Fortune Seen as Fate :: Quant Jobs After the Credit Crunch

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My firm, P&D Quant recruitment has just taken on two more people to help with the increasing workload. A year ago this would haven a bland piece of corporate puff of so little interest that we'd probably not even have bothered telling anyone.

But in today's market, it has caused more than one person to express at least some surprise. So have we completely lost our minds ? Should we not be cutting costs with a chainsaw ? Maybe looking for a different, more stable line of work like putting out fires on oil wells ?

Like many other people I have Bloomberg news as my background noise, and BB have thrown themselves into this with passion and creative professionalism. New music, segments with titles in especially scary red saying **CREDIT CRUNCH** , **CREDIT CRISIS** , **MARKETS IN TURMOIL**, **FINANCIAL COLLAPSE** , **WORLD OF PAIN**

BE AFRAID, BE VERY AFRAID, THEN BE MORE AFRAID THAN THAT .

A true classic is to be found via The Economist on The Consumerist I have personally contributed to the desperation with my booklet on "When it hits the fan : Job hunting in interesting times", to be found on the Wilmott.com discussion forum

So, we might as well start to learn how to sell cheap toys, door to door, since banking is as dead as communism, which to some is beginning to sound a lot more sensible.

The statistical inevitability of hope

So why the increase in P&D headcount ?

Even in the most pathetic of basket cases, Lehmans, around 80% of the staff were working as part of businesses that were making money, or least not losing much. It was the other 20% that caused the grief. Even I find it hard to believe they were writing Credit Default Swaps on themselves, one day someone will explain it to me, but they will first have to get me very drunk before that makes any sense at all to me.

The 80% figure is rough, but interesting. It's the first approximation to where employment levels are going to stabilise at when some sort of equilibrium is reached, which implies we are not we are not yet at the end of the pain, but that there is a floor to be seen in the market. Of course that 80% was true in one time in the economic cycle, and may not hold but indicates that investment banking is hardly going to disappear.

Why we earn more than ordinary people

One thing that many of us lost sight of was that we are paid by the rest of the economy to provide a service. That's not just executing FX for some supermarket chain, or running the IPO of a new tech stock, but even algorithmic trading and other speculative activity has an important role in providing liquidity. I think we all now understand the importance of liquidity better than we used to ? A geek hunched over a screen automatically trading vast sums of virtual money is actually helping firms raise funds to pay people their monthly wages. The public doesn't know this, probably never will, but that does not stop it being true, and let us be honest amongst ourselves here; if Joe the Plumber could do what we do, then we would not be able to earn such good money doing it.

Even Credit derivatives will come back, and faster than you might think. (or less slowly). Some of the horror stories on Bloomberg are graphs showing how long ago it was that the markets were at this level. Last time I looked we were in 2001, and gradually sliding back into the 20^{th} century. C20 was horrible, if "the past is another country", 19xx is Zimbabwe. Wars, hyperinflation, depression, stagflation and Sarah Palin was born in it. The terror graphs on Bloomberg actually capture two important truths. Firstly, they tell us where the economy would be if we didn't have Credit Derivatives, and there we'd be poorer. If some super virus took out every PC and we reduced to using Apple Macintoshes that can't even run Excel, you'd see the same effect. Credit derivatives serve an important economic need that is partly responsible for the world having gone an unusually long time between recessions. Thus they must come back because people in the real economy need them to exist, even if they don't want them. Even now, smart people are trying to work out ways of spinning "organic, GM free, low fat, zero sugar" not-really-credit-derivatives-at-all-really-honest. Whoever succeeds will get very rich, and deserve it. Also, regardless of whatever % you think credit instruments are below their nominal value, there is still trillions of dollars to be managed, and it defies belief that this will happen without some people making serious money.

Of course credit markets will be different, more regulated and certainly less profitable than they were, but they will go up from their current dismal hopeless state.

The other truth in the NIGHTMARE ON WALL STREET graphs is that so far we've only fallen about 5 or 6 years. A large % of Wilmott.com readers are under 27, so can have no direct experience of the markets of 2002. You've all seen my picture, and many have met me and know that I'm an old git, who remembers the "bad old days" of 2003, and the truth is that we did not live on a diet of bread and margarine and live in shanty towns, scrabbling for scraps on waste tips.

The future is not so bright as it once appeared, but it is a future for most of us.

Factoring the Future

I see a variety of factors driving the quant part of the banking labour market from 2009 onwards.

Firstly, as I've said elsewhere, quant skills are diffusing into many more aspects of investment banking, investment management and even compliance and sales. That is a wholly positive force for demand in the medium term. A direct result of this, is that many of you will be working outside the set of business units you expected (or hoped) to be in. Few quants are great at sales, some are tragically bad, and relatively few started on their MFE or CQF with the goal of a good job in compliance, but that's inevitable for some of you. Of course the diffusion analogy works both ways, so we will see more non-traditionally quant skills being asked for, and the increased regulation is only one of the drivers in this.

Poor risk management is part of the reason we are where we are. That means more jobs in risk of course, but front office quants will need to understand more of the corporate risk management strategy than they used to, else they won't be allowed to do the things they want to do. Advocacy skills (arguing politely) are going to be more important than before, since risk managers will be more assertive (and slightly better paid), and will have wider vetoes than before. That's one reason that CQF alumni now get training in arguing better, the other reason of course is that quants were useless at arguing well before the current Armageddon.

Risk management also causes me to forecast a change in the size distribution of financial firms in the medium to long term. A large "full service" firm has risks varying from consumer debt, to sovereign bonds, to FX, through operational risk of many different types, counterparty risk, market risk, and some risk classes that have not even got generally accepted names. How do you manage all that ?

