

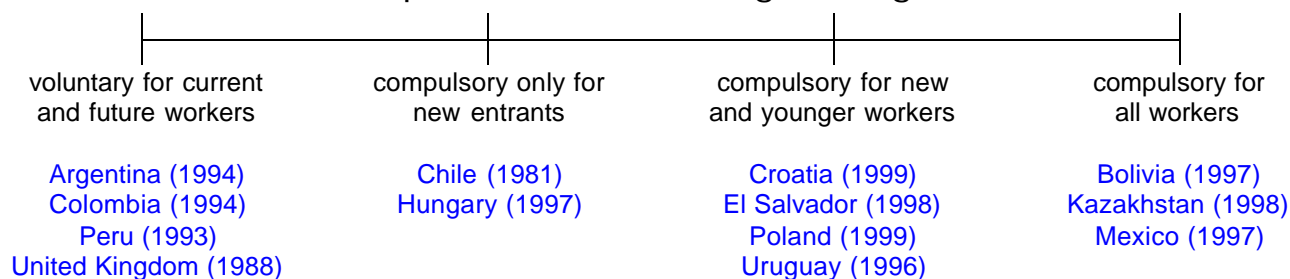
# Switching

## The role of choice in the transition to a funded pension system

The transition from a wholly public, pay-as-you-go pension system to one where pensions are also provided by individual, privately managed pension accounts does not directly affect those receiving pensions at the time of the reform. Nevertheless, it could affect all current and future workers. A critical policy choice is whether these workers should be allowed, encouraged or forced to divert their pension contributions to the new

private element. The range of possible choices is shown in Figure 1. At the left-hand side, all workers, including new labor-market entrants, can choose to stay in the pay-as-you-go system or switch to the funded plan. At the other end, rights in the old scheme are frozen and all new rights are earned in the defined-contribution, funded scheme.

The spectrum of switching strategies



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The experience of 12 reforming countries covers the spectrum of possible policies. However, even this broad range masks some important differences between countries. In Mexico, for example, people are guaranteed their rights from the old defined-benefit scheme regardless of how their new defined-contribution account performs. Given the short accumulation period, the vast majority of older workers will receive the public pension. The switch to funding

is therefore largely notional. But new labor-market entrants are not offered the same guarantee.

In Colombia and the United Kingdom, People can also switch back to the public scheme at any time in the future. In Colombia, the accumulated fund is transferred to the public scheme, which assumes the entire defined benefit pension liability. In the United Kingdom, individuals keep the accumulated balance in their individual account

when they switch back to the public scheme and then accrue new public defined-benefit rights. Their pension is the sum of the two. In contrast, people in Argentina, Hungary and Poland can switch back to the public scheme only once and the option is time limited.

### The individual switching decision

Diverting pension contributions from public, defined-benefit to private, defined-contribution schemes affects each age group differently. We illustrate the effects with a stylized model. The model assumes that the rate of return, net of transaction charges, in the private scheme is higher over the long term than the implied return in the public plan. This assumption is an important rationale for the reform, and is supported by empirical evidence. The pay-as-you-go system, we assume, continues unaltered. People opting for the funded system divert their whole pension contribution to the defined-contribution account.

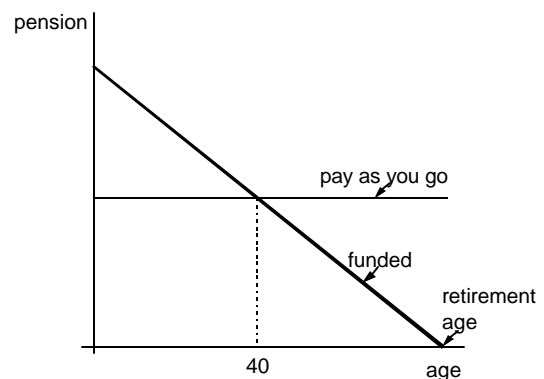
Figure 2 shows the stylized model. The effect of compounding the higher return in the funded plan is to widen the gap between the pension provided by the private and public scheme according to the length of time contributions accumulate. Younger workers, with more years of accumulation, experience the largest gain. Older workers, if forced to join the private scheme, would forfeit practically all of their pensions. In this example, a 40-year-old would expect to break even from the shift to the private scheme.

These differences in accruals are standard characteristics: defined-benefit plans tend to have 'backweighted' benefits (where pension rights are earned predominantly later in life) whereas compound interest means that defined-contribution pensions tend to be 'frontloaded'.

