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Grech, Aaron George

London School of Economics, Central Bank of Malta

July 2014

Online at <https://mpra.ub.uni-muenchen.de/57638/>  
MPRA Paper No. 57638, posted 30 Jul 2014 09:28 UTC

## **Assessing the sustainability of pension reforms in Europe: a pension wealth approach\***

*Dr. Aaron George Grech<sup>1</sup>*

*Visiting Research Fellow, London School of Economics and Political Science,*

*Deputy Chairman, Malta Statistics Authority &*

*Manager, Modelling & Research Office, Central Bank of Malta*

In this lecture, I will try to start answering the question of whether the pension reforms enacted in Europe since the 1990s will prove to be sustainable. This broad question has embedded in it both theoretical and empirical sub-questions. On the theoretical side, I will need to see how best to measure pension adequacy, while also assessing the feasibility of evaluating jointly pension adequacy and financial sustainability. Once this is tackled, I will be assessing the possible impact of reforms on the capacity of pension systems to achieve their goals and the impact on the constraints they face. This should help understand better any sources of possible pressures that could undermine the sustainability of pension reforms.

Most of the existing literature on the sustainability of pension reforms focuses solely on financial sustainability. Taken to the extreme, some studies determine sustainability in direct proportion to the decline in state pension spending projections expected as a result of a reform. Pension adequacy and financial sustainability tend to be seen as conflicting aims. However, it is increasingly evident that this is not the case. It is true that costly systems create pressures for retrenchment (for instance, take the reforms made in Italy in the 1990s). However, there are recent examples of policy changes which reflect adequacy concerns (for instance, take how recent reforms in the UK have reversed most of the major 1980s pension policies). In fact, one could argue that there is a sort of policy vicious circle, where reforms first over-focus on adequacy, these prove to be too expensive and cuts are effected, and then adequacy concerns resurface. This suggests that the sustainability of reforms depends on the effects of changes on both system aims and constraints.

State pension systems have two main aims, the importance of which differs across countries. On the one hand, they are meant to enable elderly persons to have an income above the poverty threshold (i.e. the poverty alleviation role). On the other, they are meant to enable income or consumption smoothing over the lifecycle, enabling individuals to maintain their standard of living unchanged (i.e. the income replacement role). The achievement of these aims however needs to be done within the limits imposed by two main constraints. Systems need to be financially sustainable – in that future workers are not faced with very high contributions compared to those paid at present. They also need to ensure intergenerational balance – such that the size of future pensions is not very small compared to those received by current pensioners.

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\* Lecture given at an international conference on “Pension adequacy and sustainability” held on the 20<sup>th</sup> September 2013 in Budapest and published in pp. 112-120 of “Pension adequacy and sustainability” (2014), Jozsef Meszaros (ed.), Budapest: Central Administration of National Pension Insurance Hungary.

<sup>1</sup> The views expressed here are those of the author and do not represent those of the organisations with which he is affiliated. The simulation model APEX, used to derive pension wealth estimates, was kindly provided by the Directorate for Employment, Labour and Social Affairs of the OECD. The author is particularly indebted to Edward Whitehouse and Monika Queisser, for their kind help, advice and support.

However, at present, most analysis of the effect of pension reforms focuses on theoretical replacement rates and on projected pension spending as a % of GDP. Theoretical replacement rates compare the expected pension to be received at the point of retirement to the pre-retirement income of the individual. These projections are calculated on the basis of assumptions – typically that the individual is a male with a full-career on the average wage. These projections tend to be made separately from projections of pension spending, which typically are based on broader models that adopt more realistic assumptions on pension entitlements. Nevertheless these projections are still a point-in-time indicator, and do not give a clear indication of the full burden of pension entitlements for future taxpayers. Similarly theoretical replacement rates, besides the obvious issue of them being based on unrealistic assumptions – particularly for women, also focus on just one point in time. In this way they fail to account of the fact that the relative value of pensions tends to change over time and that the period for which they are received also differs across generations. These are important considerations. For instance, on average, after ten years in retirement, replacement rates are down by a tenth from their starting value. The longer we live, the more the impact of indexation is on adequacy.

