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Global bank booking models
Making a success of structural reform

EMEA Centre for Regulatory Strategy

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Executive summary

This paper is relevant to boards and senior management teams, in particular Chief Financial Officers and Chief Risk Officers, of global banking groups with significant trading businesses. It concerns the models they adopt for booking transactions ("booking models") and how supervisory developments will affect them. Some developments (such as resolution planning) are common to all banking groups and will have an indirect impact on booking models. Others, such as greater supervisory scrutiny of back-to-back trades or remote booking, will have a more direct impact.

It is essential that any analysis of a global banking group's strategy or business model takes account of the combined effect of regulation on booking models, given the implications for the economics of certain activities and the cost base of the group.

International banking is undergoing profound change, as banking groups comply with new regulatory requirements and supervisory expectations, overhauling business models and transforming how they operate. At the centre of this are booking models, which set out how and where banking groups transact and how the resulting risks are managed. Booking models are increasingly under scrutiny, with regulation and supervision replacing other factors (such as optimisation of market risk management) as the key driver of cross-border practices.

Structural reform regulations – principally ring-fencing requirements and resolvability expectations – are pushing banking groups to simplify their legal entity structures and to reduce the complexity of their operations, including their intra-group financial arrangements. Banking groups are increasingly having to take a local legal entity-focused approach, which typically does not align with the organisation of business lines, and may be at odds with global efficiency. Enhanced expectations about governance and risk management capabilities are accelerating these changes, partially reversing the previous trend towards integration and centralisation of trading and risk management functions: the operations of global banking groups are under pressure to become more regionalised and fragmented.

No global banking group with trading operations is immune from these pressures. They present challenges for many different banking structures, including those banking groups that have ‘globalised’ with vertically integrated structures via branches rather than subsidiaries. Banking groups which operate with a mixture of branches and subsidiaries in the same country also face specific challenges, as supervisors[1] expect clear delineations of responsibilities between entities.

There is no “one-size-fits-all” solution, not least because booking models have been developed incrementally over a long period of time and are specific to individual banking groups. Many banking groups may need to alter their booking practices, or invest significantly in risk management, to meet the demands. But each banking group has a different starting point, a different set of legal entity structures and licences, a different set of legacy issues, and a different set of regulatory pressures.