The analysis assumes a pay-as-you-go equilibrium where total contribution revenues match total benefit payments in a given period. The implicit return on people's contributions to the pay-as-you-go scheme is, in this case, the long-run rate of growth of the wage bill. However, in practice, many pay-as-you-go schemes offer a higher return. In the long-run, this either means rising contribution rates or a pension plan deficit financed from general government revenues.

### The switching decision

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A high enough implicit rate of return in the pay-as-you-go scheme relative to market returns would deter even younger workers from switching (to the extent that they believed the promise, see below). So they would have to be forced to switch from the deficit-financed pay-as-you-go scheme to the funded plan. But, this would be politically difficult. Indeed, just as difficult as reducing the implicit rate of return in the pay-as-you-go scheme by cutting benefits. This impedes reform of immature pension programs as early generations typically receive a windfall. Paradoxically, this is exactly the time when the fiscal burden of the transition to funding would be smallest.

### Uncertainty

The pensions 'contract' lasts most of a lifetime. As a result, pension benefits are uncertain, and this affects all types of pension plan.

Private defined-contribution pensions are subject to **capital-market risk**, as their value depends crucially on investment returns.

Defined-benefit pensions, such as most public schemes, suffer from **earnings uncertainty**, particularly when their formula averages earnings over a short period of 'final' or 'best' years. Defined-contribution schemes protect against this risk.

All kinds of pensions can be vulnerable to **inflation risk**, both when the entitlement is calculated and

during retirement. Real pension payments have often fallen rapidly in times of high inflation—as in Latin America in the 1980s and the former Soviet Union in the 1990s.

Most importantly, the poor financial prospects of pay-as-you-go schemes imply a significant **policy risk** with public pensions. Instances of benefit cuts—sometimes retrospective—are common. Of course, a financially sustainable plan will be more stable than a scheme where contribution rates or transfers from the general government budget will need to rise in future.

Private pensions offer some insurance against this policy risk, because governments are unlikely to confiscate private property (although there is a risk of effective confiscation through changes in taxation, means tests for social assistance or guarantees of funded pension benefits). The government also has a role in preventing fraud, ensuring the private-pension sector is competitive, has reasonable administrative costs and strong incentives to find investments with the best trade-off between risk and reward.

Pensions of all forms are risky. Whether a public or private scheme is ‘more risky’ or perceived to be more risky will vary from country to country and person to person.

### Switching and reform objectives

A successful reform must meet a number of objectives. First, the new scheme should aim to provide a reasonable level of retirement income.

Secondly, the benefit level must be consistent with long-run fiscal policy. The diversion of payroll taxes from financing current pay-as-you-go pensions into the funded scheme will increase deficits at first, so short-term fiscal constraints are also important.

Thirdly, pension reform has microeconomic objectives: improve the workings of capital and labor markets.

Finally, the reform must be politically palatable. It is vital to inform the public of demographic

change and future benefit promises and their effects on the pension system’s finances. Political resistance is likely to come principally from workers who have already paid into the system and are then forced to switch to the new scheme. Even when credits are given for past contributions, how these accrued rights are valued can be controversial.

The economic objectives of reform can conflict, particularly when it comes to deciding the rate of change from pay-as-you-go to funding. Once the size of the funded component of the new system is chosen, the pace of this transition depends mostly on the age below which it is advantageous to switch. The lower this age, the slower the transition. But, a slow transition would postpone the benefits of the reform, including improvements in labor and capital markets. In the extreme case of only new workers participating, the new scheme may not reach the critical mass necessary to ensure viability. On the other hand, a rapid transition could exacerbate short-run fiscal pressures. Most countries have chosen a middle path, with younger workers participating in the new scheme, and all of these opted for voluntary switching.

### Minimizing transition costs

There is an ‘excess return’ to the individual on contributions to a funded scheme over the pay-as-you-go plan in a certain world (shown by the triangle between the two lines in Figure 2). It is ‘excessive’ because the replacement rate rises in the long run for the same contribution. This triangle is also an opportunity cost to government. Empirical analysis of switching in the United Kingdom (below) shows that this opportunity cost can be very large. In general-equilibrium simulations, this loss means higher distortionary taxes to finance the transition and, lower growth.

The government can appropriate this excess return, either by cutting the contribution rate to the funded part of the system, or reducing residual pay-as-you-go benefits for younger workers. Lower contribution rates might increase labor supply and reduce evasion. Lower pay-as-you-go benefit levels would help finance the transition deficit. Both of these policies can be implemented

while keeping the target pension level constant. Countries have tended to cut public pension spending by reducing accrual rates in the defined-benefit formula for people who switch.

