespread among a pure and perfect market.

  - *Relieve poverty and redistribute* income and wealth. Improving the efficiency of consumption smoothing and insurance in order to enforce social cohesion is a public policy objective, hence the objective of redistributing between ages, and also betweens social groups in pension schemes.

- There are also some *secondary objectives,* which all are *economic:* the goal of pensions, at the end of the day, is to increase consumption of the elderly. But this increased consumption necessarily means less consumption and less saving somewhere in the economy.

Hence and for example:

  - It is necessary to *avoid* as much as possible *important adverse labour market incentive.*
  - *Improve* as much as possible the *efficiency* of the capital market.

There are–as we are going to see–strong debates about the relative weights to be accorded to old-age security on the one hand, and to these secondary objectives on the other hand. Generally speaking, the former carries more weight with the Ministry of Social Security, whereas the latter carries more weight with the Ministry of Finance, who is regularly the one who speaks louder.

2. European countries, therefore, had to find their own way to reach their chosen goals, throughout the most accurate articulation between PAYG and funded schemes

There are two–and only two–ways for individual to seek economic security in old age: the first one is to put aside current production for future use; the other one is to acquire a claim on future production. Consequently, each European country has found its own path between these two solutions, putting a stress on a specific aspect of the first or the second objectives mentioned above. In order to follow its own way, each country also had to organise its specific articulation between PAYG and funded pensions, according to their respective organisational choices: whether PAYG or funded, a pension plan can be ruled by private or public bodies, under defined benefit (DB)–which means that the calculation formula allows one to know his/her benefits in advance–, or defined contribution (DC)–where benefits will depend on forecast and unknown variation of the parameters–principles, and so on.

This has resulted in different possible national articulations between PAYG and funded pension schemes. They can be summarized after a brief outlook into 6 main ways:

- Maintain the apparent supremacy of PAYG schemes, such as in France.
- Articulate the Bismarckian system with funded supplementary pension schemes, occupational or not, supported by tax incentives, as Germany seems to have chosen.
- Suggest an opting-out clause from PAYG contributive schemes to occupational and personal funded pension plan. This is the illustrative and radical way followed by the United Kingdom from the 1980s.
- Use defined benefit (DB) occupational plans as a keystone of the social security system, which is for example the Dutch option.
- Develop a main notional defined contribution (NDC) system, articulated with a compulsory funded residual plan, following the Swedish example.
- Or comply with the pure three-pillar doctrine interpreted as a way to privatize the contributive second tier, generally in order to obtain bailouts from the IMF and the World Bank, as it has recently happened in new member states, for instance Hungary and Poland.

Of course, the national examples selected here are only illustrations of these six main ways. For example, it should be noted that the Czech Republic or Slovenia have followed ways similar to the German one. Belgium, Greece and France are close in their fierce defence of PAYG principles; as for Baltic states, they have followed a trail similar to the one chosen by Poland and Hungary, under the influence of the Swedish model, which has also inspired latest Italian reforms. A more complete study would certainly be more accurate to check the following development: this is why some data from other countries than the ones studied here may be used in order to illustrate the possible larger extent of this primary analysis.

Besides, Some countries such as Poland, Belgium, Sweden, Germany or France have created national buffer funds to support PAYG schemes confronted with the predicted tip of demographic ageing planed for years 2020-2040s. In that case, funding pensions plans are a way to support (on widely different scales: 4 years of benefit in Sweden, 1.5 month in Germany) PAYG schemes. We will focus here on the relationship between PAYG and funded schemes that are meant to pay direct benefit to people.

In order to check the actual and future relation between pay-as-you-go pensions and funded pensions from a comparative perspective, it is thus interesting to study each of these six possible ways to seek for an optimal relationship between pay-as-you-go pensions and funded pensions; hence, the study analyses carefully examples quoted above (I), before trying to deduce from these separate analyses a comparative approach on the common pathways followed to reform the relation between pay-as-you-go pensions and funded pensions, their output on the present situation, their consequences on primary and secondary social security objectives during the present period of financial crisis, and finally their forecast evolution.

3. A common trend in favour of funded schemes, in spite of convergent evidences of their macro-economic inefficiency.

At the end of the day, and after a brief approach on European Union stands about pension issues, the study shoes that the apparent different ways followed by European countries barely hide a common shift towards funded pensions, which is supported by the demographic situation, international agencies, the European Union, and a general social trend toward individualism.

