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Nobel Prize in Economic Sciences

Solving Pension Funds management is not about science, but engineering

Interview with Robert C. Merton

By Jorge Livingstone, CEO RiskMathics

Robert Cox Merton is an American economist, Nobel Prize in Economic Sciences laureate, and School of Management distiguished professor at MIT Sloan School of Management. He is well known for his contributions to the Black–Scholes–Merton model.

Robert C. Merton was in Mexico City in October 2019, to discuss the present and future of Pension Funds management, an issue widely discussed in many countries, as aging population in increasing in many Western countries. In Mexico, changes in investment regime for AFOREs are being implemented recently.

Trading & Risk Magazine had a conversation with Robert C. Merton on this relevant and important issue. This is the second time Tradind & Risk Magazine has had the opportunity to interviee the Nobel laureate.

T&RM: What is the current situation of Pension Funds management around the world? Is there a crisis?

RM: Although I don´t live in Mexico, I understand some of the more important issues in this country. Like every other country in the world theres is a Pension Fund challenge of funding, although I would not call it a crisis.

Some of that comes from the fact that we have a faster aging population in most countries, but some of it comes from the good news that people are living longer, and will live longer.

That is great news, but if people are living longer, somehow they are going to have to figue out how to take care of themselves longer and we have to solve that challenge.

That is a generic problem, and I would say this, it's not a science problem, but rather an engineering problem. We know how to do it, but it is complicated to implement it, economically, politically and there are even sociological reasons.

I want to make it very clear that it is a big challenge but it can be solved.

T&RM: How is Mexico doing in managing its Pension Funds?

Mexico is introducing two big changes for implementation regarding the contribution part of its pension sytem. Firts people are going to see, in their plans, how many pesos they have, and they will se what amount of income in retiremet they could buy with what they have in their account when they look at it.

So, instead of seeing, e.g. my account is worth 2 million pesos, they will know "you have enough to buy a 30, 000 pesos of income in return".

What you care about in retirement is your standard of living, which is measured by income and expense, so that if you are living on 50,000 worth of expenses, and what you see is 30,000, you can think about and say "it is going to be tough to live on 30,000" so you know where you are, and you know that you are going to need more, no one has to teach you that.

In contrast, as it is now, if I show you that you have 2 million pesos, you have no idea , even if you are highly educated, how much income and expense that means in time, therefore you don´t know where you are.

This provision, which I think Mexico is one of the first countries to bring about as a regulatory requirement, is incredibly important for the long run success of the Pension Fund system.

I think Mexico can become a case of study around the world: They did this, and you can see how they did it, and this is how we can watch its progress. So, that is a very important element, even if Mexico takes some time with the transition, but I don´t think it is going to be very difficult , because you offer education to advance the implementation.

People understand income much better that they do wealth, so Mexico is actually making it better for people to understand their pension plan. In any way you see it, this is a step in the right direction.

The second part Mexico is implementing are Target-date funds , which are best practice in many Pension Fund plans, including the ones in the U.S.

They are an improvement, over what has been done before, as they do simplify decisions for people, and that is what you want.

You shouldn´t make it complicated for them, but there is more than needs to be done. It's a step in the right direction but it is not the end of the history.

In summary, these two changes are very important for the Pension Fund system. Mexico will have to be able to develop an efficient running system for people contributing with the separate, but connected, issue of people who don´t have enough resources, people who are poor, and Mexico will have to figure out how to deal with that.

You can do that in the Pension Fund sytem by putting money for these people , but is a completeley different issue.

Director de RiskMathics, entrevistando a Robert C. Merton

T&RM: Precisely, you have mentioned Target-date Funds, in which you have contributed. How do they work?

RM: Target-date Funds is an idea for building Pension Funds; it takes the contributions, manages them, sometime for each individual account, and takes the information about the individual, take it into an account, changing market conditions and personal concerns, adapt the portfolio and set goals according to that. Basically, it manages the whole pension for retirement individually for each person.

Target-date Funds are a compromise when they are pooled, they are not specific for an individual and they don´t have individual goals of course.

The Target-date Funds features are, how much of your contributions should be in risky assets and, how much of it should be in a safe assets?

Ideally they want to have the best performing risky asset they can, most reward for return possible, but it is risky.

All Target-date Funds has the feature that , as you get closer to your retirement, they increase the amount in safe assets, and reduce the amount of risky assets, with the idea that, as people get closer to retirement, they should be reducing their risk.
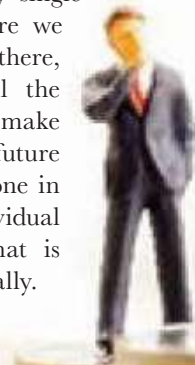
What they try to do is building a dynamic system for adjusting the portflolio, without the individual having to do anything, and it does it at a pretty low cost, and it can be done very efficiently.

In summary, it is trying to produce more optimal, more tailored portfolios for people, as a function of age.

There are next generation developments of this, that do more than that, and consider other variables about people, and develope an even more tailored solution. It is like the suit you'e wearing. One size suit for all, that is the extreme case, that is one scenario.

The next scenario is that you are a few size (small, medium, large) that gives you some choices. The other one is size 9,10, 11, and so on. And of course, the last case is the tailored suit to fit your exact body.

Today it is technically feasible to have an individual account for every single person, although it is not where we are in general but we can get there, specially with Fintech and all the technology apllications that can make cost be very low , so that in the future Pension Fund systems like the one in México will be managed as individual accounts for everyone, and that is where we are going to go eventually.

T&RM: How important is education for the future development of Pension Funds?

RM: It is very fundamental. We have developed in the science of finance an enourmous amount of tools, and we have many, many more markets than the simple stock and bond market, incredible number of markets out there, which allow us to take, tailored control risk much better,extract information and do things at much lower cost. However, these markets are very efficient at transferring risk, like derivatives markets, and they are used by central banks and used by everybody.

Precisely because they are so efficient they are very powerful and something that is very powerful needs to be managed by someone that knows what they are doing. If you give something very powerful to somebody who is not well trained, that is dangerous, they don´t know how to use properly.

Marketplace is much more complex that years ago. There is need for more people in finance, not fewer, butmuch better trained and capable of understanding risk, and knowledgeable of what they can do, and what they cannot.

We can improve society with these tools, but in order to safely implement them we have to have highly educated people, much higher than before. It is essential to have much higher degree in the level or training and much higher requirement for people that are going to be in those positions.

For sure, when we have Fintech and all the technology, then it is even more important that they understand it better than anyone because the technology is wonderful, but it is also very dumb, so that it can give you a brilliant answer to the wrong questions and therefore we always are going to need people engaged not matter how much technology we have, and they have to be very well trained.

I cannot stress enough the need to have more people trained. We can bring all the tools and technology to the market but if we don´t have the people, it will not matter. The skills sets needed are going to   be much higher than before.