### Switching in Hungary

Analysis of the incentive to switch played an important part in the design of the Hungarian reform. Special attention was paid to informing workers about their choice. The formula for valuing current workers' accrued rights and the residual public pay-as-you-go pension, was designed to minimize individual excess returns. As a result, total pension benefits are fairly constant across the age range.

This analysis was based on an individual model. Users enter earnings, career path, expectations of retirement age and rates of return. The model then predicts pension benefits from both the pay-as-you-go pension and taking the funded pension option. A similar tool was available to inform individuals' pension choice.

### Switching incentives in Hungary 3

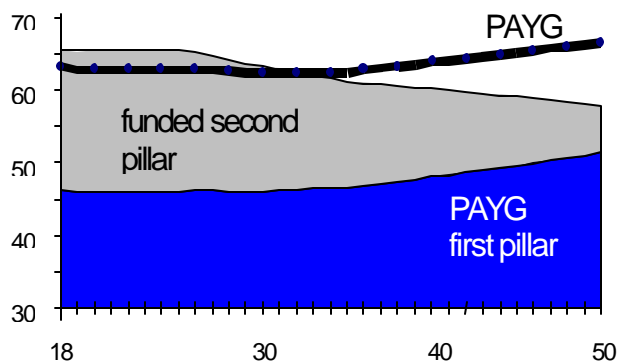


Figure 3 shows the results of the model. The line gives projected pensions from the pay-as-you-go plan. The gradual decline for younger people reflects changes in the benefit formula that were part of the reform of the old scheme. The residual public pay-as-you-go pillar shows the same decline (the lower solid area). Nevertheless, the compound-interest effect means the return from the funded second pillar is higher for the young. The younger workers find that the sum of the private and public benefits provides an incentive

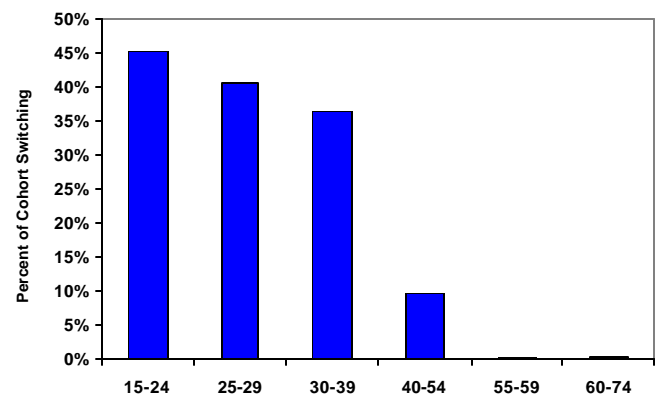
for them to switch to the multi-pillar scheme. The result is sensitive to the assumptions, especially the net rate of return. Nevertheless, the optimal switching age range lies within a 6-8 year range for reasonable assumptions.

The incentive structure reflects two deliberate policy decisions:

- Keeping the incentive to switch small to minimize fiscal costs for a desired average switching age in the mid-late 30s.
- Maintaining a similar replacement rate in the long-run of 60-65 per cent.

Figure 4 shows preliminary data based on the first 915,000 Hungarians who had chosen the new scheme by the end of 1998. The bars show the share of workers in each eligible age group that chose to switch. Policymakers seem to have achieved their target switching age of between 33 and 37.

### Hungary: switching by age 4



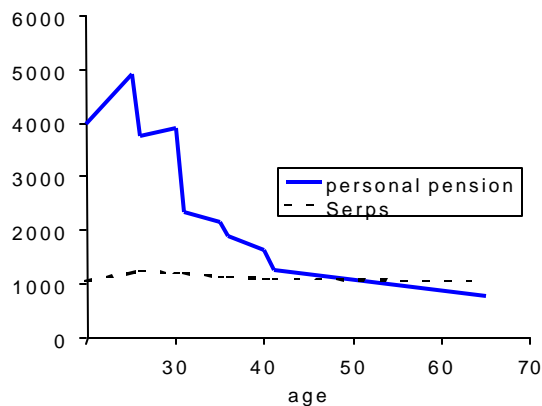
### Switching in the United Kingdom

Two unique features of the UK pension system complicate the analysis of switching:

- There was a large funded sector before reform. Employer-run defined-benefit pensions, covering about 45 per cent of employees, could already substitute for the public plan.
- People choosing a personal pension could opt back into the state scheme at any point in the future. This option included new labor-market entrants.