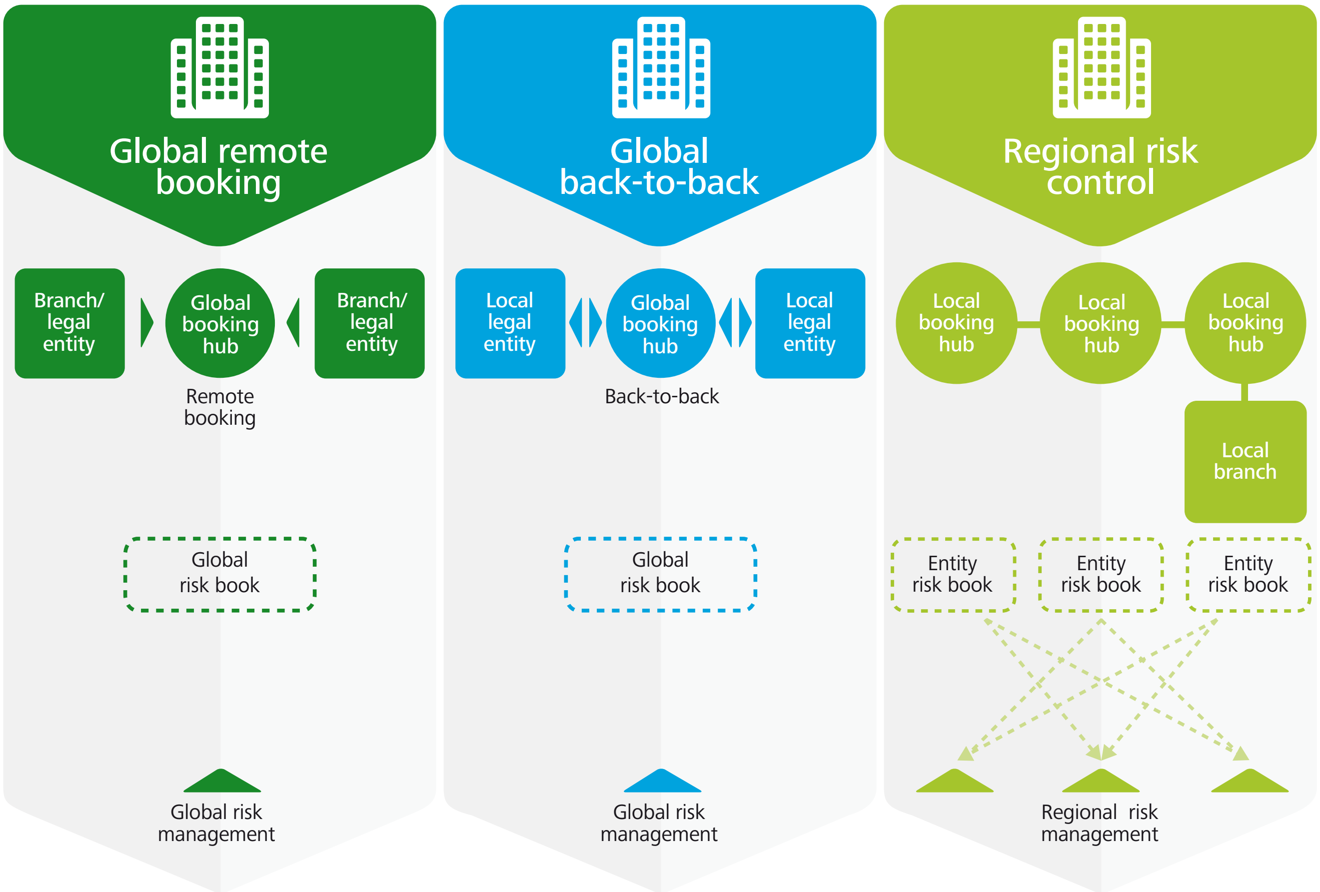
Common to all banking groups is the need to find a solution that satisfies the three following stakeholders: – *customers* who want to trade what they want, where they want, when they want, and with the right type of counterparty; *investors* who want stable and competitive returns on equity from an efficient and transparently run business; and *supervisors* who want to see capital adequacy, effective risk management, robust documentation and data, and sufficient understanding by management.

We have observed supervisors asking direct and challenging questions of a number of banking groups’ practices, and expect them to become more systematic in their scrutiny of wider industry practices. Deficiencies in a banking group’s ability to provide clear answers will likely open it up to the risk of needing to undertake remediation work. In our experience some global banking groups do not have sufficiently transparent or robust documentation of their current booking practices.

Many major banking groups have significant regulatory reform programmes in place, but approaches are often tactical and not sufficiently integrated end-to-end across businesses and control functions, or across jurisdictions, with booking model changes often made as corollaries of other decisions. Adopting a strategic, group-wide booking model perspective can be an effective way to work through some of the complexities of international regulatory change, and provide an opportunity to address other major strategic questions. Booking model reviews raise a myriad of other questions: where should traders, infrastructure, and risk management be located? What is the right mix of branches and subsidiaries? These questions should be answered at a senior level within banking groups in order to reach consistent answers, and to develop consistent practices across business lines.

All global banking groups have for some time been reassessing what they do, where and how they generate returns in excess of their cost of equity, and how they can manage costs more efficiently. Decisions have been taken to exit or shrink business lines, most notably investment banking services. These decisions have tended to be driven by regulatory capital and liquidity considerations which have changed the economic attractiveness of certain activities. But the regulatory picture continues to evolve, and other factors should be brought into the equation. The booking model and its connections to structural reform should be a core consideration in any ongoing strategic decisions about what the banking group does, and where and how it does it.