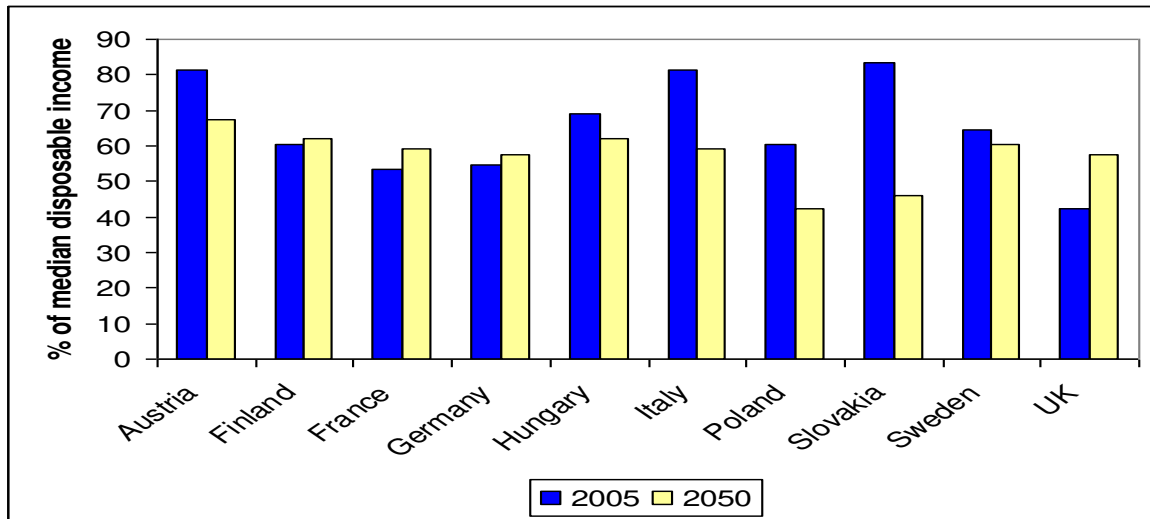
Instead of having separate frameworks to assess aims and constraints, I propose using one base measure – pension wealth. As the latter is the discounted stream of all future pension payments, it captures the effects of changing longevity on total flows and of indexation on the relative value of flows after retirement. Take for instance a case where the initial replacement rate is 50%, and stays the same after a reform. Looking at just replacement rates would imply no change. However assume that individuals will live longer in the future. This means that the State will transfer more money to them in total than it does to current pensioners. Similarly assume that a reform changes how the value of the pension changes after the first year. In this case it does not make sense to argue that the reform left things unchanged. Finally assume that replacement rates remain the same but the pension age is increased. Again this would show up in pension wealth estimates but not in replacement rates. That said, looking at pension wealth by itself is also deceptive. For instance women have pension wealth higher than men, but then they have to spread this over longer retirements. This is why one needs a benchmark that reflects the period of retirement which the pension wealth needs to finance.

The other issue that needs tackling is adopting assumptions that are closer to reality. The impact of reforms tends to depend on the income of the individual and their labour market participation. In many countries, those on low incomes get a better return on contributions, while those with career breaks are disadvantaged. Assuming full careers on average income ignores this.

Over the years, the OECD has constructed a very useful model of pension entitlements which allows one to study the impact of different wage levels and career lengths. I will use this model – APEX – to study pension reforms made from the 1990s till 2009 in ten countries. These countries include very different systems such as the Bismarkian systems of Austria, France, Italy and Germany, the liberal system of the UK, the social democratic systems of Finland and Sweden, and the Eastern European systems of Hungary, Poland and Slovakia. Together these countries account for 70% of the EU's population. They have carried out very different reforms, including moves to notional defined contribution (NDC) systems and parametric changes. They also differ significantly in terms of their current achievements and pressures (e.g. Italy is a high spender but still has high poverty). For each country, I model the entitlements of a full-time individual at each decile of the full-time wage distribution, a part-timer earning the average part-time wage and someone on minimum pensions. Instead of assuming full careers, I use career lengths reflecting actual and projected participation.