It outlines the fact that different national approaches reflect different traditions of joint or tripartite decision making as well as the role of labour law in underwriting and extending labour rights. For example, the foundations of much continental labour law rest on principles of public order: they determine the norms governing employment, and lay down the rights and obligation of employers and employees as regards pensions. Formal collective agreements can set minimum standards. Some States may rationalize these agreements by extending their terms and coverage in predefined ways. Hence, pension agreements created by collective industrial bargaining as well as those set up under social security legislation are under the protection of the law. *But the growing size of funded pension is a universal phenomenon.*

The features commonly used to identify the differences between public and private pensions (funding, investment, ownership, ratio between final pension and individual contribution…) offer a restricted -and probably insufficient now- perspective for developing a global comparative analysis on pension plans. It is, for example, comparatively easy to distinguish totally or partially funded schemes (the Netherlands, the United Kingdom, and Sweden) from seemingly unfunded ones (France). This tells us nothing about ownership, however, for which State-run schemes (Sweden) can be distinguished from clustered provisions held in private hands (France, and the Netherlands), and from the German and British mixed systems. British and Dutch occupational funded pensions use private fund managers to invest their reserves, but then similar strategies can be used for German company pensions as well as for french ARRCO and AGIRC's reserves. In continental Europe, public policy has been less concerned with distinguishing public from private pensions, funded schemes to PAYG ones, than with ensuring that earnings-related provisions meet social objectives and that systems of public accountability are set up. In countries with extended public PAYG earnings related pensions (Sweden, France and Germany), there is no question of allowing companies to contract out of social security legislation because of that purpose. *Nonetheless, all of the countries selected in our study follow the same path towards an increasing role for funded schemes.*

This global movement in favour of funded schemes has a motivation, which opposes the public opinion's will for best and more secured, even if more expensive, public pensions[4]: decreasing public pensions forecast expenditures.

In a nutshell, the three pillar approach periodically used for this analysis has been an efficient tool for improving the presence of funded schemes and adapting them to national traditions and specificities, reflecting Holzmamn's phrase : *"A multi-pillar structure is useful for overcoming resistance to reform."*[5]. This evolution is surprising, since, as M. Sterdinyak wrote, pension funds cannot have a better rate of return without risks, as the recent financial crisis showed in a very spectacular way.

And yet, in *Myths my grandpa taught me*[6], written at the end of the 1970s, the economist Nicholas Barr already explained the potential analytical errors and myths that could unduly and dangerously permit the expansion of funded pension schemes. Throughout this

[4] See: Eurobarometer (2009).
[5] See: Holzamn and Hinz (2005).
[6] See: Barr (1979).

comparative analysis, we have found clues that confirm these potential analytical errors. It is thus interesting to analyse more in-depth some of these myths used as arguments in favour of the expansion of funded schemes, in order to confront them to facts we have learned from the countries we have selected.

- *"Pension funds are a solution to demographical problems.".* The study shows that it is not true, except if young foreign workers agree to buy out elder European retirees assets, which does not seem to be the case any longer.
- *"Paying one's debt is always a good policy."* We see in this analysis that "implicit pension debt" has become part of the vocabulary of the international dialogue on pensions. But the argument for reducing implicit pension debt is based on series of mistakes: it only considers liabilities and ignores assets; it focuses on financial arrangements, ignoring the fact that what matters is real resources; it fails to recognize important differences in the economic effects of implicit and explicit debt, and ignores the intergenerational distributional effect of a change in the balance between implicit and explicit debt. In a word, because macro-economy is more a matter of flux than of stock, it's better for a country to finance partly his population wealth by indebtedness than enhance poverty and reduce exchanges within its walking economy.
- *"Pension funds are more work incentive."* This may be true, but only in a brave new (Fisherian) world: Who cares for work incentives if the macroeconomic output is insufficient for employing more than 50 percent of the targeted population? Hence, as we've seen Poland and Hungary, in spite of their strong "work inciting" reform, still have very low employment rates (less than 20 percent) for people aged 60 and over.
- *"More choice means better protection for individuals."* This assumption, once again, is valid only if individuals are perfectly informed in a pure and perfect market. Such a market was never born, especially in the pension world. Indeed, the market, on such matters, is incomplete, because of what New[7] calls an "information processing problem", that is to say asymmetric and imperfect information and too much complexity, inducing moral hazard at the expenses of the ill-informed, as the examples of UK and Eastern European countries show.

[7] See: New (1999).

Since some individuals have a poor grasp of the risks and uncertainties they face, and since they're unlikely to be well informed (Orszag and Stiglitz[8] even quote the chairman of US security and exchange commissions as stating that over 50 percent of Americans do not know the difference between a stock and a bond), they're more exposed than if an "honest and disinterested broker" made logical macroeconomic choices in their name (in our view, the State, but it can also well managed compulsory pension funds, such as Swedish or Dutch ones, which have replaced their equities by bonds to prevent the market fall down).