Stylised booking models



Regulatory and supervisory drivers

1. Resolution planning
2. RWA-based capital
3. Leverage ratio
4. Liquidity requirements
5. Stress testing
6. Local ring-fencing
7. Supervisory risk management expectations
8. Market access rules
9. US swap dealer registration
10. Derivatives clearing obligation
11. Mandatory on-exchange trading
12. Treatment of intra-group transactions
13. Cross-border equivalence decisions
14. US intermediate holding company requirement
15. Treatment of netting sets

	Global remote booking	Global back-to-back	Regional risk control
Relative impact	Challenges posed to structure and risk management practices	Significant challenges posed to intra-group arrangements and alignment between location of risk and its management	Few new challenges beyond ongoing supervisory expectations of risk management efficacy
Specific issues for booking model	• Home supervisors concerned at ability of home entity to control risks booked remotely – controls likely to come under intense scrutiny	• Large volumes of cross-border back-to-back transactions are problematic from a resolution perspective – local entities may have large unhedged exposures if an affiliate fails • Lack of local risk management capability and oversight may concern host supervisors	• Structural features of the group already aligned with general trend of regulation and supervision – local oversight and control, local prudential strength • General strengthening of supervisory expectations around risk management still poses challenge

General considerations

Supervisory expectations heightened across all booking models irrespective of structural features, particularly around risk governance and the alignment of risk management teams with the location of the risks being managed

Booking models and bank structures

In the past, banking group structures and booking models were typically driven by factors such as the optimisation of market risk, specific regulatory or legal considerations, mergers and acquisition activities, or tax. For instance, banking groups often sought to concentrate market risk into as few legal entities as possible in order to optimise hedging efficiency and market risk capital consumption, driving back-to-back trades and remote booking.

The post-financial crisis regulatory reform agenda has changed the calculus, penalising complexity and putting a premium on legal entity rationalisation.

'Fragmentation', 'balkanisation' and 'de-globalisation' are now terms frequently used to describe the pressures on global banking groups to devolve more autonomy to local units. In some cases, local operations are being pushed to have the capacity to act and operate independently, and to be capitalised locally with constraints on the fungibility of capital, funding and liquidity.

In the early to mid-2000s supervisors generally favoured increasing integration of risk management functions, to which many banking groups responded by aggregating and centralising those functions.[2] The pursuit of structural reforms means this is now changing, presenting an additional challenge for many different structures.

Supervisory activity on booking models is driven either by specific concerns over booking practices by a particular legal entity (or groups of entities within the same banking group) or by issues which come to light as a result of other work a banking group is undertaking (such as legal entity change programmes or resolution planning). **Irrespective of the source of the intervention, we have seen supervisors asking direct and challenging questions of a number of banking groups' practices. We expect supervisory authorities to become more systematic in their scrutiny of wider industry practices.** With all the data supervisors and resolution authorities are gathering through initiatives such as resolution planning they are ever-better equipped to analyse and challenge practices and raise governance, risk management, supervisory, or control issues. Deficiencies in a banking group's ability to provide clear answers to supervisory enquiries can put it firmly in the firing line for follow up work.

Understanding regulatory requirements and the perspective of the prudential supervisor is key to enabling banking groups to ensure their approaches are aligned with supervisory and regulatory expectations.

There are several important components including:
- the supervisory perspective;
- resolvability;
- ring-fencing;
- the prudential framework;
- derivatives regulation; and
- market access.

Through the supervisor's eyes

At the most basic level, supervisors expect senior management to understand the 'what' and the 'why' of their banking group's booking practices. That means understanding the products in which the banking group transacts and the legal entities involved, how trades are executed, how risk flows through the group, where risk ultimately sits, and how the risks are then managed – as well as *why* things are set up in that way.

What do we mean by 'booking model'?

A **booking model** describes a bank's product mix, client base, risk management, operating structure and capabilities. It is the combination of branches, subsidiaries, physical and human infrastructure, and oversight frameworks through which the group transacts in financial instruments, and manages the resulting exposures. Trades are 'booked' into particular legal entities, which then hold the risks and rewards and which are accounted for on their balance sheets under the relevant accounting standards.

The booking model is a set of principles which dictates *in a systematic way* how those instruments are booked, where they are booked to, and how the risks are then managed. The booking model sets out what *should* be done, along with a *rationale*. The emphasis on a systematic framework is important – a booking model is more than just a description of how an individual business line books its business.

Although this expectation may seem to be a statement of the obvious, in our experience some of the necessary components for generating this clear understanding are often absent – **documentation is not robust, and there is limited understanding of booking practices as a whole at a high level.** In particular, the relationship between governance, origination, risk management, booking, and the supporting operational infrastructure is not understood end-to-end, especially across legal entities and branches, or between jurisdictions.

