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THE WEALTH ISSUE

THE $12 TRILLION IDEA

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The dream machine

Ten years ago a group of young bankers had a weekend away in Boca Raton. In between throwing each other in the pool, and a lot of drinking, they invented something that changed the world of finance. By Gillian Tett

The first time I ran into the "Morgan mafia" – or, more accurately, the ex-JPMorgan mafia – was at a banking conference in Nice last year. It was, I later learned, the type of ritual typical of high finance: around a plush, darkened lecture theatre and well-stocked bar, a gaggle of suited men (and the occasional woman) earnestly muttered about "delta hedging", "correlation risk" or "CDO squared".

For all I could tell, they might have been discussing nuclear physics or ancient Chinese. What distinguished this meeting from those topics, however, was the whiff of money: these people might have looked like nerds, but they sported very expensive watches, and their chat was peppered with casual references to billions of dollars.

Uneasily, I tried to work out what was going on. A few weeks earlier I had started reporting on the capital markets and heard that something called "credit derivatives" was revolutionising global finance. Just five years ago the sector was a tiny niche business. Now the volume of all the outstanding credit-derivatives deals in the world is estimated at $12 trillion. However, like most people, I had little idea what a number that big actually meant (for reference, it is about the size of the American economy, or almost four times the total value of all the shares on the London Stock Exchange). So I had flown to Nice hoping to get some bearings in this strange land.

"Who's that?" I whispered to a banker next to me, pointing to a platform where two men and two women were discussing whether investors "really understand the full ramifications of CDO risk". (Their conclusion seemed to be: "not always", which didn't surprise me, given how little of the jargon anyone might have understood.) My neighbour furtively whispered that he worked for one of the biggest US banks and was therefore forbidden to talk to journalists, "since you guys keep writing that crap about derivatives blowing up the world". But then he relented: the speakers, he said, were apparently consultants or partners in hedge (big private investment) funds; but almost all used to work for JPMorgan, the big US bank.

Why JPMorgan? I asked. Why not Goldman Sachs or Morgan Stanley? Or a British, French – or Chinese – bank, come to that?

"It's the Morgan mafia – they sort of created the whole credit derivatives thing," he chuckled, and then clammed up as if he had revealed a sensitive commercial secret.

As I sat watching slick PowerPoint presentations, I wondered how this had come about. Every year, the anonymous eggheads who work on Wall Street and in the City of London produce a stream of bright ideas that push money around the world in an ever more efficient way (and make the banks they work for, and themselves, richer in the process). Most of these ideas simply vanish; but every so often a few – such as credit derivatives – mushroom with extraordinary speed.

> It was the financial equivalent of calorie-free chocolate: almost too good to be true

To anyone outside finance, these concepts generally seem so complex that such innovation might exist in a parallel universe. But that is only half true. For if the oil of high finance does not keep lubricating the wheels of the global economy, the world as we know it would quickly slow down. Moreover, we live in such an interconnected economic system that every time you convert money at a foreign exchange till, pay your mortgage to a bank or use your ATM card, you are plugging into a giant web of capital flows that is being continually rewoven by these innovations.

But where, I wondered as I sat in the lecture theatre, do these ideas come from? And why do some fail and others blossom into a $12 trillion business? And what does that tell us about the way that financial innovation really works and shapes all our lives?

In the months that followed the conference in Nice, I started to track down some of this "Morgan mafia" in an effort to understand the credit derivatives tale. It was not an easy task: traders live in a world in which information costs money, numbers speak louder than words and journalists are – at best – viewed with extreme distrust. But, as it turns out, one place to start this story is not on the dealing floors of London or New York, but on the humid coast of Florida. For it was there, at the plush holiday resort of Boca Raton, that about 80 JPMorgan bankers working in their derivatives department assembled about a decade ago, to hold a so-called "weekend offsite".

By now you might be feeling like I did when I showed up at that banking conference in Nice, wondering what everyone was talking about. First you need to understand what a derivative is. And to do that, you might as well start with the literal meaning: a derivative is something whose nature is derived, or comes, from something else. In the financial world, where we are interested in the value of something, the value of a derivative depends on the value of something else. So far so simple.