Figure 5 shows the structure of incentives in the first years of the reform. Personal pensions are 'front-loaded': the returns are larger at younger ages. This is again because of compound interest, but also because over time, the rebates of social-security contributions paid into the funded pension will decline. This is designed to match the decline in the value of the state plan to younger age groups. An individual up to age 50 would be better off in a personal pension than in the state earnings-related pension scheme, known by its acronym, Serps.

### Switching incentives in the UK 5

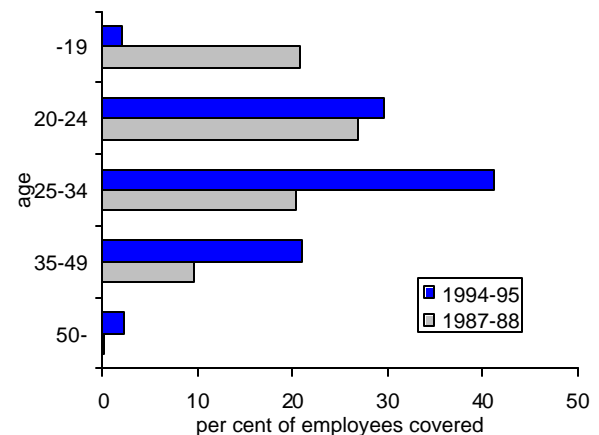


The gray bars in Figure 6 show who switched in the first year of the reform. The government forecast 0.5 million would take out personal pensions, although a contingency plan allowed for a maximum of 1.75 million. In the end, 3.2 million people switched in 1987-88. *Ex-post* analyses showed that switching was strongly related to age, just as the incentive structure would suggest: 20 per cent of under 35s switched, compared with 5 per cent of over 35s. The government had simply neglected to take these incentives into account when calculating the likely switching outcome. Also, the new plans were aggressively sold by the financial-services industry, often inappropriately. (The regulators estimate that there were over 0.5 million cases of mis-selling).

By 1994-95, there were 5.6 million people with personal pensions, 28 per cent of employees. However, the age pattern changed. The take-up rate fell from 20 per cent of under 20s to just 5 per cent, while it rose from 20 to 40 per cent of 25-34

year olds. The average age of personal-pension members rose from 29 to 33. Younger workers appear to have been persuaded to switch initially, but later cohorts delayed their decision until their mid 20s. The effective switching rate—excluding people already out of the public scheme and covered by employer pensions—was 80 per cent for men aged 25-55 and 50 per cent for women.

### UK: switching by age 6



Between 1988-89 and 1995-96, the government paid £17.7 billion into people's personal pension accounts. Actuarial estimates put the long-run saving on Serps benefits at £9.2 billion. The net cost—£8.5 billion—arises because the government did not adjust the payment into personal pensions to reflect different returns at different ages (Figure 5) until 1996. With age-related rebates, the annual net cost has now been cut from £1.8 billion to £0.5 billion a year.

### Switching in Latin America

Funded pension coverage in [Argentina](#) in 1996 (two years after reform) and in [Chile](#) in 1985 (four years after) shows a remarkably similar pattern, with a very strong inverse correlation between age and switching. The higher coverage of younger workers in Chile is because switching became compulsory for new labor-market entrants in 1983, while in Argentina, they had a choice between pay-as-you-go public and funded private pensions.

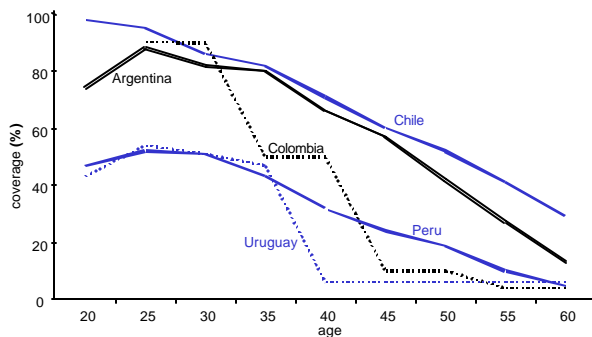
In [Colombia](#), the pattern in 1997 was similar, but with fewer than 10 per cent of 45-54 year olds switching, compared with over 50 per cent in



Argentina and Chile. Unlike other Latin-American countries, Colombian state pensions had not been discredited and had not had financial difficulties. The public scheme also promised generous benefits so older workers were happy to stay.

Latin America: switching

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Switching in [Peru](#) in 1997 has the same pattern of inverse correlation with age. However, fewer people switched than in other Latin-American countries, probably because there were no clear rules in place for calculating recognition bonds (to cover accrued rights in the state system) and for a minimum pension guarantee. Indeed it is surprising that so many workers switched without knowing how their past rights would be treated, a sign that policy risk was perceived to be high.