It is also not unheard of to receive different accounts of the same processes from different parts of a banking group. This is often a result of those practices having evolved piecemeal to meet specific needs, without clear documentation of the strategic drivers. This problem is compounded by staff turnover as personnel involved in historical booking model design decisions change roles. Outsourcing arrangements (both external and internal) can also complicate the picture, particularly where banking groups have outsourced discrete components of booking and operational processes. **With risk governance increasingly under scrutiny, it is more important than ever to regain a joined-up view of what the group does, and to be able to explain it to the supervisor.**

Characteristics of a model supervisee
From a supervisory perspective, a model banking group would display the following characteristics:

- Simple legal structure
- Minimal complexity in intra-group financial arrangements
- Robust, clear documentation of processes, with clear business rationales and demonstrable senior management understanding
- Appropriate levels of (local) capital and liquidity
- Senior management presence, particularly for risk management, within subsidiaries (and occasionally at branches)
- Interactions between group entities supported by robust, centrally documented Service Level Agreements (SLA)
- Ability of subsidiaries to control risks which are booked into them remotely from foreign jurisdictions
- Key branches and subsidiaries clearly addressed in group-wide resolution plan.

Few (if any) global banking groups would satisfy these criteria in all respects. In practice supervisors recognise that there is a balance to be struck to ensure that banking groups remain commercially viable, but there are nevertheless certain minimum supervisory standards. It is crucial therefore to understand which practices supervisors may seek to change in practice, and how banks can pre-empt and tackle such concerns.

We have seen supervisors raising particular concerns around **remote booking**, the structure of intra-group transactions (particularly **back-to-back transactions**), the existence of **split hedges**, and the **economic justifiability of legal entities** which play a role in transaction chains re-allocating market risk and revenues to other group entities. Many of these concerns are not new, but the focus on them is intensifying, and resolution planning gives supervisors a framework within which they can analyse issues, and ultimately force firms to take steps to fix problems (see next section).

There is no outright prohibition on remote booking or back-to-back transactions, but where present they will be assessed in the context of the quality of the relevant risk management, governance, and control frameworks.

Firms **operating branches and subsidiaries in the same jurisdiction** may face particular challenges, as supervisors often do not want groups to 'cherry pick' which types of transactions go into which legal entity *ex post* – branches and subsidiaries should have a clear and documented rationale for which trades are booked through them.
Supervisors are, in general, concerned with the **alignment between the location of risk and its management, risk capital, and revenues**. As such, global, centralised risk management functions can be a source of concern to supervisors of branches and subsidiaries as they may not be able to exercise as much oversight of risk management as they would like. It is clear that the level of comfort that those supervisors need about risk management practices in overseas group entities is materially higher in the new regulatory environment, making centralised risk management models challenging to maintain. As a result, many banking groups are moving towards more decentralised models, a trend accelerated by other regulatory requirements, such as the US Intermediate Holding Company (IHC) requirement.

Clearly there are significant overlaps between good supervisory outcomes and good business practice. This is particularly true with respect to transparency and the understanding of what drives booking practices – supervisors are keen to understand such things, but banking groups also have a significant interest in understanding their own practices.

Resolvability

Another key driver is to improve the resolvability of banking groups. Resolution planning work to date has typically focused on the production and documentation of data, including details of booking models[3], but attention is now turning to the practical side of things. **Resolvability assessments** are being used by resolution authorities to identify "impediments to resolvability", which in turn may drive structural and operational changes to banking groups and their booking practices. In general, booking model transparency is inherent to resolution planning, along with the mapping of infrastructure to key legal entities and business operations. Underpinning resolvability assessments are expectations around documentation and management information system (MIS) reporting which should tell the story of legal entities, financials, risk and operational reporting across products and jurisdictions.

There are a host of specific issues which the authorities may look to address:

- **Back-to-back transactions** are potentially a big issue for resolution authorities (and supervisors). The failure of a foreign parent could leave a local subsidiary which backs out large volumes of risk to that parent with significant unhedged positions, while the subsidiary may not have the capability (or the capital) to manage those risks effectively on a standalone basis. The result can be supervisory pressure to reduce the volume and complexity of back-to-back transactions and to risk-manage positions locally. Intra-country back-to-back transactions between branches and subsidiaries of the same banking groups can also be of concern.

