Bocholt, 11 November 2020

Make me a figure.

A number cruncher remembers.

Talk to a graduating class of financial analysts at the International Training Centre of the ILO (ITC), Turin on 12 November 2020.

"*Make me a figure. Quick and dirty. Not too high,"* my boss told me in March or April 1978. It was late, I was the youngest number cruncher in the planning department of the Ministry of Labour in Bonn. And I was the last number cruncher in the building that Friday afternoon. That is never a good idea, btw. The urgency came from a group of policy planners who had to prepare for for the next G7 meeting. They needed to increase national aggregate demand to prop up the economy. The idea in the Ministry of Labour was to have an ad hoc increase of pensions to bolster pensioner's consumption and *make me a figure* meant "*tell me what it will cost if we increase lower level pensions by x%*". That afternoon I learned that figures in the policy arena are a policy tool that may play a crucial role when policies are accepted or rejected, and they are often *made* rather than primarily *calculated.* Many of them are cooked to order. They may be made to accept or to reject; whatever the case may be. I learned that there can be political pressure on my number crunching work. And over the years there has been plenty. Coming from my customers but also from my own preferences and prejudice. This is our biggest challenge as number crunchers. It does not come from the lack of data, wrong data but rather political pressures to bend over backwards and make number and figures fit to what is expected or desired.

That afternoon and evening I made as honest a figure as I could and I proudly gave them an answer. Saying "XYZ billion". I never forget the look of my boss. He said "*I want it as share of GDP, contribution points or share of government expenditure. Absolute figures never speak*. " I had learned a second lesson that afternoon. The second biggest challenge in our profession as quantitative analysts is to communicate our findings in such a way that people understand what we are saying. Numbers have to speak, and in order to make them speak one has to anchor them to indicators that people can relate to, and hence understand and accept.

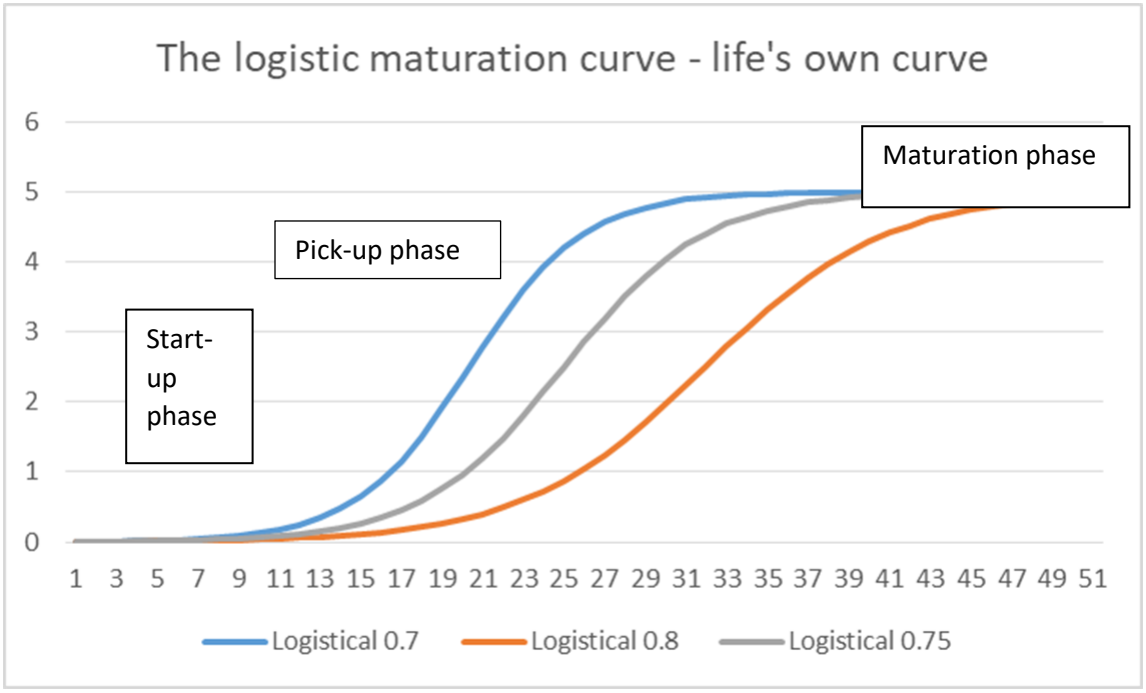
I am Michael Cichon. I started out as a mathematician, then turned into an economist, had to work for a long number of years as a reluctant actuary, then became a policy adviser, then a policy designer and finally policy salesperson. **My present and final role is that of a grandfather and storyteller.** So the instructions do no longer come from bosses but rather from much younger