There are many things in the financial world that have value: shares, bonds, currencies, commodities, cash, loans. The secret of the derivative is that it makes it possible for you to have some of the value of one of those assets, even if you don't actually own it. Why would anyone want to do that? Part of the answer is that it acts a bit like an insurance policy. If you think you might have an accident in your car, you don't have to set aside the entire value

PHOTOGRAPH: FELIX CLAY

Robert Reoch, the young British banker who made JPMorgan's first credit derivatives trade

of a new car. You can pay a premium that will cover the cost only if you crash. If you think your shares are going to fall, you don't have to sell them. You can take out a contract to sell them at a certain price if indeed they do fall. If they don't fall, you won't have sold. That's how you build stability and predictability into your finances. It's the same in business. Let's say you make tyres: you can contract to buy rubber at a certain price without actually buying it and having to stash it in a warehouse before you need it. That way you build stability into your tyre business. Perhaps you know you will need to borrow money in six months. You don't have to do so now at today's interest rate and sit on the money for half a year. You can take out a contract to borrow in six months at a rate that you can then build into your budget. And so on. Useful things, derivatives.

However, there is a second aspect to derivatives that also makes them occasionally dangerous. Some investors use them to make "speculative" bets on how the markets will move. Imagine, for example, that you were absolutely sure rubber prices were going to surge: you might borrow money to buy a derivative that lets you benefit from a rubber price increase, even if you never owned any rubber at all (or never needed to own it). However, if such bets go wrong (say rubber prices actually fall), or you misunderstand the complex mathematics behind the contract, you can lose an awful lot of money, particularly if you have borrowed heavily to make your bet. It is this second, "speculative" feature that makes derivatives Manichean in nature, capable of producing both negative and positive outcomes.

Now, back to Boca Raton. The "offsite weekend" was part of a well-worn ritual in the banking world, designed to let the bankers celebrate and let off steam. On this occasion, the young JPMorgan bankers (and they were mostly young) were determined to have fun. Boca Raton has golden sands, a swanky tennis club and a sparkling marina, and in the early 1990s the bank had plenty of money to splash around: some of the bankers flew in by Concorde, stayed in smart, pink Spanish-style villas and drank heavily at the bank's expense. Indeed, by the end of the weekend, the party spirit was running so high that the bankers started throwing each other into the swimming pool fully clothed.

"There was a great group spirit – we worked hard, but we also had a lot of fun," recalls Bill Winters, an American banker

'Peter Hancock is like an ideas machine – throws a thousand thoughts on to the wall. Most never fly at all, but every so often one does'

with a straight-talking manner and debonair features, who was one of those who ended up dripping wet. These days Winters, 45, is a man who exudes gravitas: his current job is co-chief executive of JPMorgan's entire investment bank, which makes him one of the most powerful people in investment banking today. But back at Boca Raton he was just an up-and-coming derivatives expert who, like the rest of his ilk, was hungry for opportunity – and fun.

But partying aside, Boca Raton also had a very serious agenda. For it came as JPMorgan was confronting an odd paradox that haunts the banking world. While laws exist to protect people from stealing brilliant inventions from each other in areas such as industry or design, in the apparently frighteningly powerful world of modern finance, there is nothing to prevent someone from pinching a rival's ingenious inventions and replicating them (if they can get the resources in place). Or as Peter Hancock, then a JPMorgan banker who was in charge of the Boca Raton meeting, explains: "All ideas in the financial world can be copied pretty quickly – financial innovation does not enjoy patent protection like other fields of engineering."

Hancock knew the problems this posed perhaps better than anyone else. At that time he was running JPMorgan's derivatives team. It was not a job anyone might have associated with Hancock if they were meeting him for the first time: a highly intellectual man, with an amiable face, he exudes the courteous manner of an English country doctor rather than a Wall Street financier. Initially he had had little ambition to become a banker. His dream was to be an inventor, and with this in mind he studied science at Oxford. But he drifted into derivatives because he sensed that it was one thing in the banking world that came close to offering the thrill of scientific research. More specifically, at that time – in the late 1980s – the concept of derivatives was so new that it was largely untested, and thus offered plenty of scope to be creative.

At first, this was a rarefied business that few people understood. However, Hancock was one of those who spotted the potential, and when he took over the derivatives department (then known as the "swaps" team) at JPMorgan, at the age of 29, he quickly built it up into a global operation. However, by the time the team came to meet in Boca Raton, Hancock had sensed that this triumph was starting to carry the seeds of potential decline. In the early days of the "swaps" business, it had seemed so exotic that relatively few clients wanted to buy the services – but those who did would pay high fees. Then, as demand mushroomed, profits boomed and a new wave of competitors was attracted into the markets. They were able freely to copy this technology – and undercut the bank on price. What had started as the banking equivalent of the couture dress design trade was becoming a mass market clothing fashion game.