- *"Developing pension funds reduces public expenditure."* The comparative approach shows that it is not true in the short term if the State in question had a heavy and mature PAYG scheme. The British "tax incentive opting-out policy" teaches us that developing pension funds can be very expensive in the long term too. Finally, public financial support can be needed in the case of a financial crisis, as happened in the Netherlands.
- *"There is a direct link between the increase in pension funds, savings and growth."* It is here important to distinguish between funding that actually does increase saving and funding that increases the assets of the pension system without increasing total saving, for example, by issuing government bonds and placing them in individual accounts, Poland developed for a while an expensive quasi PAYG system.[9] Yet bonds are more secure than stocks, as they do not represent an increasing of global wealth nor investment. Using foreign government bonds could at the end of the day internationalizes a kind pay-as-you-go system by securing claims on taxes paid by future foreign citizen.[10] But what is the strength of a PAYG scheme without declared solidarity?
- *"Developing private funded schemes is a good way for public authorities to remain outside the problematic of pensions."* On the contrary and as the work concludes, public authorities have had to invest heavy means and competences to survey, control and enforce funded pensions, the best of which are located in countries where they imply heavy public-private partnerships, such as the Netherlands or Sweden.

… and so on…

[8] See: Orszag and Stiglitz (2001).
[9] See: Pestiau and Possen (2000).
[10] See: Börsch-Supan (2005).

In addition to the risks threatening PAYG pension schemes (essentially political–in case of an unstable or a smoothie government), economic (in case of a macroeconomic shock), and demographic (in case of ageing) risks, funded schemes present some typical weaknesses that we discussed in this outlook:

- Management risk: as in Poland, Hungary, the United Kingdom and even Germany, misbehaviours (mis-sellings for example) and mistakes (bad investments) led to loss in customers savings.
- Investment risk: pension accumulations held in stock markets until retirement are vulnerable to fluctuations of the market, as shown, again, by the recent financial evolutions mentioned in the study, especially for heavily "asset risk-exposed" countries such as the UK or Hungary.
- High administrative burden: It is particulary clear in Poland and Hungary, but even the best pension funds are–administratively speaking–more expensive than PAYG schemes, a fact which becomes evident when market returns do not suffice any more to cover administrative ratios.

We saw in our first lines that a well designed pension scheme has **4 primary missions**: *provide insurance* against low income during old age and ensure *consumption smoothing* on the one hand, *relieve poverty* and *redistribute income* on the other hand. In addition, we saw that pension designers could also have **secondary objectives**, such as *avoiding adverse labour market incentives* and *improving the efficiency of the capital market*.

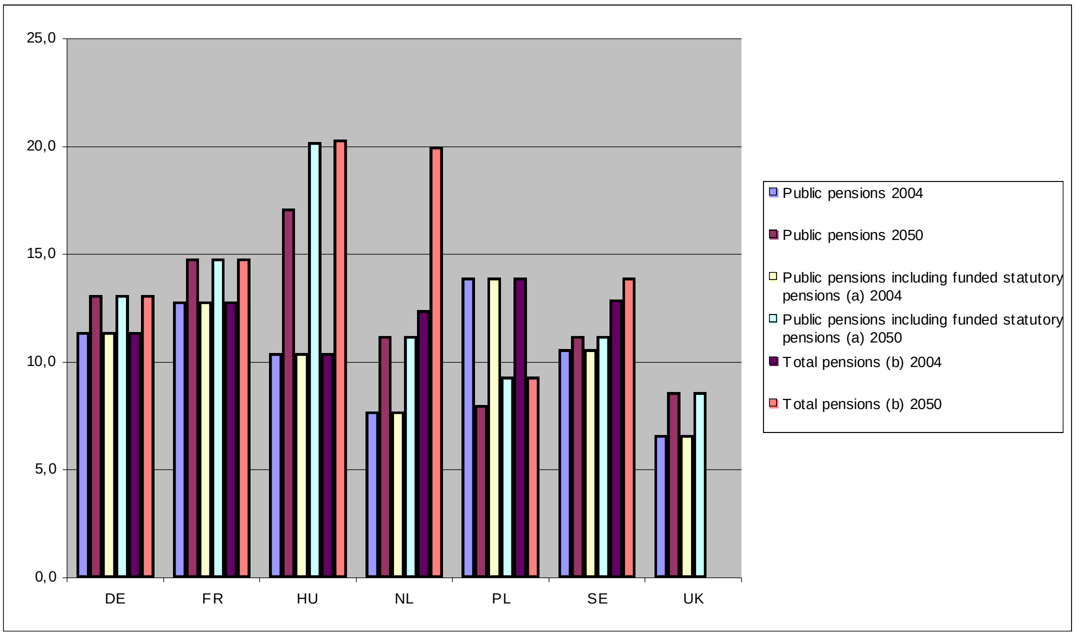
A logical and neutral approach would have been to make a priority of primary objectives, and then to see how match the system as decently possible to secondary objectives. Hence, and to answer to a question asked in introduction, the most efficient articulation between PAYG and funded schemes would be to maintain funded schemes residuals and, if compulsory, limited to additional consumption smoothing for the wealthier.