people, like Charles Crevier who invited me here and the following generations, who tell me now "*Tell us a story*" rather than "*Make me a figure*". I think this is the final phase at the end of a career curve before it falls down to zero and you leave the stage. I come back to the importance of that logistic maturation curve in a minute.

Charles said to me "*I would be pleased to have you as keynote speaker (20-25 minutes, no ppt) on the importance of sound technical knowledge for the future of social protection systems around the world*". I said yes, but I did not tell him that I have no intentions to stick to what I think he had in his organized mind. I will just give a talk. **He knows that he is running a risk. He knows from years of experience how to control his bosses, he has a lot less experience as to how to control a grandfather on the flat end of his career curve.**

Your career curve

You are on you are on your way - or many of you are already accomplished - quantitative analysts in social protection. **That is it the good news. But – with a high probability - that is not your final destination.** Most if you will go through three phases of accomplishment and competence as you develop in your jobs and mature in your judgment. The three phases in the the logistic maturation curve of your career, the start-up phase, the pick-up phase and finally the maturation phase and after that … well you may turn into a story teller but that is another story. That logistic curve looks like this:



This is the most important curve I met in my entire career. This is how most things in life mature: animals, plants, people, economies, pension systems, populations, health expenditure, personal wisdom, love and most other things. You only need to understand two

parameters, the final maturation levels and the speed by which things grow. This is the only technical fact you hear from me today. But I think it is important. If I can hammer the importance of that curve home, I have done 50% of my job.

The journeymen/women phase of your career

You are entering or are in the most important phase of your logistic career curve: You are quantitative analysts or analysts who have to understand figures and numbers in the start-up phase. In the French, German, and English craft traditions we call that a journeywoman or –man phase. These describe the new members of a trade who go out and wander through the world for at least three years to see the world and learn. After that you will enter the pick-up phase, that is entering the analytical master phase (I often call this the quantitative artist phase where you acquire mastership of your trade), and finally you will reach – if you want - the level of a quantitative citizen.

As with all all long journeys, the first phase is the most important. That is where you lay the base to your professional skills and integrity. In this phase you will:

(1) **Understand your importance.** Understand the importance and responsibility of number crunchers in national policy formulation. In fact, hardly any policy decision is made without a budget estimate or a medium to long-term financial and fiscal projection of its potential cost, or a redistributive impact analysis. Decisions often depend on the affordability, the effectiveness and the efficiency of a policy measure. **So your accuracy and mistakes can change the world.** In both ways, for the better or the worse. You may indirectly be critical for the decision whether people receive a pension or health care or other means of income support, for example.

(2) **Learn to stay clean.** Understand that you should keep your models - even if you model under **uncertainty and political pressure as we nearly always do – and your analyses logically and factually clean and straight**. Understand the art to build risk adverse models that take due care of factual information gaps and behavioural uncertainties. Even if you come under pressure – and you will come under pressure - to use "outcome orientated" models, i.e. produce figures and numbers that certain people want to see, you should learn to refuse to do so.

(3) **Learn to remain vigilant.** Understand that you have to remain skeptical with regard to the results of your own and other people's models. If you find a mistake, - and you will make some - admit it. Otherwise, if you start lying, you have to keep lying and one day you will produce an outcome based on a wrong model that is simply not credible. The fall height will be enormous when the whole house of card crashes. With that your own credibility is lost and that is your biggest asset.

