The financial innovator

Robert Merton talks to Vikram Khanna about financial innovation, risk and crises

Nobel laureate Robert Merton is known to be brilliant, but this fast-and-straight talking economist must also be one of the more colourful members of his profession. A risk taker in real life, he is known to be a serious poker player and a fan of drag racing. He has been involved in a number of business ventures – including the hedge fund Long Term Capital Management, which closed in 1998 – and has been interested in the stock market since the age of 10. He won the Nobel Prize in 1997 for his pioneering work – together with Myron Scholes and the late Fischer Black – on the pricing of stock options and derivatives. Few people have heard of somebody’s bonds,” he points out. “If I’m an engine manufacturer doing business with airlines and I have to extend credit to them, I’m enormously exposed. I mean I’m an engine company, what am I doing in the credit business? These are real risks that CDS can take care of. But these things are not toys, they are not for speculators, they are insurance. You would not rule out insurance contracts right? So it’s an issue of how the business is done and how it’s monitored.”

“Of course there are things you need to fix. There were a lot of fools and knives, and mistakes. But you cannot have a modern financial system without structured products. When people say derivatives were the problem, we don’t need such fancy things, that’s a joke. Derivatives are ubiquitous. The system cannot function without them. No financial institution can operate without them. No central bank can operate without them. So we need to cut through all this stuff and get to the real issues.”

Good old days weren’t that good

To really understand the progress in finance you have to go back at least 40 years, to the 1970s, says Mr Merton. That was when the innovation started. He says: “You sometimes hear people talk about the good old days. But I am old enough to have been there in the good old days and I know they weren’t that good. Just to remind you about what happened in the 1970s we had oil go from $2.50 to $30 a barrel for the first time. We had the Bretton Woods currency system which had been in place since 1946 come apart. We had double-digit interest rates in the US which hadn’t been seen since the civil war. We had double digit inflation and high unemployment.”

“As for the US stock market – remember we had double digit inflation it fell about 50 per cent in real terms from 1973 to 74. Yes, we survived the 1970s and went on to flourish, so it doesn’t look all that bad now. But at the time, we had no freaking clue what was happening, no one knew how to solve this. Also, in the old days, there was something called regulation Q, which put a ceiling of 4 per cent on deposits when US government bonds were offering 10 per cent. How much do you think people were putting in banks to be lent out? In the old days, you couldn’t get mortgages at any price.”

Mr Merton points out that it was in response to the risky environment of the 1970s that the financial markets created various risk management and mitigation tools, including financial futures and options – which led to the adoption of the pioneering research that he did with Measles Scholes and Black. A national mortgage market was also created for the first time.

As for the financial crisis of 2008, he suggests that a lot of its causes are still unclear – overly lax central bank policies, over-ebullient expectations of real estate prices, the emergence of government mortgage agencies that got special treatment and bad luck – all of those played a part, but they’re not the whole story. “What did the crisis centre on? Did it centre on the exotic financial stuff? A lot of it was in the mortgage market. That wasn’t really exotic. We’ve had a mortgage market since the 1980s, it’s been functioning around the world. And structuring has been going on and will need to go on. Let’s have no illusions: You cannot have a modern finan-
cial system without structured products.”

He acknowledges, though, that some fi-
nancial instruments, like derivatives, were
misused — “absolutely, just as any tool can
be misused”. But that doesn’t mean they
are intrinsically bad, he adds. “Obesity is
created by food. So should we get rid of
food? I’m being absurd, but you get the
point.”

As for what we have learnt from the cri-
sis, one big lesson is that financial institu-
tions and companies need to have senior
managements that understand their busi-
nesses. “They do not have to be quants,
PhDs orrocket scientists, but they need to
understand, for example, the following: If
you are on the risk committee of a bank
board and the head of the mortgage de-
partment comes in and says to you, we
have the same mortgages that we had last
quarter, we haven’t added to them and they’re all performing — everybody’s
made their last interest payment, therefore
the price on the risk is unchanged. You then
tell him, ‘look what happened to the price
of real estate in the last quarter, it’s
down 6 per cent. So what you just told me
isn’t true’.” This is one of the basic
things about credit: when real estate pric-
es go down, the same mortgage loan —
even though it hasn’t defaultted — goes
down in value because it’s become more
risky. Senior managements need to have
the knowledge base to understand things
like that.”

