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Focus on micro data:
Potential benefits for the industry?

MICRO DATA AND GOVERNANCE.
THE PATH FOR GOING FROM THE PARTICULAR TO THE GENERAL.

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The perspective here explored deals with the positive effects that may arise from the availability of micro datasets both within and outside the regulatory reporting environment, also considering the role of the European and international authorities.

1. New trend for regulatory reporting

Recent years showed an increased density of data requests and deep-dive analysis compared to the previous decades: specifically, starting from 2013 the sharp increase of data to be remitted to the Competent Authorities encompassed reporting on capital requirements and liquidity (i.e. prudential reporting based on CRR), resolution topics (i.e. reporting required by BRRD), and statistical topics (i.e. AnaCredit).
Moreover, the recent introduction of new reporting like Minimum Requirement for own funds and Eligible Liabilities (MREL), Leverage Ratio, Liquidity ratios, Money-Market Statistical Reporting (MMSR), G-SIB disclosures, as well as the enrichment of the existing reporting on Own Funds and Risk Weighted Assets (according to CRR and CRDIV rules), just to mention some of them, put the banking system in front to an unprecedented scenario, despite in many cases banks were well-trained by the local regulations/regulators.
Additionally, for some specific reporting, the timeline (request of elaboration within tight deadlines), the complexity of calculation/implementation (also given the lack of literature for interpreting some rules) and the concurrency with several parallel regulatory requests (e.g. stress test, short-term exercises, quantitative impact studies), may have favoured temporary solutions, often neither in line with strategic guidelines nor designed for repeatability or sustainability, but at the same time requesting spending and effort other than conditioning future developments and target solutions.

Traditionally, and except from statistical supervisory reporting, remittance towards Authorities was based on aggregated figures, gathered by Banks – in turn – on synthetic tables (I am here mainly referring to prudential supervision).

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Nevertheless, a new frontier is revealing since some periods: not only statistical information, but also figures concerning resolution and prudential framework are now requested on a single-deal basis. And, by the way, the remittance needs to be granted, in the near future, by considering at least two new perspectives:

- not only the balance sheet assets side (e.g. relevant for RWA calculation), but also the liabilities side (i.e. relevant within the resolution framework);
- on consolidated basis, rather than on legal entity level (i.e. solo basis).

With the sole aim of example, here follow some figures outlining the amount of information to be retrieved within the recent Single Resolution Board's data request on MREL for 2016 exercise (both on solo and consolidated basis); it encompassed – among the others – the following detailed information[2]:

- n° 28 attributes concerning the master-data (e.g. governing law, currency, legal maturity, paying agent, settlement systems, etc.) of the top n° 1,000 securities ordered on the basis of the outstanding principal amount by counterparty (i.e. possibly n° 28,000 fields);
- n° 9 attributes concerning the main features (e.g. governing law, currency, earliest redemption date, etc.) of the top n° 50 term deposits (neither covered by a DGS nor preferential) with residual maturity of more than 1 year in terms of outstanding principal amount (i.e. possibly n° 450 fields);
- n° 14 attributes concerning the main information of the master netting agreements (e.g. type, counterparty, net market value, net collateral posted, etc.) for the top n° 50 derivative netting sets in terms of market value after netting (i.e. possibly n° 700 fields);
- n° 11 attributes concerning the main information of the master netting agreements (e.g. type, counterparty, net amount of funding received, net amount of collateral posted, etc.) for the top n° 50 Securities Financing Agreements (SFA) in terms of net amount of funding received (i.e. possibly n° 550 fields);
- n° 9 attributes concerning the main information (e.g. governing law, guarantee trigger, etc.) for all intragroup financial support arrangements and intragroup guarantees (information required only on solo basis);
- n° 18 attributes concerning the main master-data (e.g. lending entity, currency, outstanding principal amount, earliest redemption date, etc.) for the top n° 50 financial liabilities (not included in the points above) in terms of outstanding principal amount (i.e. possibly n° 900 fields).

In light of the context above outlined, the following question arises: may such micro datasets also represents the basis/source (cross) for many of the reports required, included financial reporting?
The idea – the only possible, probably – is not to work on reporting, rather than on the gradual enrichment and expansion of single transaction records with further data attributes, to be then employed for several purposes according to the regulatory needs[3].