The master phase

Once you have mastered this phase you will become a quantitative master or artist in the pickup phase of your professional maturation curve. You have learned to master your techniques, you

know how to handle politicians, and you have learned not to trust your models blindly. **What you now acquire is the the intuitional aspect of your trade.**

Charles and I had had a colleague who also happens to be one of my best friends. His name is Rüdiger Knop. Decades ago he was my mentor in the Ministry of Labour in Bonn. He later worked for us in the ILO and we called him "hawk eye". He was in his later 50s or early 60s when he joined us in the Social Security Department. He could still write programs in Basic or Excel but he was certainly not up to the speed of the young colleagues and did not know all the technical tricks, but what he could do was: he could put the results of an elaborate pension model down at his feet in his office, get up from his chair and look at the results from about 1.8 m distance and say "That contribution rate figure is off by at least 10%". He has turned into a quantitative artist or intuitionalist. His brain - over decades - had developed an almost subconscious capacity to link figures and numbers (there is a difference btw.) to an internal framework of quantitative dimensions and benchmark figures and numbers that would automatically let him place a new figure in the continuum between likely and unlikely. And hence he could tell whether any model result would be in a reasonable order of magnitude. He was always right. Much to the frustration of his young colleagues. Including me. Once you have reached that stage you have mastered the art of your craft.

The citizen phase

The final stage, once you reach the flat part of your personal logistic development curve is that of becoming a quantitative citizen. That means your professional status, your skills and your standing earned you the right and the obligation to take initiative when you see fit. That means you no longer only react to requests for numbers and figures that come from other people. Your own voice counts. Your own ideas count. You see figures and numbers in your day to day job that nobody else sees in its complexity, interconnectedness. You see the risks and opportunities that they map out.

You are the ones who have to issue warnings if things go wrong. Or you can link facts to see opportunities and alert people to them and even turn them into policy proposals. You see, for example a decreasing government deficit, a potential to increase fiscal space and you see poverty numbers and poverty gaps among the elderly. By linking the two you can quickly calculate the cost of a universal pension that would abolish most of old age poverty (not necessary all because the elderly tend to share their income). You can work out a properly costed proposal, you can run a model or better have it run by these fast and furious whizz kids that seem to run models these days. You can "hawk-eye check results" and then put together a policy proposal that you then can go out with and sell to policy makers. You have reached the final stage of your maturation curve. You have become a quantitative citizen or an analytical citizen. You are ready to take and accept responsibility. I always felt that is what we should ultimately aim at.

The whole curve will be an uphill battle

That curve can be step or slow, it is what you make it. In any case, it will be will be an uphill battle. To convince people of facts and logical thought, is no small feat in a world where more than 70 million Americans, for example, believe in alternative facts that are made up entirely for

political convenience. Not all people you talk to will understand or want to understand your thinking or models, but you have to achieve and earn a personal status where people trust you. Your integrity is an even more important asset than your technical skills. You should protect it. Always. **Without your integrity and that of our colleagues there may be good models but there will be is no evidence-based governance**. And governance based on prejudice, power hunger, or myths rather than evidence, has never lead to anything else than misery and bondage in the long run.

And a couple of final thoughts.

Be proud of what you you do, as journeymen or -women, masters or citizens. What you do is important. In good governance there is no decision that can be made without a sound quantitative basis. If you get things right, you can save lives or make them a lot better. If you get things wrong you may risk lives or make them unnecessarily miserable. A doctor who works for about 220 days a year, for about 40 years may save a life per day. Most of his other working time s/he spends on writing prescriptions or ordering lab tests, looking at ultrasound scans of babies who would also be borne without just as it has been for millions years. So in his working life s/he may save 8,800 lives. That sounds a lot and is a real and tangible achievement. If your get your figures on universal pensions right, for example, and you help grandmothers and – fathers to survive for a few more years in dignity, or if you help to make sure that children, adults and elderly get proper health care, and can even get to the doctor who may potentially save their lives, you will help to make millions of lives better and you may even save more than a few thousand lives. So you have every right to be proud of what you do. So be proud of what you leaned here. And be proud of what you taught and will teach yourself.

I have always been avoiding to give personal advice. Today –as I am not sure that will get another opportunity to do so – I will make an exception. My advice to you is: resist pressure exogenous and endogenous, insist on facts and logic … no matter what they say, remain skeptical, admit mistakes early, enjoy what you are doing, be proud of yourself, accept and take responsibility, and don't lose your sense of humour.

And remember everything in public policy and life has a budget in terms of money, effort, attention, time. Everything, except love that should be pursued according to the Dalai Lama with reckless abandon of all budget limits.

Thank you very much for listening.

Bon courage et bon chance. Take good care.

MC, 11 November 2020

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