

Beware of data leverage

Inadequacy of available data resources for effective decision-making is a widely recognised problem. David Rowe argues firms should be trying to measure the scale of the shortcoming

An old risk management maxim tells us exposures that cannot be measured also cannot be managed. It is a dangerous attitude to take, potentially undercutting softer, more judgemental insights, but it reflects a general truth – things that are quantified tend to be taken more seriously than those that are not. As many risk managers will know, losses prevented by effective oversight carry less weight in corporate discussions of resource allocation than profit increases from a successful new initiative. The profits are tangible and can be counted, while the avoided losses are hypothetical.

But there is also a simple lesson here for an industry that has yet to confront one of its long-standing problems – a growing information deficit. As products, markets and organisations have become more complex in the past two to three decades, the information resources necessary to manage this complexity have exploded. It is widely recognised that financial institutions have failed to keep up, but decision-makers tend to view this trend with little more than vague unease.

That might change if the scale of the deficit could be measured. In a recent draft chapter for the forthcoming *Handbook of Financial Risk Information*, Robert Mark and Jefferson Braswell introduce the concept of ‘data leverage’. They define this heuristically as a ratio – the ideal information resources necessary to manage an activity divided by the actual available resources.

Like many important concepts, this one is not easily or precisely quantifiable. Arriving at a measure of data leverage will inevitably combine disparate indicators that are not easily aggregated – rather like the key risk indicators used in operational risk measurement – with the judgement of decision-makers based on their experience of the available information resources.

Attempts to quantify the adequacy of available information are further complicated by the multiple dimensions involved in such assessments. These dimensions are familiar to those who have struggled with the design, development, deployment and maintenance of risk management systems – efforts that always involve compromises on cost, coverage, analytical sophistication, timeliness and flexibility. The last four of these items represent the key characteristics against which to judge the ideal versus the actual state of an information system. Given that cost is

always a constraint, it is never possible to approach perfection in all areas. Luckily, the 80/20 rule also applies here – 80% of the value can be achieved with 20% of the cost of a near-perfect solution.

The realistic objective must be to achieve a commercially feasible state-of-the-art implementation. In large measure, such an objective is defined in competitive terms relative to one’s peers in the market. Regulators often pressure firms to implement the best practices they see at other supervised institutions. They can also demand across-the-board advances for all firms subject to give-and-take conversations with the industry around cost and feasibility.

Another consideration for risk systems is dynamic efficiency, or the ability of the system to constrain inevitable increases in data leverage, as new products and new markets arise that need to be reflected in the information available

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both to business managers and risk managers. Rather like entropy, data leverage will rise without a constant infusion of energy to modify and adapt information systems to changing circumstances. One symptom of this is erosion in coverage. Some firms had trade coverage of well over 90% in their counterparty exposure simulation systems in the late 1990s, but found this ratio declined 20 percentage points or more over the following 10 years as increasingly complex and esoteric transactions continued to proliferate.

A precise measure of data leverage will never be possible, of course. Like operational risk, however, reasonable estimates can be derived to benchmark the adequacy of a firm’s information systems to meet the needs of tactical and strategic decision-making. Establishing such estimates is a valuable way of concentrating an organisation’s attention on the hidden risks of poor decisions based on inadequate information. Without some explicit means of calibrating the effectiveness of information systems, they can easily erode to the point of being not fit for purpose. Maintaining systematic estimates of data leverage could alert management to information systems issues before unexpected losses from poor decisions provide a wake-up call. ■

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