[2] Approx. more than n° 30,000 information

[3] This is also one of the ideas behind Basel Committee on Banking Supervision document n° 239 (Principles for effective risk data aggregation and risk reporting).

2. Benefits for the industry of the new demand for micro data

For cross-border groups, and for sure under a regulatory reporting perspective, *Governance* is a target of paramount importance and represents the ultimate benefit to be achieved through micro datasets: it certainly takes a high expectation, but the payback cannot be lower of that given the significant resources spent on this matter.

Why relying on micro data-sets shall result in an enhanced *Governance*?
Working on micro datasets implies several positive consequences, possibly reassumed as follows:

- *Fostering interplay*
  As general approach when starting implementations, the first phase of working-plans foresees analyses and understanding of regulatory requests: in this sense, discussions and deep-dive studies about taxonomies, as well as fields mapping (i.e. according to which figures / transactions fields shall be fed), may be steered by the Parent Company through a Group centralized approach, asking different Group entities to contribute with: (I) their interpretations of rules to be implemented, (II) specific local needs given different business types, (III) specific local requirements from regulators; (IV) the presence of previous local similar requests.
  Such interplay is basically different from an approach based on aggregated data (i.e. feeding data gathering through synthetic tables) as it really helps central regulatory functions to better understand and set controls on specific local topics to guarantee high data quality; otherwise such phenomena would be lost among the "business-as-usual" data records.
  In short, Parent Company is well-aware in advance of both possible local needs and the way its subsidiaries contribute to consolidated information.

- *Steering decisions on IT systems*
  The need for micro datasets inspires Banks to move from a situation where granularity is available only from certain sources, although topside adjustments are needed (more or less extensively), to IT solution where a very limited number of adjusting entries is required.
  Such evolution is necessarily led by central units, allowing a journey of implementation towards an IT data architecture based very likely on strategic assumptions, or at least towards the diffusion and implementation of same data models, same data standards, same data mapping, same data taxonomy.
  As well, technology may also keep into account several independent data sources and IT systems, but in any case according to a centralized system.
  The above outlined scenario cannot but lead to strengthen *Governance*, consequently also in terms of: (I) central decision to allocate budget essentially to strategic initiatives, facing an environment of limited resources; (II) establishment of new organizational figures, like Chief Data Officer or Group Data Officer, dedicated to manage the transition to new IT framework.
  Having said that, complexity in the implementation may still persists, considering the attention to the costs.

- *Fixing time to "Market"*
  For regulatory reporting, external "Market" is mainly represented by the Authorities, as well as internal units (e.g. strategic units, business units) asking for support in order to understand how certain transactions are treated under a regulatory perspective.
  In light of both the regulatory context and competitive business arena, regulatory departments are under new spotlights: delivery timely data (e.g. monthly Liquidity Coverage Ratio remittance is set at T+15) with high data quality, together with adequate explanations for granting third parties to appreciate the reasons behind trends / regulatory treatments.

Moreover, Authorities are increasing spot requests – to be delivered in a limited timeframe – in order to understand the effects of possibly unfavourable market events (e.g. bank exposures towards Russian counterparties for the Russian Ruble crisis, as well as towards Greek counterparties for the Greek government-debt crisis).
Consequently the availability of central micro datasets will allow Groups to limit the recourse to Group entities and directly provide Authorities with a quicker delivery also granting the application of uniform rules when extracting data.
The side-effect could also be exploited with reference to lower reporting costs in the medium-term period, obviously after the initial set-up phase.

Further to *Governance*, micro datasets may imply additional potential benefits for the industry; among them, it is worth mentioning the following ones:

- *increasing stability in data requests*: *ad-hoc* requests of information by Authorities could be probably limited or eliminated, given the availability of granular databases, by the way frequently updated thanks to high frequency of submission;

- *reducing the number of reporting*: undeniably, the usage of micro datasets may set the conditions for eliminating some reporting towards Authorities and international bodies, especially those based on aggregated information, or at least for their rationalization;

- *positively influencing the creation of a real "common level playing field"*: also thanks to other regulatory trends, especially connected to (I) a highly amplified demand for data disclosure and (II) a greater number of systematic checkpoint set by the Authorities on remitted figures, micro datasets will represents the call-up for higher data quality, which has necessarily been levelling up;

- *enriching the depth and width of analysis*: as final result, internal benefits may be also retrieved by planning and business units relying on cleaner KPI (or brand new ones) to address strategic market actions;

- *increasing Market confidence:* the overall legislative framework is also moving on this direction; clear example[4] is Regulation (EU) No 462/2013 amending Regulation (EC) No 1060/2009 on credit rating agencies which requires[5] securitisation originating banks to provide regular loan by loan data on the underlying portfolio to increase the ability of "*investors to make an informed assessment…*". The requirement of producing loan by loan level data on securitisation has been for years also a prerequisite to ECB Eligibility within the Euro-system.