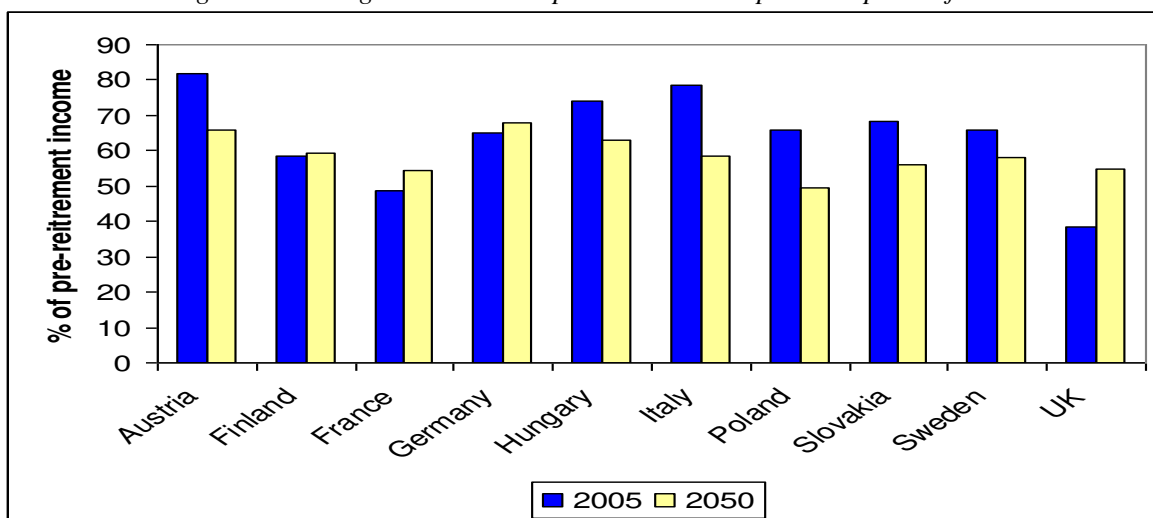
To assess the strength of the poverty alleviation role, I compare pension wealth estimates with projected national disposable income, so as to see what relative income threshold entitlements can support, on average, through retirement. As for income smoothing, I convert pension wealth estimates of my different hypothetical individuals into the average replacement rate over retirement. Turning to system constraints, intergenerational balance is assessed by comparing directly pension wealth of different generations; while financial sustainability is evaluated by determining what contribution rate is needed from a generation of workers to finance the pension wealth of a generation of pensioners.

Figure 1: Achievable relative poverty thresholds: pre- and post-reform



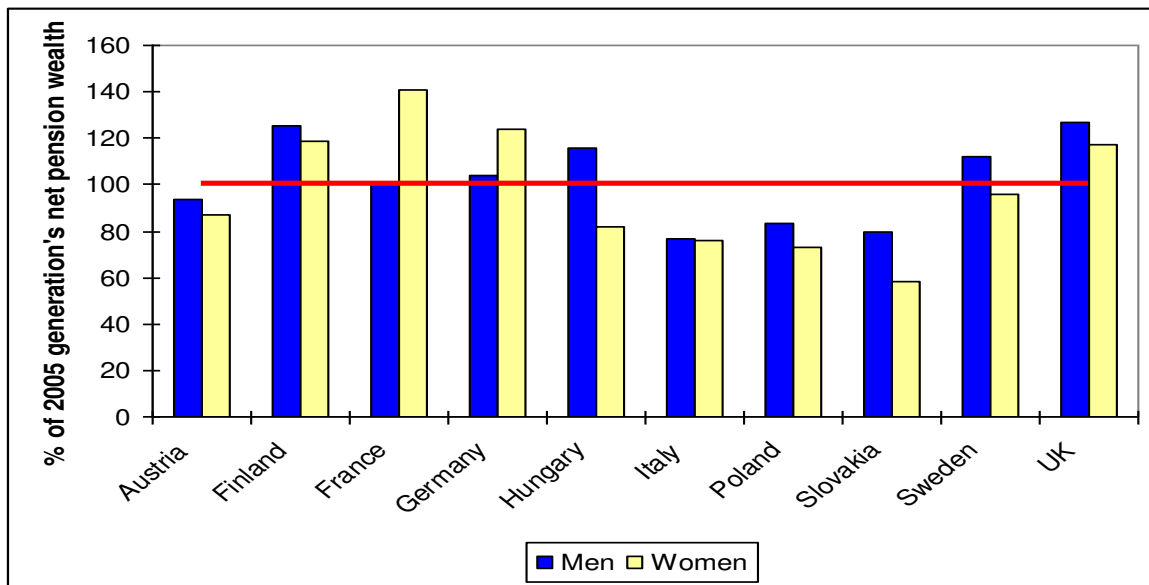
As can be seen from Figure 1, reforms have reduced the strength of the poverty alleviation function. The average achievable relative poverty threshold across countries for men is 67%, going down to 60% by 2050. The average for women is 52%, rising slightly to 53%. Here I have focused on the entitlements of those in the bottom half of the wage distribution, who are more dependent on state pensions. Generosity is set to improve slightly in some countries, like France and Germany – on account of higher labour participation, especially among women. On the other hand, in some other countries, such as Poland and Slovakia, declines are more pronounced as reforms tighten the link between benefits and contributions. Progressive elements in benefit formulae have also been removed.