It is not possible to have a mandatory system of pensions without distorting the labour market; nevertheless, labour market distortions have been used as an argument for an evolution from PAYG schemes to funded schemes, whether occupational or not, defined benefit or defined contribution. It appears, then, that the global trend that emerges from this comparative approach, though of course there are still huge national differences, shows that policymakers recently favoured secondary objectives at the expenses of primary ones, considering the Welfare State, according to Atkinson's phrase,[11] by only taking into account its cost without its benefits.

Hence, the reforms implemented are aimed at decreasing PAYG benefits, and increasing funded benefits, with a probable decrease of median replacement rates. Furthermore, this trend will be accomplished with reverse effects on social security primary objectives (if actuarial and funded benefits can adequately address private objective such as insurance and consumption smoothing, they do not address as easily public concerns for poverty relief and income redistribution) and with additional risks (management, investment…).

Since they are designed to be implemented progressively, they'll have full effects only in few years. The dependency ratio mentioned in introduction will not be sensitively reversed by reforms followed here, and expenditure on pensions will have, ineluctably, to augment. Reforms just switched the promise of adequate benefits from PAYG to funded pensions.

Graph 35. Projection of pension expenditure, public and total, 2004-2050 ***(% of GPD)***



Source: SPC (2008) and Eurostat.

We can see here and for example that most of the burden of promised benefits in Hungary and the Netherlands is put on the funded pension commitment. However, even very recent

[11] See: Atkinson (1999).

history on a 20 years period teaches that funded schemes were not better (and, to say the truth, worse) than PAYG schemes to endorse long term promise, although this long term promise is necessary to keep in pension well-designed schemes.

Hence a corrective policy is still possible. As Nicholas Barr recently explained,[12] it is more than ever important to develop a second best analysis, that will summarize the positive and negative effects on the global well-being of society as a whole. World Bank itself has changed its mind and finally recognized that *"the bank acted too quickly to support multi-pillar reforms in other countries without examining options for complementary safety nets to protect […] workers from poverty in old age."*[13] A consensus for a new kind of policy mix between PAYG and funded scheme seems then to arise, granting more value to primary social security objectives, and notably that of relieving poverty and redistributing income.

That is why it is surprising that, after having implemented funded pension schemes in almost all European countries, the common trend is now to advocate for a second step, a new move from Defined benefit funded and PAYG plans to defined contribution funded and PAYG plans presented as self-driven, auto-adaptative and then financially stable. This trend is often presented as a solution that reconciles the "old-fashioned debate" between PAYG and funded schemes, permitting a move from unsustainable Defined Benefit schemes towards Defined Contribution schemes.

. The appeal of a defined benefit plan (from the worker's point of view) is that the investment risk falls on the employer or the group, so long as the employer/the group is able to meet its obligation. But once the system falls into a crisis, as now, strong incentives in favour of defined contribution actuarial schemes are at stake… Hence the growing pressure for the development of NDC in first pillar pensions schemes, as has already been the case in Sweden, Poland, but also Italy, in addition to second pillar DC funded schemes.

In three respects, minimizing distortion, improving compliance, and encouraging later retirement, actuarial pensions seem to be optimal. But this is true only in the brave new world of theoretical economy. As was particularly apparent in the case of the UK,

[12] See: Barr (2008).
[13] See: World Bank (2006).

asymmetry of information, moral hazard, adverse selection and other malfunctions of the market erode the theoretical advantages of actuarial defined contribution schemes.

Effectively, and even if it strengthens the link between contribution and pension, potentially producing the same adverse social effects on inequality and poverty as those showed by this overview, and put the risk on individuals, NDC schemes present the indubitable advantage of being painless:

- For bankers, insurers, and other radical champions of funded pensions, as Martin Feldstein, they can constitute a good transitional measure towards a fully investment based system, as *"they provide an individual account framework within which an investment-based system could later be introduced or expanded".*

  And, above all:

- For policymakers: once it is in place, it adapts itself, and no legislative decision, no political responsibility is to be blamed.

Finally, and beyond primary objectives of social security, this is the question of political responsibility that is at stake, this political responsibility that alas is not sufficiently concrete in the European level, and that Benjamin Constant[14] explained as being in the democratic paradigm's core process.

[14] See: Constant (1815).