Overcoming the limitations of existing P&L forecasting approaches

For banks, models that project profit and loss are emerging as both a regulatory priority and a vital managerial tool for budgeting and forecasting. Banks have already developed advanced models for projecting credit losses, prompted by regulatory pressure and internal risk management over the past decade. But they have not invested much into modelling capabilities for P&L, particularly in Europe. They need to do so now.

The current state of affairs is inadequate

Profit and loss models, usually known as PPNR (pre-provision net revenue) in the US and PBIL (profit before interest and liabilities) in the UK, include three main economic elements: net interest income (NII), non-interest revenue, and operating expenses. For NII calculations the first port of call is typically ALM (asset liability management) infrastructure which contains the relevant data, such as loan amortisation schedules, contractual interest rates and pre-payment assumptions. Banks have started to evolve their ALM calculations under normal macroeconomic conditions (e.g., for budgeting) and to understand the impact of stressed conditions (e.g., for regulatory exams), but these systems often lack the capability to predict new originations or stressed repayments and spreads. For non-interest revenues, such as trading and investment banking fees, there is no pre-existing framework at all. Nor is there one for modelling operating expenses such as compensation, marketing and service costs. The tendency is therefore to compensate through “expert judgement” in establishing P&L forecasts. Judgemental approaches have their legitimate place for revenues strongly controlled by managerial actions, yet they lack precision for income which is sensitive to macro economy.
In response to these inadequacies, banks have attempted to run P&L regressions on macro-economic factors, yet often such ad-hoc models are not statistically robust, because they use short data series and have limited granularity. For example, they do not distinguish between volumes and margins and show insufficient segmentation between product classes.

**External and internal forces are pushing banks to bolster their P&L modelling capabilities**

Profit and loss modelling is coming under growing scrutiny from various external stakeholders, including regulators. System-wide stress tests in the UK and the rest of Europe are expanding their focus and paying closer attention to income forecasts, therefore banks have to improve their methodologies. Yet the benefits of strong P&L projection capabilities go beyond a satisfactory score on exams. Well designed and justified P&L projections compensate high proportion of credit losses (especially in the case of a dynamic balance sheet assumption) and therefore can lead to significant capital savings.

From an internal budgeting perspective, such methodologies help reduce the role of expert judgement and bring a healthy challenge to a budgeting process that has historically relied heavily on market-share assumptions. A strong P&L model suite that has been properly documented and validated can lead to better capital allocation decisions and overall steering. That in turn can increase the confidence of stakeholders (i.e., the Board, regulators, and...
investors) in the capital management process. Streamlining their modelling capabilities would also allow banks to produce estimates for internal budget, EBA, or PRA stress tests using a single execution machine.

For the lines of business (LOB), a new P&L analytical suite can add rigour to the evaluation of key business decisions. If properly rolled out and integrated in the core businesses, these tools could bring a common methodology to the analysis of new markets and product opportunities. Augmented by business intuition, they can serve as a bridge to engage the LOB in the stress-testing and budgeting process.

**Building better P&L forecasting models will require a significant commitment**

A robust P&L framework requires infrastructure and analytical capabilities that often do not exist in European banks. Leading practices involve disaggregation of revenue drivers between prices and volumes and require choosing the right level of granularity to model the P&L. In addition, banks need to ensure that assumptions in P&L forecasts are consistent between products and across other forecasting models in the bank, such as credit loss and RWA projections.

Banks therefore need to design their modelling frameworks carefully, by focusing on consistency, data quality and controls, estimation methods, segmentation of the product lines, and business engagement. For meaningful results, institutions need data covering a full interest rate cycle and multiple business cycles, typically going back up to 10 years. A reasonable ambition for banks would be to cover more than 80 per cent of their balance sheet through statistical models, with the rest addressed by non-statistical models or expert judgement. To develop sound econometric projections, modellers typically need to consider differencing time-series methods and rigorous diagnostic tests like stationary, autocorrelation and out-of-sample testing. It is also crucial for banks to define where non-statistical models are appropriate, such as in businesses with low macroeconomic dependence, few internal or external data sources, or small scale. In these cases, non-modelled approaches that draw on industry-level data or employ historical stress analysis may be appropriate.
Banks will also need to invest in expertise and processes. P&L modelling is a new discipline that requires staff with different skill-sets compared with existing staff focused on risk and credit loss estimates; developers need training in advanced econometric techniques and validation teams require similar expertise for effective challenge. In addition, business divisions, risk, and finance must coordinate closely with each other to validate statistical outcomes and check that results incorporate independent variables that make plausible business sense.

Given these challenges, statistical P&L forecasting will not be a sprint. Banks should invest significantly to develop a centralised plan for the entire model landscape, ensuring sufficiently rich data sources and improved methodology and expert capabilities. The result will be tools and processes that can produce estimates useful for both internal budgeting and regulatory stress tests and that rely on a single execution machine.

If banks want to anticipate (and possibly shape) the regulatory agenda – as well as incorporate enhanced forecasting capabilities into their budgeting and planning processes – they will probably be well advised to act now. Indeed, several large European institutions have already started. The way ahead towards robust P&L forecasting methodologies and tools is arduous, but the substantial investment required will be time and money well spent.

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