Figure 2: Average achievable replacement rates: pre- and post-reform



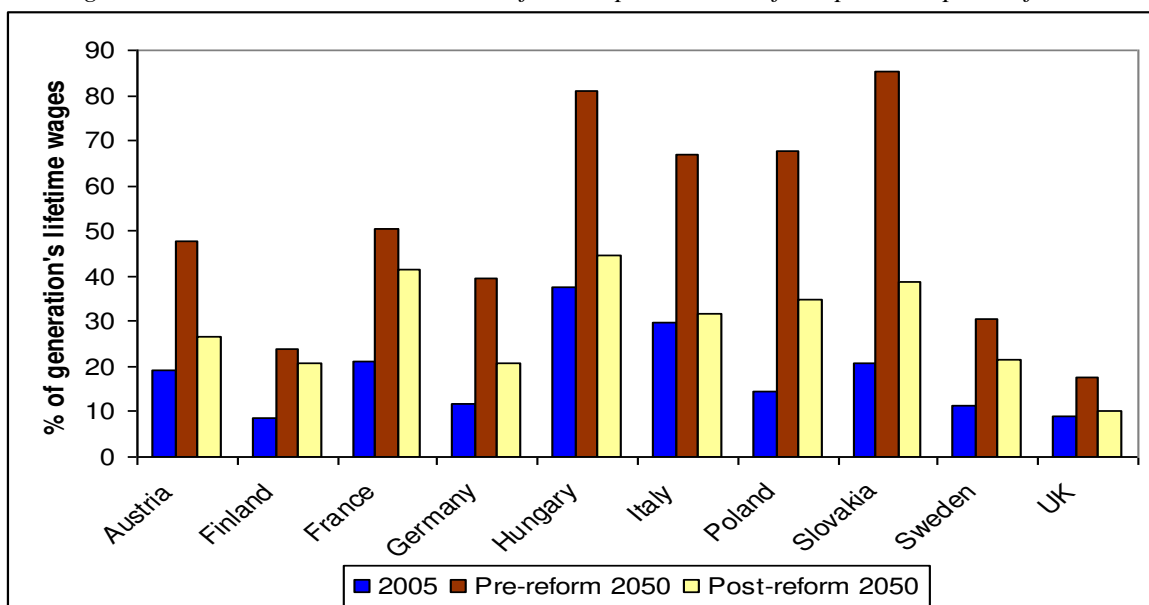
There are similar trends when one looks at average achievable replacement rates – i.e. the strength of income smoothing. The loss here is relatively stronger and it is evident that in countries like Poland, Austria and Italy the state pension on its own will not be enough to sustain pre-retirement levels of consumption. Again the decline is more pronounced for men, as these already have high labour participation rates. The impact on full-careers differs – in some cases the reforms favour those with full careers. However in many cases, replacement rates for those on high incomes have been cut, while generosity for those on low incomes was maintained. But there are exceptions – in Poland and Slovakia those at the bottom face the toughest challenge as the system is much less progressive.

