

How to Guarantee Some Benefit in a Notional Defined Contribution Pension System

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The financing of public pensions is a very important macro economic issue for the next decades. In most of the western countries, populations are aging due to the combined effect of decreasing fertility rates and an increasing life expectancy. In reaction to this evolution, some countries abandoned their traditional pay-as-you-go (PAYG) public pension. For instance, Chile opted for a fully funded system. Another kind of change is the one chosen by Sweden and Italy, among other countries, who switched to a notional defined contribution (NDC) system in the 90s.

When moving from a traditional PAYG to a NDC pension system, the scheme remains unfunded. Active people finance retired people's pension and there is no accumulation of capital. But the move implies an important change, which is a transition from a defined benefits to a defined contributions scheme.

In NDC systems, the contribution rate is known while the future pension is not. People have individual notional accounts on which their contributions are virtually accumulated. This virtual (as no capital is accumulated "for real") account earns a notional interest. This interest is one of the most important variables of the scheme. From a macroeconomic perspective, the natural rate of return is the growth rate of the contribution bill. But it could be different. For instance, in Sweden, it is linked to the mean wage growth.

There is a risk that this return turns out to be very small, even negative. The risk is even bigger in the countries where this rate is linked to the demographic evolution. These countries could experience a very low growth rate of the wage sum. This paper deals about computing a guarantee of return or of benefits in the framework of a NDC scheme.