[4] Other clear examples are the EBA guidelines on Shadow Banking and the Basel Committee on Banking Supervision paper "*Capital requirements for banks' equity investments in funds*" (n° 266), which clearly required micro data to be able to be able to set limits and calculate Risk Weight considering the underlying pool rather as if it were on the balance sheet.

[5] Article 8b

3 Role of European and international authorities

While on the one side, banks' duty is to provide data delivery consistent with expectations, on the other side banks' expected payback is the possibility to receive feedback, analysis and indicators based on micro datasets to help steering the business.

Having this basic aim in mind, authorities can really help improve data quality in a number of ways, including the following:

- *Involvement in advance*
  Stable involvement of Banks in the pre-issuing phase of regulations appears a crucial factor for granting the positive outcome of micro datasets gathering.
  Actually, it is worth mentioning positive examples, like Banks' Integrated Reporting Dictionary (BIRD) and the meetings related to MMSR, where opinion exchanges emerged during the discussions were positively held into account: as obvious, neither the aim nor the contents of regulatory requests were discussed during such meetings, rather than the way to avoid unnecessary additional burdens, or clarifying technical matters.

  Nevertheless, about the real meaning of "involvement in advance", it can be useful to mention and share the valuable initiative promoted by Bank of Italy since several years: the so-called[6] "Interbanking Group PUMA 2"[7].

  The group is coordinated by Bank of Italy and it is permanently composed by representatives of more than fifteen Italian Banks, as well as trade associations.
  Among its targets, the following can be mentioned: providing useful elements in order to evaluate costs of new initiatives, assessing the impact of new initiatives for banks, clarifying possible doubts arising from new micro data reporting in order to have a common level playing fields in the system.

  The stability of the Group and the approach pursued (i.e. periodical meetings held with high frequency and lasting approx. 2/3 days of full discussion) may represent a hint for possible similar development on this path also at European level.
  On the one side, devoting resources to such initiative is not considered a cost, rather than an investment for Italian Banks given the repayment in terms of efficiency, intelligibility and transparency got back.
  On the other side, the constant presence of the main Italian Banks for years enabled the Group to represent a landmark, and a physical site where reliable answers can be found.

- *Clarifying the aim of the request*
  Which are the phenomena to be investigated?
  What kind of information is the Authority effectively interested to be in possession of?
  Probably, getting a clear understanding of the replies to the above outlined questions is the assumption which may lead to high-data quality results.
  It was experienced, in facts, that before performing deep-dive analysis, and before focusing on mapping activities and data models definition, regulatory departments need to settle in their own mind which kind of micro datasets may satisfy Authorities' need.
  It is basically meant to clarify:

[6] Italian name: Gruppo interbancario PUMA2

[7] Different but comparable initiatives – as far as understood – are present in different European countries. The question is, if these initiatives will be kept on national level or if they are valuable enough to be lifted to European level.

- the exact perimeter of deals / transactions / products / etc. to be included in the scope of reporting;
- the Legal Entities to be included, in case of consolidated reporting;
- the perspective according to which the remitted figures will be read / analysed also after the immediate, for further possible purposes[8]; Authorities should provide a clear overview of future developments and requests; this represents a key element for avoiding the definition of contingency solutions and the development of data architecture which can be barely integrated with further requests (e.g. enrichment of counterparties / products / transactions to be remitted.

The clarification of the request passes also through a step-wise approach: building micro datasets implies huge investments for financial institutions. The application of increasing reporting requirements through an approach for stage (i.e. step-wise approach as introduced for AnaCredit reporting) would allow financial institutions to properly plan their investments and define solutions guaranteeing adequate data quality levels.