[Uruguay](#) has the most complicated policy. People below age 40 and new entrants earning more than 5,000 pesos a month were forced to switch. There was an extra incentive for people earning less than 7,500 pesos a month because their public pensions were cut by a quarter. Although the government anticipated 50,000 people would switch, independent studies put the figure much higher. By mid-1997, 400,000 had joined the new scheme.

Preliminary data for El Salvador also confirm the strong age-related switching pattern in the region.

### Conclusions: switching behavior

Several preliminary conclusions emerge from countries with voluntary switching:

- The proportion switching falls with age.

- The experience of Hungary and the United Kingdom show this results from the structure of switching incentives.
- In Argentina, Peru and the United Kingdom, switching rates were lower for the very youngest workers. This might be because of myopia or reflect their lower earnings.
- Fewer women tend to switch, the only exception being Hungary.
- Government forecasts often underestimated the number of switchers. This may be due to poor microeconomic analysis of the switching incentives (as in the case of the United Kingdom). But independent analyses correctly anticipated switching in Hungary and Uruguay.
- Voluntary switching is the most popular way of handling the transition and helps increase support for the reform. It is also likely to make it more difficult for a new government to reverse the reform.

### Experience of forced switching

A mandatory switch rapidly and definitively closes the public scheme. In some countries where the current system has collapsed, this may be seen as an advantage.

Reforms in [Bolivia](#) and [Kazakhstan](#) force all workers to transfer to the new private pensions and to accept a formula that values their contributions to the old public plan. Similar reform proposals in Argentina and Hungary were abandoned when it became clear that the valuation of accrued rights would be challenged in the courts. The absence of such challenges in Bolivia and Kazakhstan is interesting. It could reflect differences in the legal system or the political economy of these countries or it might be that the valuation was generous, pre-empting criticism. In Bolivia, the forced switch may have been helped by the new 'Bonosol'/'Bolivida' program, financed with privatization proceeds which provides a flat benefit to all adult Bolivians at age 65 separate from the contributory scheme.

In [Mexico](#), the right to continue in the pay-as-you-go system was enshrined in the constitution. Therefore, the only way to replace the old system fully was to guarantee a minimum return at least as large as that from the state scheme. This means

that almost all older workers will continue to receive the old pay-as-you-go benefit as before. They have no incentive to monitor the performance of their pension fund and the cost of administering their accounts is wasted.

There are two risks with forced switching

- The reform could just as easily be reversed by a new government, since switching was imposed and not a choice.
- Minimizing political and legal resistance might be costly if the valuation of accrued rights is raised above the level necessary to persuade most workers to switch. True preferences are revealed when workers have a choice.

### Policy options

The proportion of the workforce switching is central to the success of reform and can have a profound impact on the public finances. While a critical mass must be achieved in the early years, it is not necessary to force all workers into the new scheme. There are economic and political advantages to voluntary switching and most countries have taken this approach. There are five main ways to manage voluntary switching:

- The window for switching out could be extended if too few workers switch initially.
- If inertia is likely to be important, the government can specify a default option. In Argentina, younger workers are switched to the new scheme by default.
- The value of pay-as-you-go benefits can be adjusted to alter the incentive to switch as in Hungary or the contribution rate to the funded plan could be altered as in the United Kingdom (where the initial 7.8 per cent personal pensions contribution now varies between 2.3 and 9 per cent with age).
- Incentives to switch can be affected indirectly, by altering guarantees of funded pensions or adjusting the opportunity to switch back to the public scheme.
- The government can explain the switching option to minimize the risk of misinformed choices. In Hungary, the model of individual returns to different pension choices is available on the internet, at public-information centers and is used by new private pension funds.

### Conclusions and recommendations

- Governments' policy options range from an entirely voluntary switch to an entirely mandatory one
  - In practice, reforms in 12 countries span this spectrum but most include some element of choice
  - Given a higher rate of return in the funded scheme for younger workers, the government must determine how to adjust the rest of the system to maintain the target replacement rate
  - Older workers are best excluded from reforms, because there is little time to build substantial funds in the new private scheme
  - But a mandatory cut-off age is arbitrary and leads to political or legal challenges
  - Heterogeneous perceptions within age groups also suggest that there is no "right" mandatory cut-off age
  - Officials are often concerned that they cannot control the speed of transition or ensure that a critical mass of participants joins the new system. But voluntary switching in eight countries had a consistent pattern and the transition is predictable with the correct analysis
  - Fiscal studies of switching are also useful for public information.
- Governments can and should manage the switching process, by altering incentives and ensuring people make informed choices

### Further reading

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