Figure 3: Intergenerational balance: pension wealth of 2005 and 2050 pensioners



Intergenerational fairness would have been quite at risk, had there been no reforms. Future generations would have got much larger pension transfers as a result of increasing longevity. The reforms appear to have addressed this. So while year-on-year replacement rates may have fallen, generally, future pensioners still get more transfers than current ones, with the exception of Italy, Poland and Slovakia. In these countries the drop is quite significant and reflects the large financial problems which these countries would have faced had they retained their previous system rules.

Figure 4: Contribution rates needed to finance pension transfers: pre- and post-reform



Without reforms, the cost of financing the large increase in net pension wealth would have required very significant hikes in contribution rates. At present, across these ten countries, pension transfers require some 17.5% of wages in order to be financed over the medium term. Without reform this would have needed to rise to 47%. The reforms will cut this increase, on average across these countries to 27%. Without the reforms Hungary, Italy, Poland and Slovakia would have been seriously hard-placed. Quite unfortunately, despite substantial cuts, the cost of the pension system in Poland and Slovakia will still increase substantially – reflecting quite strong demographic developments combined with low labour market participation. A similar increase is projected for France – but here this is mostly due to the low state pension age.

Figure 5: Development of achievement of system aims over the next decades

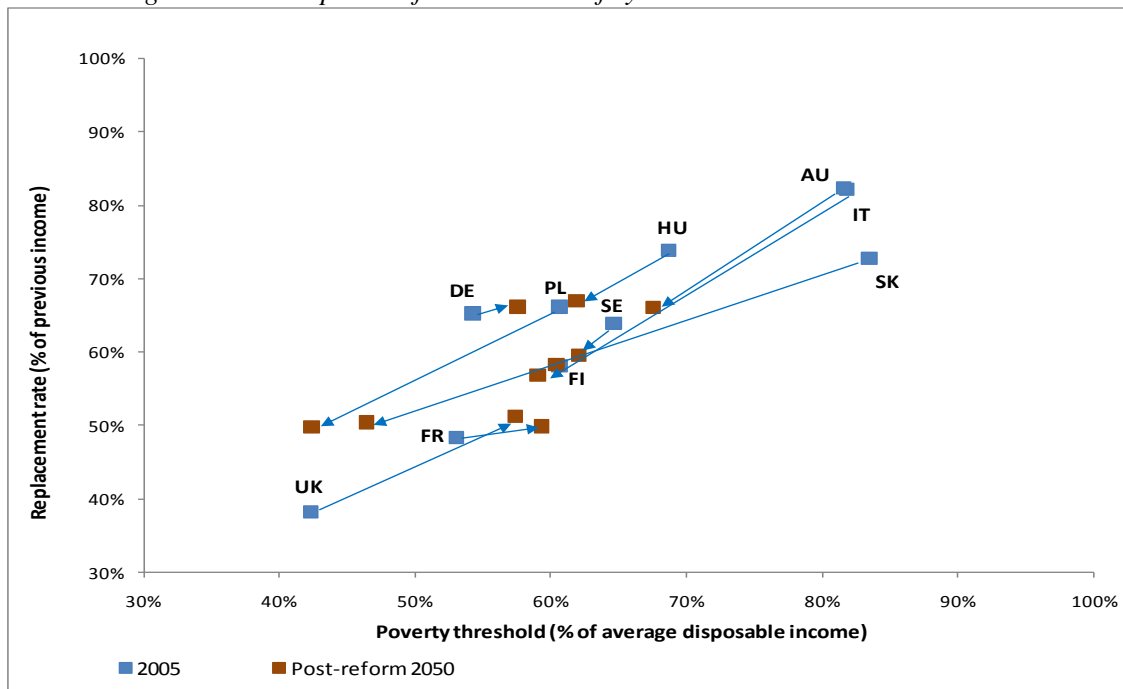
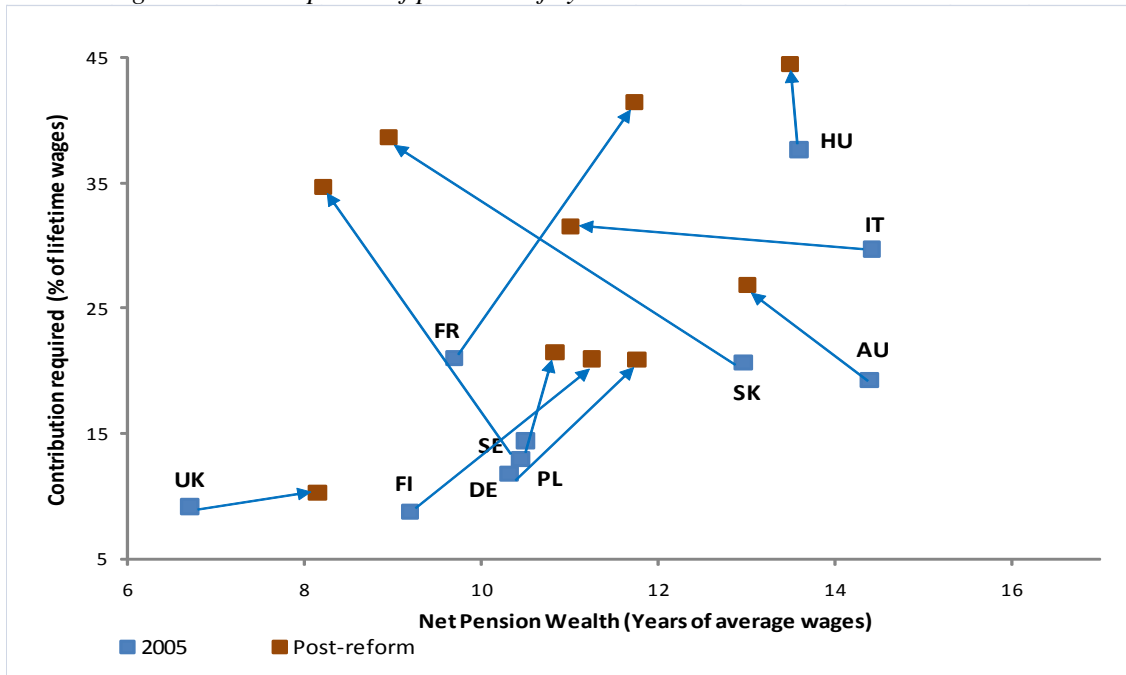