That meant JPMorgan needed a new idea – one that its rivals could not copy too fast. As the bankers assembled in a hotel conference room, close to the Boca Raton marina, Hancock tried to prod them through their hangovers and jetlag into some brainstorming. "The idea was that we should think about how to take forward this large swaps business we had built... and apply it to other areas," Hancock says.

(One of his colleagues remembers: "Hancock is like an ideas machine – throws a thousand thoughts on to the wall. Most never fly at all, but every so often one does.")

The idea that attracted most excitement was the concept of mixing derivatives with credit. One of the pernicious problems that have always dogged business is so-called "credit risk" – or the danger that a loan (or bond) might turn sour. And as they sat in their conference room in Boca Raton, some of the bankers started to wonder if there was a way to create derivatives that could bet on whether bonds or loans would default.

After the meeting ended, the bankers flew back from Florida and started hunting for ways to put these ideas into practice. One was Robert Reoch, a young British banker who had recently joined JPMorgan's London derivatives desk, which was tucked in a former boys' school on Victoria Embankment. At that time, this derivatives team was very busy in Europe doing its "usual" business of trading currency and interest rate "swaps". But at the time, JPMorgan also had another booming business in London – trading government bonds. And in the months after Boca Raton, Reoch and his colleagues started to work on the idea of a credit derivative.

No one on the team knew how to price this type of contract, let alone create the paperwork needed to keep the lawyers happy. But Reoch found an investor willing

PHOTOGRAPH: PASCAL PERICH

JPMorgan's Blythe Masters was so taken with the idea of credit derivatives that she moved to New York to find out the best way to use them

to buy such a deal, and one day he quietly sold a contract that placed bets on whether three European bonds would default. "It was the first time we had done a transaction like that," Reoch proudly recalls.

What was it they did? The trade was what is known as a "first to default" swap. At that time JPMorgan was heavily involved in trading European government bonds and bond derivatives that left it exposed to losses if any bonds suddenly went into default (not an irrational fear in the pre-euro mid-1990s). However, the bank created a contract which effectively insured itself against such a default for a basket of bonds (say, that of Sweden, Italy and Belgium). It stipulated that if any of these bonds went into default, an investor would pay JPMorgan compensation. If that default never occurred, the investor would make money because they were receiving a fee to take this risk; but if any bonds defaulted, JPMorgan was covered. Thus as long as a price could be found that kept everyone happy, it was a win-win deal: JPMorgan reduced its risk, and the investors could earn nice returns. It took another three months for the team to sort out the paperwork for this experiment. And it didn't at first make waves in the financial markets. At that time, other banks were also experimenting in this way – and groups such as Bankers Trust and Credit Suisse were considered more innovative and aggressive in this area than JPMorgan. Yet, as 1994 turned into 1995, JPMorgan moved out in front.

Quite why remains a matter of debate. JPMorgan's rivals say it was a simple matter of business expediency – and, above all, accounting pressure. International banking laws place strict limits on how much risk a bank can take before it has to stop doing new business, and the bank was hitting those limits. This meant JPMorgan had a strong incentive to look at credit in an innovative manner, because it had a bigger loan book than rivals.

This does not explain the whole story – or at least not as the JPMorgan's bankers now tell it. They say it was corporate culture: the bank's background as a blue-chip lender meant that it prided itself on having a more gentlemanly ethos than some of its Wall Street competitors. Hancock placed a heavy emphasis on recruiting individuals willing to work within a strong team ethos.

He started by recruiting a loyal deputy, Bill Demchak, a practical young American who was skilled at turning Hancock's abstract musings into concrete plans.

> 'You cannot produce this type of innovation if you are too narrowly focused on... personal profits and losses'

("Without Demchak, half of Hancock's idea would have probably just stayed on another planet," laughs one colleague.) Then they pulled a group of young, highly ambitious – and all exceedingly numerate – wannabe bankers into their orbit, sometimes from unlikely quarters.

In London, the team included an American, Bill Winters, and Tim ("Frosty") Frost, who hailed from Nottingham and sported an economics degree from the London School of Economics. ("A lot of people in this [credit derivatives business] came from the LSE," he says today, speaking with the flattened vowels from his Midlands childhood.) Over in New York, Demchak and Hancock pulled in Andrew Feldstein, an ambitious and articulate young trader. Another recruit was Terri Duhon, a vivacious, dark-haired woman, who had grown up in humble circumstance in rural Louisiana, but then won a scholarship to study maths at Massachusetts Institute of Technology, where – like many of her generation – she succumbed to the intellectual and pecuniary lure of finance. "I had read *Liar's Poker* and thought that trading derivatives sounded sexy and fun," she recalls.