- **Intra-group interconnectedness** in general is a concern for resolution authorities as a source of complexity. Resolution authorities will be asking questions such as: how easy would it be to unwind back-to-back trades? Do intra-group transactions create material imbalances across legal entities which would affect the incentives of national authorities to cooperate in a resolution? Are intra-group relationships at arm's length? Are there any intra-group guarantees which could exacerbate intra-group contagion? And are there any large exposure concerns? [4]

- **Transfer pricing[5] and cross-border revenue sharing arrangements** will come under scrutiny during resolution planning. The question for any local operation is: will the agreements in place stand up during a severe stress or resolution scenario? (This is particularly significant for any banking group currently putting in place a US IHC, given that US regulatory requirements will be applied at the consolidated level within the US). Our experience suggests that banking groups have significant work to do to rationalise and further understand their transfer pricing and revenue sharing arrangements, which are often not well supported, documented, or centrally managed. The management of these intra-group arrangements has tended to be decentralised and opaque, particularly as the financials are split across legal entities and financial processes.

- **Loss-making entities,** which are already examined as part of tax-related work around transfer pricing, will be scrutinised by prudential supervisors and resolution authorities, given the basic expectation that local legal entities should be rewarded for the risks that they run and should generate returns. The supervisory appetite to host structurally loss-making entities will be low, especially where such entities are at risk of being cut adrift from the rest of the banking group in a resolution scenario.

- **Non-regulated entities** are sometimes used as part of internal risk-transfer transaction chains, which can take certain activities outside of the scope of prudential supervision. This is clearly of concern to supervisors who are otherwise trying to maximise transparency and control over booking practices, and banking groups may as a result come under pressure to cease using non-regulated entities in their booking models.

All of this points to the fact that national authorities are increasingly likely to want the local operations of global banking groups to be structured so that they are insulated from problems outside of their jurisdiction, and if necessary, to look to ensure that local operations could run on a standalone basis. The UK's Prudential Regulation Authority (PRA) alluded to this in a recent paper on its expectations for bank governance structures,[6] where it said it will factor resolution requirements into its expectations of local operations, and will think about the extent to which Boards of material subsidiaries need to be "capable of independent action."

Ring-fencing

By 2019, **the largest UK deposit-takers will become 'ring-fenced' banks,** prohibited from dealing in investments as principal. This necessitates the separation of retail and investment banking within universal banking groups – a major strategic, operational and logistical undertaking. It may also have significant implications for a whole host of issues relating to the booking model, such as the legal entity to which certain products can be booked, the large exposures permitted between the ring-fenced and non-ring-fenced parts of the group, the structure of the operations which supports the businesses, risk governance (as the ring-fenced bank must have its own Chief Risk Officer (CRO), who cannot perform the CRO role for any non-ring-fenced entity), and more. This is before thinking about the funding implications of ring-fencing – with non-ring-fenced entities facing the challenge of how to cope with the loss of retail deposit funding, and a likely reduction in credit rating.

EU legislators are also in the process of developing a regulation on bank structural reform which may impose a similar type of ring-fencing on other European banking groups, although it remains too early to say where this piece of legislation will end up. The proposed regulation was developed after the recommendations of the Liikanen High-Level Expert Group, and although it remains highly contentious, it appears increasingly likely that at least some investment banking activities (such as proprietary trading) could be required to be housed in a separate subsidiary (a "trading entity"), ring-fenced from retail deposit-taking. Significantly, the proposals may be applied not only to EU banking groups, but also to EU branches of non-EU banking groups where their EU operations exceed various size thresholds.

Swiss banking groups also face a ring-fencing requirement of their own, with both Swiss global systemically important banks (G-SIBs) having announced major structural overhaul programmes to meet the expectations of the Swiss authorities and create a degree of separation between their domestic retail and private banking operations and their overseas investment banking activities. This has gone well beyond restructuring of legal entities, and has included changes to booking practices.