Figure 5 summarises how the achievement of pension system aims should evolve between 2005 and 2050. There is a broad convergence of system achievements. Most countries appear to be converging towards providing pension wealth which keeps individuals close to the 60% poverty threshold throughout retirement. The only outliers appear to be Poland and Slovakia. There is less convergence in terms of consumption smoothing. It is clear how in some countries, the consumption smoothing role is diminishing in its relative importance as against poverty alleviation. Generosity cuts have tended to hit middle-to-high incomes more. However, in the absence of improved contribution records, the move to tighten the link between contributions and benefits could hurt those on low incomes – particularly in the absence of crediting arrangements and adequate minimum pensions.

Turning to pressure on pension system constraints (see Figure 6), here there is less convergence. The response of policymakers appears to have depended on the challenge faced. Some countries have managed to reduce growth in net pension wealth below that induced by longevity. This is particularly true for the entitlements of women, as state pension ages have been equalised across genders. However, in many cases, net pension wealth has been retained nearly constant, but at the cost of higher implied contribution rates. Where contribution rates would have had to increase a lot, policymakers appear to have taken steps to cut net pension wealth of future generations (except in France – though some steps in this regard were taken in 2010).

Figure 6: Development of pressure of system constraints over the next decades



In this lecture I focused on aggregate results, but underlying this are very different impacts by income and gender. While systems should remain broadly adequate across these ten countries, some countries are abandoning their previous aims, and this could pose risks for those on low incomes. Is this result an inevitable consequence of systemic changes to NDC or individual accounts? Not necessarily. For instance, Sweden appears to have managed to conduct these changes in a way that does not disadvantage those on low incomes and women.

Governments across Europe have tended to sacrifice the income smoothing role rather than poverty alleviation. They have tried to reduce the future burden on taxpayers but generally maintained pension wealth of future generations similar to that of current pensioners. Labour participation can help undo generosity cuts. In some countries, there is a clear need to improve labour market outcomes or give credits to disadvantaged groups.

Longevity still poses large risks. It is important for policymakers to understand its implications both for financial sustainability and also for pension adequacy.