- *Working on taxonomy*

  The concept of spending time working on taxonomy is a win-win approach: this is exactly the moment when all technical topics should be clarified, when all representation of the different products type shall be under the spotlight, when Authorities and financial institutions should intensively interplay.

  Starting from clear assumptions, the following execution / implementation has a smooth path: lower recycles and fine-tuning, lower sank-costs for financial institutions, higher data-quality, enough time to spend in analysis rather than wondering which of the options will be least worst.

  This is the reason why UniCredit fully sponsored BIRD initiative (Banks' Integrated Reporting Dictionary), asking for the possibility to participate with a couple of Colleagues representing both risk and regulatory areas: the initiative itself, the assumptions behind its development, the path towards an integrated approach to reporting (a well-known asset of Italian experience) may actually represent the future framework for obtaining the standardization.

- *Data secrecy*

  One of the major hurdles to be overcome when handling micro datasets is successfully creating the conditions for regulating data secrecy and data protection matters, avoiding misuses; specifically, in this situation, a particular care needs to be deployed, as personal information represents sensible data and shall be adequately protected.

  Consequently, at least at European level (through laws or agreements among Countries, both inside and outside Euro area), a clear framework for the transmission, management and classification of micro data should be set.

  It must be also kept in mind that cross-borders financial institutions shall also face pan-European legislation, hence consolidated perspective may suffer possible limitations.

- *Adjustments and reconciliation with balance sheet figures*

  Information must be characterized by a timely delivery, otherwise – as in journalism – it quickly becomes old and no more useful.

[8] E.g. statistic perspective (financial table), balance sheet / FinRep perspective (accounting table), risk perspective.

Market movements are faster than in the past, and consequently must be studied in real-time, as well as in advance where possible. That's the reason why – by way of example – new liquidity indicator LCR (Liquidity Coverage Ratio) has a monthly remittance set as of T+15, together with the possibility to have an intraperiod remittance in certain situation.

Indeed, micro datasets should privilege the speed of remittance to be effective: accounting principles, post-close, reclassification and other kind of adjustments, surely bring themselves the reconciliation with balance-sheet (financial statements) or FinRep, but the other side of the coin is that such activities need time for being executed.
Now, where such adjustments (especially when limited under a certain tolerance threshold and related to well-known effects) do not bring significant distortive effect on the searched meaning of the figures gathered, it seems unnecessary – to a certain extent – asking for ex-post reconciliation with other metrics.

The quality request for micro datasets is that their source has to be the same of the accounting and regulatory systems in terms of perimeter (i.e. mainly in relations to scope and number of deals / records), or directly retrieved by them although under different technical solutions in terms of technical architecture: such approach grants their fully "native" reconciliation.
There is no preclusion to also make use of other information sources (e.g. for integrating and enriching micro data-sets), based on the clear assumption that processes and controls regulating such *addendum* need to be set-up according to the same rules.
In short, the use of homogenized data on granular level "only" aggregated into different reports, does simplify, reduce or even prevent reconciliation needs between the reports.

▪ *Master data*

It is worth now stressing the need for a couple of elements which may grant a boost in granular data quality reporting:

- definition by the Authorities of common data models for all kind of reporting items; e.g. counterparties, products (and among the products: securities, derivatives, deposits), etc.;
- their disclosure, share and discussion with institutions falling under the scope of reporting.

By way of example, focusing on counterparty's data model, the existence of several classifications (i.e. institutional sectors for FinRep and statistical reporting, regulatory asset classes for CoRep) based on different criteria and regulations (e.g. CRR or ESA standards) may lead to possible inconsistencies and lack of coherence among different types of reporting as well as different reporting banks. This also implies additional burdens when reconciling different metrics.

Moreover the counterparties' breakdown classification is usually based on different national transposition of European regulation; as well, this may lead to inconsistency among the criteria applied in different countries. Therefore, it is highly valuable the definition of an univocal set of criteria and – where possible – a common set of codes which can be used for different types of reporting and among different countries.

In a mid-range future, the best solution (e.g. as per LEI Codes, following a path of enriching with further information a master-data) would be a direct classification of counterparties by a supranational Authority, being then able to provide financial institutions with a standard data-set.