Can you stop a Lehman style collapse where well run profitable business units were taken out by the crazed financial barbarians on the next floor ?

If one area uses a one factor mean reversion model to model interest rates how do you "add" that to a business unit that allows for jumps, and add that to one that models them as following a customised geometrical Brownian motion ? Which one is right ? What about the leasing business unit that assumes they are fixed at the point of writing the contract ?

I don't know, and if you're a Wilmott.com reader you should be wise enough to realise that you cannot solve this by imposing a single model that all must follow. Actually I'm lying to you (what do you expect from a headhunter ?). You *can* solve it that way, and I predict some firms will. Think of that as financial evolution in action.

That's just interest rates of course , what of model conflict in FX exposure, can you even agree on whether the normal distribution should be used? I've been a bystander whilst much more clued up quants have argued loudly over Levy vs Cauchy distribution, power-laws and some words that I'm 50% sure were made up on the spot over beer. Normal distributions seem often to be chosen to end the argument before knives are used. That's just within one team, can you really imagine any possibility of standardisation in a large firm ?

Fewer big firms, More smaller ones

So I forecast that the firms will specialise more in given market sectors aligned more on risk and model boundaries, so that the shape of the firm will be follow from the need for efficient risk management. That is wholly different from the current model where risk was originally stuck on the side of the business by accountants then partly taken over by quants. That will take time, but note I said "efficient" risk management. Without risk, there is no return, to pay our bonuses, so the long trend will be to smaller firms with risk evolving as the spine with business units hung off it. If a risk is to heavy to be supported by the spine, or is not balanced elsewhere, the bank will either die or be overtaken by one more optimised to local conditions.

Thus we will move from market dominated by huge generalised banks to a larger number of smaller entities each optimised for their line of business and the new slightly colder climate. I'm not going to draw the obvious parallel of a meteor wiping out the dinosaurs giving space for us mammals to arise because at the time I write this some morons still think that allowing Sarah Palin into the White House is not a scene from a freak show, but a rational way to vote, and I would not want to offend any subhuman Creationists who might read this.

In smaller firms it is simply not possible to isolate the quant work from everything else, and often there will be no desire by management to do so. In some ways this is not unlike the way many desks in large bank already operate. As many readers already know, I often answer programming problems from quants on the Wilmott Software Forum , and although that is an odd activity for a headhunter it has given me the insight that although C++, Excel and Matlab dominate quant development it is not that unusual for a PhD physicists to be forced to fix a sick MS Access database or even to undertake hardware repairs because if he waited for the crinoids from EDS to do it, the bank would be bankrupt. That is going to increase as more of us work for smaller firms.

Doing more with less

Innovation will increasingly be something that flows from smaller outfits, just like in technology though for different reasons. We are going to be more regulated, and with serious scary penalties and direct government intervention and the easiest way to prosper will be to keep your head down and do as you are told.

Currently I find that some people I talk to about roles in smaller firms like prop shops and non-famous hedge funds, almost sneer at the idea. That is changing, partly because they are moving to be more sexy, and frankly because we have seen a trend that currently the smaller firm, the more likely it is to be hiring. Larger firms have made the headcount process intentionally difficult and delicate, whereas in smaller businesses you are hired (or not) because you are seen to be the best way of making money (or slow down it's loss), or not. In larger firms you may be competing not only with other people with cutting edge skills in time series analysis, but also a trader, salesman and Excel jockey to run risk reports. Your boss may get to pick one. Can't say that anyone thinks this is efficient or pleasant.

Risk management vs Management of Fear

"Innovation" is itself a dirty word in the top "golden parachute" layer of banking management and of course regulators, again a factor that will favour smaller firms who will operate in an environment of regulatory arbitrage as a real revenue generator. P&D's Reassuringly Expensive Lawyers ™ positively salivated when we explained this model to them, enough that they paid for lunch. Yes, really. When someone's whose billing rate is measured in $ Hz buys you lunch, you know they are happy.

Dealing with the current market

A trend I identified early in this Geldademerung was that more hiring is being done by want rather than need. As you may *want* my original luminous green vinyl Eye in the Sky, but you *need* your roof fixed. Hiring is currently driven by the need to keep the show in the road, rather than the opportunity to make money in the future. Thus unlike in previous downturns it is the cheap newbies being hit worst. You need to market yourself as someone who can *do things now* rather than being smart enough to learn anything asked of you.

If you are out of the market, WIHTF provides lots of ideas about getting back into the game. If you've read this far, I'm guessing that is an uncomfortably high probability already. Even if you don't action any of my ideas, the core of what I say is that you must act, then keep on. Find some project, write a paper, learn some new maths or programming, even if you are cynical that it will be useful, for to stop moving is to become a casualty.

So, although I use lurid language, I am bullish about the market in general and my share of it, and there is one final reason for us doubling the size of the research team. A pimp like me makes his money from mispriced assets, just like any other arbitrageur. You are going to have to just put up with a bonus that is not only small but paid in the sort of pretend equity that you last played with as a seven year old child in your "shop". I can't fix that. To be sure if I had $400K under my desk you'd be welcome to your share, but I don't. But not only will bonuses and pay be lower than you'd like, it will be both static and not aligned with your contribution to the bottom line or what a competitor will pay to get you on board. It will take some large firms a long time to adjust the money, and if they are partly owned by the government this may never happen. That must lead to mispricing on a scale never seen before in any labour market anywhere.

When that happens to you, either because you are mispriced or your staff have been arbitraged away, you know where to find me…

Dominic