Another – more unlikely – young wannabe was a well-spoken, horse-mad British woman called Blythe Masters. She had grown up in the south-east of England, where she attended the exclusive King's public school in Canterbury on a scholarship before completing an economics degree at Cambridge university. From an early age, Masters decided that she wanted a career in derivatives. It was an unusual choice for a middle-class Englishwoman at the time. And even today she does not look like the usual stereotype of a Wall Street hotshot. When I met her recently in JPMorgan's London offices she was sporting a well-cut blonde bob and an elegant candy pink suit, with matching shoes and bag. As if explaining this to me, she said: "I have a quantitative background, but really derivatives appealed to me because they require so much creativity."

At first she joined JPMorgan's commodities desk. But after she attended the Boca Raton meeting she – like "Frosty" and the others – sensed an opportunity. So she moved across to New York and started hunting for ways to use the credit derivatives idea. Around this point, in her mid-twenties, she also had a baby (in an early marriage that did not last). This apparently did not put her off her stride: when she went into labour, she kept monitoring her financial trades from the hospital. She also kept brainstorming with colleagues about how to turn the credit derivatives idea into tangible profit. "We had a culture created by people such as Peter Hancock and Bill Demchak which emphasised teamwork and where no single individual could own a product," says Masters. "That is quite different from the turf-driven environment of many investment banks. You cannot produce this type of innovation if you are too narrowly focused on... personal profits and losses."

By 1997, Demchak and Masters came up with their Big Idea: a product known as Bistro, short for Broad Index Secured Trust Offering. (Bankers who work in the world of derivatives love creating odd names out of complex acronyms – it appeals to their problem-solving skills, no doubt.) What Bistro did was to use credit derivatives to "clean up" a bank's balance sheet. The scheme started by taking a basket of bank loans and separating out – in accounting terms – the theoretical risk that these loans would turn sour from the loans themselves. This default risk was usually then sold to a "paper" company, known as a special purpose vehicle, which then issued bonds that investors could buy. If lots of loans went into default, the value of these bonds would fall, of course; but if the loans were honoured, the bonds would be a safe bet for the investors. Either way, the point was this: anyone buying such bonds was essentially betting on the risk of loan default. And as long as the deal was structured in a way that made the bonds look cheap, relative to the risk of default, then investors would think they had got a good deal. The pricing itself was based on what had happened to banks' loan books in recent years (together with some complex number crunching).

The deal looked even better for the original bank. For the act of selling the default risk on to new investors had crucial regulatory implications. International banking rules say that banks have to hold a certain level of spare funds (or reserves) to protect themselves from the danger that their loans might turn bad. However, since the banks had sold the risk of default on to somebody else, they could now argue that they did not need to hold these funds.

PHOTOGRAPH: PASCAL PERICH

Peter Hancock, a former science student, always wanted to be an inventor. Instead he spotted the potential of credit derivatives

To anybody outside the world of finance, this might look odd (after all, the banks were still making loans); but the regulators accepted this argument, since the risk had moved, in accounting terms. And that let the banks free up funds to make even more loans. It was the financial equivalent of calorie-free chocolate: almost too good to be true.

Hancock's group started using Bistro to clean up JPMorgan's own portfolio of loans. Then they started offering it to other banks. And within the space of a few months, they were handling not just billions of dollars of loans, but tens of billions, and then hundreds of billions. It was an intoxicating time for the young bankers. Many had been impoverished graduates just a few years earlier; now they were earning bonuses bigger than most had ever dared to imagine. Not that they had any time to spend the cash: as demand swelled, JPMorgan's tiny team – which still numbered just a few dozen – found themselves almost every waking hour in each others' company. "The business we were doing grew exponentially," recalls Duhon. "We went out and 'Bistro-ed' everything we could."

By the end of the decade, Hancock had been promoted to chief financial officer of the bank – and the success of Bistro had left Masters running the credit derivatives group. But soon, in 2000, JPMorgan merged with one of its giant rivals, Chase Manhattan. Such mergers are common on Wall Street, but they rarely occur without internal fights or defections. And this was no exception: Hancock resigned, later followed by Demchak. And with these men gone, a team that had held together with unusual loyalty for almost a decade (or a lifetime in investment banking) started to crumble.