But, primarily, a long-term and stable regulatory view is the key: the regulatory evolution needs a consistent ground, where banks have a detectable perspective for setting their adaptation; hence:

- *Seizing the moment for ensuring stability to business planning*
  Last but not least, it is time to support business in a new way.
  As widely discussed, the complexity of regulatory environment and cost of capital bring – much more than in the past – several corporate units to address frequent requests towards regulatory areas.
  Regulatory is clearly among the new drivers: hence, business units and strategic units want to be sure about both the information to be retrieved and the related regulatory effect when choosing or planning new investments.

  Surely, this was also true in the past: nevertheless, the novelty is the need to have confidence and clarity period over period about the stability of regulatory environment; lacking this pre-requisite, investments will be necessarily focused to the short-term as, unfortunately, there is no sustainable risk remuneration in case the following questions are not properly replied:
    - "*how long current rules will remain valid?*";
    - "*is there any hint about the effective introduction of new rules as proposed in consultation? how fast will the adoption process be?*";
    - "*did we correctly understand about the unfavourable treatment of that specific deals types?*".

  If banks' role is to support real economy and contributing to the stability, banks need to be trusted. Money depends on trust. Authorities play a decisive role in restoring trust in banks, and ensure that a long era of regulatory changes does not bring unexpected opposite effects.
  Without medium-long term investments, planning is not an easy activity: therefore, Authorities should set adequate instruments to provide institutions with suitable tools for recovering investors' expectations, clients' trust and their role in the economy.

4 A look to the future

The possibility to outline a reliable scenario is affected by the complexity of the current market conditions; nevertheless, here follows some common-sense hints which would pave the street for a slightly easier walk:

- *Convergence between statistical, supervisory and prudential perspectives*.
  Integration among different perspectives is the "final-basic" need for all stakeholders in the regulatory system; it is pretty clear that – from the one side – we are here probably anticipating a maturity step in the process of implementing an integrated reporting approach, although – on the other side – it is clear as well that convergence represents the only way to avoid "*siloed*" solutions with limited future.

  Convergence:
    - will allow institutions to be more: reactive towards Authority requests, efficient in terms of resources to be allocated, straightforward in coordinating Group entities, resilient in case of adverse market scenarios;
    - will allow Authorities to get: a high data quality reporting, the possibility to set appropriate macro-prudential measures, the chance to understand the need for micro-prudential adjustments;

    - will allow stakeholders to obtain: horizontal coherence in the market, and comparability among different financial institutions, clear information to assume decisions, the valorisation of assets.

- *Cooperation and dialogue among different Authorities*
  Not to be interpreted like a compliant, the cooperation is closely linked to the convergence above outlined. Authorities unconditionally hold the right to execute their power according to their sphere of competence (by requesting new reporting, asking for ad-hoc analysis, put in place additional requests, etc.). At the same time, following the path recently designed, cooperation and exchange of information among Authorities would simplify – to a certain extent – the reporting framework and restrict data-requests to financial institutions

  But more than a rationalization, a real change of mind would imply – for Authorities – the exact imitation of the approach that Institutions have been applying for comply with Authorities' requests. In order to clarify the concept, the parallel between bank's organization and Authorities approach is here outlined:
    - from Institutions perspective, in order to face increasing regulatory requests, possible technical solutions foresee the creation of a "data gathering layer" which is the common baseline where all reporting may get needed information;
    - now, from Authorities perspective, how could be evaluated the possibility that one dedicated Authority acts as "data gathering layer" towards all other Authorities and international bodies?
      Among its tasks, the following ones could be counted: (I) defining taxonomies; (II) setting data models encompassing all attributes related to different perspectives; (III) gathering micro datasets from financial institutions; (IV) homogenizing data and making them available to other Authorities; (V) analysing the information technology aspects underlying the overall data framework.

- *Setting a new frontier for credit evaluation*
  In a challenging and pure approach, probably also credit worthiness could be part of such micro datasets: assuming the possibility to define a path (also leveraging on AnaCredit) which may lay the foundation of an European Central Credit Register, Authorities would own all necessary information for evaluating the "credit quality" of counterparties and the riskiness of standard credit products.
  Therefore, Authorities may centrally estimate the capital absorption related to credit risk on the basis of reliable risk factors which looks at the credit worthiness of the same counterparty according to their exposures among different institutions.
  Such approach would lead to the definition an unique level playing field among countries / institutions and it would avoid to risk distortions resulting from models' calibration.