Pension reform – opportunities and challenges for governments and markets

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With the support of NASDAQ OMX, Armenia's new pension system will save government resources, enable individuals to take control of their financial future, and support development of the local capital market. Exchanges and CSDs should be prepared to seize the significant opportunities that pension reform can bring.

Like many countries, Armenia is facing a demographic crunch: life expectancy is rising and birth rates are falling. This is a largely positive development but it has a troubling consequence - in the future, fewer workers will have to support more pensioners. With a standard "pay-as-you-go" pension system, in which pensions are paid directly out of taxes, this is a recipe for fiscal disaster.

Faced with this challenge, the Armenian government decided to deploy international best practices in pension reform and introduce a three-pillar pension system whereby mandatory and voluntary pension savings by individuals complement a tax-financed minimum pension. After carefully studying other countries' experiences, Armenia decided to base its system on Estonia's successful model of individual pension savings accounts. Estonian pension reform stands out in international comparisons for its low operating cost, leaving more money for pensions, and its popularity among the general public.

The Baltic experience

Estonia has a three-pillar pension system, with a mandatory (2nd pillar) component in which wage earners must contribute an amount proportional to their salaries. Individuals save for their pensions by allowing their employers to withhold 2% of salary which is transferred to the Tax and Customs Board. The state adds another 4% out of a social tax. Contributions are allocated to personal savings accounts, and individuals can choose how the money is invested. Funds remain in the account until retirement and are then paid out according to set rules. Workers born after 1983 are required to subscribe to the funded pension while older workers can participate voluntarily.

Estonia's workforce was quick to take advantage of the new reforms. Applications to join the pension system started rolling in from April 2002, and individuals began contributing to the investment funds from July 2002. Within the first year more than half the workforce joined the system, and by 2009 participation exceeded 90%.

For Estonia's pension system to succeed, a reliable and robust infrastructure had to be put in place. NASDAQ OMX developed the software, helped design the processes, reviewed the legislation and communicated with the public during and after implementation. The individual accounts IT system, known as KOPIS, was built in six months, and NASDAQ OMX has operated it since then. NASDAQ OMX also integrated KOPIS with other key pieces of infrastructure from the Tax Board, banks and the Financial Supervision Authority. In addition, NASDAQ OMX set up the pension system's web site, which it continues to operate today. Via this site contributors can monitor their accounts, choose their funds and get information about all parts of the pension system. The voluntary (3rd pillar) component of the Estonian pension system uses the same infrastructure and is also operated by NASDAQ OMX.

Following in Estonia's footsteps, Latvia decided to use the same software when it introduced its 2nd pillar pension system, starting in 2002. But each country's circumstances are unique, and solutions have to be adapted to suit the local demographic, economic, and technological conditions. Gap analysis revealed that certain technical changes had to be made to suit Latvia's circumstances and legislation. For example, information exchanged among the CSD, tax authority, fund managers and other parties in Latvia is based on file transfers instead of online interfaces. Further, in Estonia the participants can only change their pension fund selections annually, whereas in Latvia they can make changes at any time and as often as they like.

The Estonian second and third pillar pension systems were developed by the Estonian CSD (ECSD), a subsidiary of NASDAQ OMX, and have been successfully operated by the ECSD since 2002. The Latvian Central Depository (LCD), also a NASDAQ OMX subsidiary, has operated the Latvian second pillar pension system since 2004. This unique experience was put to good use when the Armenian government contacted NASDAQ OMX in the autumn of 2008. In the resulting project NASDAQ OMX created an implementation plan for second pillar pension reform, drawing on expertise from Estonia and Latvia as well as a proven methodology for issue-driven analysis and project delivery. In addition to designing a technical solution for the individual pension accounts, the project provided advice on process flows, legislation and public communication. The Advisory project was followed by a technical delivery project, currently underway, to develop a customized version of the KOPIS pension software for Armenia.

Pension system and capital market – developing together

NASDAQ OMX owns and operates the exchange and CSD in Armenia, and NASDAQ OMX Advisory Services previously helped the Central Bank of Armenia create a master plan for developing the Armenian capital market. Given that a lack of local capital and institutional investors is currently a limiting factor for the Armenian market, the proposed pension reform is critical for its social benefits and for developing the local marketplace.