Risk-taking and fraud

To what extent were reckless risk-taking
and fraud responsible for the financial cri-
sis? “A lot of people say, ‘let’s just get rid of
the fools and knaves and life will get bet-
ter’,” says Mr Merton. “But the problem is
that we create a false confidence when we
say it was all about the fools and the
knaves. There are also a lot of structural
tings we need to understand — for exam-
ple, about the trade-offs between risk and
safety and how they work in real life.

“I often get asked, ‘have derivatives
made the world safer?’ That sounds like a
good question, but it’s not the question
you should ask. The question you should
ask is, ‘have they made us better off?’”

He illustrates what he means with an
analogy. “In my part of the world, we have
a lot of snow. So if I have a four-wheel
drive car, is it safer to drive through snow
than a two-wheel drive? Yes. But now sup-
pose I tell you that there were big sales of
four-wheel drives over the last 15 years,

And then you ask me, have four-wheel
drive cars made driving safer? I look at
the accident data and it shows that we have
the same number of accidents per passen-
ger mile as we had before. So my answer
to you would be, no, four-wheel drive cars
have not made driving safer. So what’s go-
ing on?”

“If people continue to drive the same
way as they used to before there were
four-wheel drives, the answer would be
yes, driving would be safer. But when we
are given things that make us safer, we of-
ten use them to do things that used to not
be safe. When you had a two-wheel drive,
and you went out in the snow, you drove
closely. But now you have a four-wheel
drive, you drive faster and in deeper snow.
There was a risk that was unacceptably
low, but it’s acceptable now, because of
a new tool. It gives you a benefit, but it’s not
safety. Once you see that, you realise
that this focus on safety, as if that was all we
should care about, is misplaced. If you
were only focused on safety, you wouldn’t
be here; you wouldn’t have left your home
today. That’s what I mean when I say you
have to ask the right questions. The right
question is, ‘have derivatives made us bet-
er off.’ That’s the question you should ask
about the four-wheel drive.”

Safety is also sometimes at odds with
innovation, he points out. “Suppose you
innovate and develop a train that can go
at 360 miles (579 km) an hour. If the tracks
can only support a train that can go at 200
miles an hour, you’ll be crazy to run it at 360.
But if you say let’s keep it absolutely safe,
we can’t take any risk, the only way you
can do that is to keep the speed limit to
200. But then what do you get for your
innovation? Nothing.”

All innovation entails some risk, he
points out. This is exacerbated by the fact
that the infrastructure to support innova-
tion always lags, which is also true of finan-
cial innovation.

“Everything in life, individually or so-
cially, is a trade-off. We determine the risk
levels we’re willing to tolerate. We have
to understand that structurally, that we can’t
eliminate crises, we’re always going to
have crises, because we’re always going to
move to the margin we’re comfortable with,
so there are always going to be risks.
Does that mean I am being blank about it?
Absolutely not. We want to do the foresee-
s. We want to understand what went wrong.
But armchair statements like let’s go
back to the good old days, or let’s just
get rid of all the bad guys and life will be
fine, are not meaningful. Sure, the fools
should be fired, and the knaves should go
to jail. We all agree on that. But then what
next? The point is that there are systemic
problems and they’re a part of life even
when everybody was initially ethical,
dedicated and hard-working. Disasters can
still happen.”

The most important thing, says Mr
Merton, is to recognise what economic reality
is about.

“The first insight you should have if
you’re serious about any economic issue
is that there are no corner solutions — all
the things that are all good and have no
problems have been done. All the things
that are all bad, we don’t do. So, really it’s
all about trade-offs. Once you recognise
that, the discussion changes to what are
the best trade-offs, rather than safety first
at any price. That’s not reality, we don’t
believe that way individually or collectively. It’s also not the optimal answer. So when
you start looking at trade-offs, you de-
velop the mindset to ask the right ques-
tions.”