These days, some of this original JPMorgan "dream team" – as they were dubbed by specialist financial magazines – remain at the bank. There is Winters, of course, and Masters recently became chief financial officer of the investment bank at the age of just 35 – which makes her one of the most powerful women on Wall Street and almost certainly the most senior British female there. (She remains horse-mad to this day: in what little spare time she has from her career and daughter, and a new fiancé, she also owns an equestrian business.)

But most of the JPMorgan team have scattered to the winds. Some are running credit derivatives businesses at other investment banks. Others have moved to the fast-expanding world of hedge funds. The British banker "Frosty", for example, recently co-founded Cairn Capital, a hedge fund based in Mayfair; Feldstein co-founded BlueMountain Capital Management, a New York-based hedge fund; the would-be inventor Hancock co-runs Integrated Finance Ltd, an advisory group; Demchak is vice-chairman of PNC Financial Services Group; Reoch, the British banker who did JPMorgan's first credit derivatives trade, is a consultant based in the pleasant climes of Dorset; and Duhon – the banker from rural Louisiana – has created a consultancy in Mayfair.

A decade or two ago, a new idea could stay 'secret' for a year or two; now it can leak from New York to Tokyo – and back – in the press of a button or two

These days banks such as Deutsche Bank, Citigroup, Morgan Stanley and Goldman Sachs are also big in credit derivatives. Thus the dispersion of the JPMorgan innovators has helped to transform a niche product into a vast industry with extraordinary speed. Indeed, JPMorgan itself, having at first tried to keep its products to itself, decided in this decade to collaborate with its rivals to build the type of industry-wide infrastructure that could make the overall market as big as possible.

But that success has come at a cost. As credit derivatives have spread, they have also become another, lower margin, mass market game – just like the swaps business when the JPMorgan bankers met at Boca Raton. Indeed, everyone agrees that the innovation cycle is now speeding up dramatically, as technology integrates markets more closely. A decade or two ago, a new idea could stay "secret" for a year or two; now it can leak from New York to Tokyo – and back – in the press of a button or two. That makes it harder than ever to protect profitable inventions – and creates even more pressure for innovation.

Most bankers insist that these new instruments make the financial world a safer place. After all, for the first time, institutions making loans now have an effective way to insure against defaults; so does anyone investing in bonds (including, perhaps, your pension fund). Moreover, the fact that loan risks are now being traded means they are now spread among a much wider pool of people. That should make the financial system more resilient to shocks. If a cataclysmic event ever hits (say, 10 large companies suddenly collapse) the blow will be spread around in millions of tiny pieces, not concentrated on just one spot.

There is also a downside: spreading risk around makes it much harder for bankers, central bankers – or anybody else – to predict what might happen if a cataclysm did hit. For the whole credit derivatives world has exploded at such a dizzy pace that nobody is exactly sure where the loan risk has gone. Have all the investors who have bought credit derivatives contracts checked the fine print to see what losses they could sustain? Does anybody understand the chain reaction that might be triggered by such losses? Could the world's trading systems cope? And what would happen to all those hedge funds that have been jumping into the credit derivatives world?

And what of the future? Some of the leading figures, such as Masters, think there is room for more innovation in the credit derivatives world. For while the basic ideas are now so widely dispersed that they are almost "mass-market" for traders, she believes that "the point about that process is that when something becomes commoditised it lets you create second- or third-generation products". That should make it easier for bankers to reassemble these derivatives in new and more complex ways – in much the same way that it becomes possible to create more complex computers when there is mass-market production of circuit boards. The next round of innovation, in other words, will be derivatives of credit derivatives, or even "derivatives cubed".

None of the ideas that are around at the moment is entirely new: on the contrary, most were on the list of concepts that Hancock tried to "throw on the wall" – as his colleagues say – back in Boca Raton in the early 1990s. Yet somehow those concepts never found such fertile business soil as the credit idea. But maybe that is just a matter of time. "Ideas can float around for ages and then suddenly get picked up," says Hancock.

So perhaps, somewhere out on Wall Street or in the City – or Mayfair – the seeds for fresh innovation are already germinating. Ambitious young bankers are eagerly sniffing for them, just as Masters, Winters and Frosty were a decade ago. But wherever the next brilliant innovation appears, one thing is certain: inside every moment of stunning success on Wall Street and in the City are the seeds of future decline. And by the time humble journalists such as me ever get to know what the next really Big Idea is, the most profitable moment in that cycle will already have occurred.

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