In the future, all Armenians will be guaranteed a minimum pension, paid out of tax revenues (first pillar). The second pillar pension will complement this by transferring a percentage of every worker's salary to an individual savings account. Workers have full visibility of their pension savings through a web-based interface or via a bank or post office, and can choose the funds in which to invest. At retirement funds are withdrawn, typically in the form of an annuity. Voluntary individual pensions savings, not yet fully developed in Armenia, will later constitute the third pension pillar.

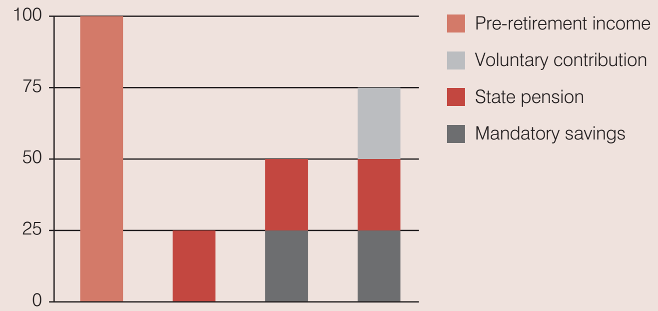
Establishing local pension funds provides a predictable inflow of long-term capital. Some countries require pension funds to invest some or all of their capital in the local market, but regardless of such rules there is an incentive for funds to invest locally – to avoid currency risks and decrease transaction costs. Local companies will be keen to tap the local market for this capital, and this represents a huge opportunity for the exchange to attract listings and increase liquidity. But it is also a challenge. If the market cannot absorb the capital inflow, the pension funds will find other assets – government debt or foreign securities – and an opportunity to develop the local market will be lost. Pension reform and capital market development go hand-in-hand.

Pension reform based on individual accounts is also an opportunity for CSDs. It makes sense, especially in a small market, to re-use the infrastructure and know-how of the registry and depository. This is why the CSDs in Estonia and Latvia were chosen to manage the individual pension accounts, and why the Central Depository of Armenia will have the same responsibility when Armenian pension reform is launched in 2010.

NASDAQ OMX is uniquely qualified to provide strategic guidance to countries considering pension reform. Having worked successfully with Estonia, Latvia and Armenia to develop and implement pension reform, we have developed a compelling blueprint that other markets can follow.

As an exchange and CSD owner, operator and technology provider, NASDAQ OMX has deep industry expertise and hands-on operational experience. We understand first-hand how marketplaces operate, the challenges they face and the complex technology infrastructures that support them. Our management consultants within Advisory Services have broad experience in strategy, operations and change management. To date, Advisory Services has provided strategic guidance to more than 60 industry clients in 25 countries.

Currently NASDAQ OMX supplies technology to the following FEAS marketplaces: Abu Dhabi Securities Market, Bahrain Stock Exchange, Egyptian Exchange, Istanbul Stock Exchange, Iraq Stock Exchange, Palestine Securities Exchange and Zagreb Stock Exchange.



3 Pillars of Pension Reform: Mandatory and voluntary savings complement state pensions to provide a better standard of living for retirees.

Three pillars of pension reform

The three pillars of pension reform include
• **1st pillar:** Universal basic pensions to all retirees on a "pay-as-you-go" basis, whereby the state pays for today's pensions out of today's state budget.
• **2nd pillar:** Mandatory scheme based on individual defined contributions.
• **3rd pillar:** Voluntary supplemental pension savings, which are often supported by the state through tax incentives.

The 2nd pillar –developing the mandatory contributions program– is the most important element of reform, but it is also the most difficult to implement. Transferring social tax revenue to individual accounts to pay for future rather than current pensions can create a temporary budget deficit, and new infrastructure must be built to support the program.

According to the World Bank, approximately 30 countries have so far introduced 2nd pillar pension systems. While reforms vary between countries, they usually share the following characteristics:
• Mandatory contributions from all wage earners based on salary
• Allocation of contributions to individual savings accounts with contributors offered investment choices
• Access to account information and the ability to change investment choices
• Inability to access funds until retirement when funds are paid out according to set rules.

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