The largest foreign banking groups operating in the United States (above $50 billion in consolidated assets in US subsidiaries) are subject to the Federal Reserve's Foreign Bank Enhanced Prudential Standards (FBEPS), which ultimately requires them to put in place an IHC for all their US subsidiaries. This requirement is driven to a significant extent by resolvability (providing US authorities with a non-operating holding company single point of entry to resolve the US operations of foreign banking groups), but US supervisors are also looking for more transparency, heightened reporting, stronger local governance and accountability, and more robust US risk management frameworks. Ultimately, by July 2016 the US operations of non-US banking groups will be accountable for the same governance, risk management and reporting standards as large US domestic banking groups. For some banking groups, IHC requirements are a clear incentive to alter booking models in order to reduce their US footprint (for instance by booking a greater volume of trades into Europe or Asia).

Other regulatory considerations

Beyond supervisory concerns, resolvability, and ring-fencing requirements, there is a wide range of regulatory factors which will influence booking models. This includes elements of the prudential framework (such as capital requirements and stress testing), as well as derivatives rules and the terms of market access. For more information about the relationship between these areas and booking models, refer to the appendix on page 15.

Business needs – efficiency and simplicity

All major banking groups have significant programmes of regulatory reform in train, but regulatory and supervisory pressures are often being addressed tactically and piecemeal, and are not sufficiently integrated end-to-end across business and control functions. Booking model change is often seen as a side effect of other regulatory reform, whereas **it could be a powerful strategic tool for reconciling the competing demands of regulation, strategy, and business efficiency. Adopting a group-wide strategic booking model perspective is one way to work through some of the complexities of regulatory change, which also enables banking groups to address other long-standing issues such as operational efficiency.**

What this means for banking groups

The strategic challenge comes down to a question of how to satisfy all of a banking group's stakeholders:

- *Customers* – provide the services customers want in the way they want them;
- *Regulatory, supervisory and resolution authorities* – meet requirements and align with expectations; and
- *Investors* – deliver attractive returns by optimising business model and operating efficiently in terms of capital/risk allocation, tax, and cost management.

In the current environment regulators and supervisors are perhaps the most powerful – there is an element of non-negotiability about their concerns, which has consequences for the way in which banking groups balance the competing demands placed upon them. Failure to address supervisory concerns or to comply with regulation can have significant consequences, including more invasive supervisory attention, increased capital and loss-absorbency requirements, and even intervention to force structural or operational changes on the group. This in turn is clearly of concern to investors expecting rigorous cost control, not to mention that supervisory interventions distract management from being able to focus on the business. **In this sense, a key part of the business case for booking model change is about cost avoidance (both for underlying customers and the banking group).**

But it is also critical to try to address the regulatory change environment in a way that extracts the greatest **business benefits** – given that banking groups must go so far in meeting the authorities' heightened expectations, regulatory reform must be seized as an opportunity to drive through other overdue business changes. **Irrespective of the regulatory reform agenda around banking groups' legal entity structures, there are good reasons to review booking practices and look for efficiencies**, such as more effective use of netting, and reductions in intra-group back-to-back transactions. Analysis of booking models may also reveal inefficiencies such as the existence of multiple subsidiaries where one (or even the use of a branch) would better serve the banking group's purposes. Trapped capital can also be identified and reallocated. The analysis will also enable a review of on-boarding procedures to discover whether individual clients are being on-boarded multiple times, and identify ways in which the client experience can be improved. There is a degree of '**back to basics**' about some of these issues, but in our experience there are many opportunities within banking groups to identify scope for improvement.

Getting a view of current booking practice is a necessary part of arriving at a workable solution for the future: the first step of any booking model work is a comprehensive review and documentation process. Work done for recovery and resolution purposes can be leveraged to good effect for this purpose.[7]

The review and documentation process

The first task is to review and document current practices across the banking group, recognising that banking groups often do not have consistent and comprehensive information on those practices. It is likely that individual processes for booking particular instruments within particular business lines are documented in some way, but proper documentation of a booking model should take place at a higher level than this – it is not merely a description of how existing processes work, but should also include the general and strategic features of those processes, and crucially, their underlying rationale.

The challenges associated with this process should not be underestimated. It is likely to take several weeks, if not months, depending on the current state of documentation, and it requires the input of a broad range of people across the business, including finance, risk, treasury, product control, operations, and others. As ever, the data challenge is not trivial – it will need to be extracted from multiple sources, and will need to be very granular.

Detailed analysis of existing practices

Once the relevant information has been documented, a detailed analysis can be performed. Having the information in one place should enable the firm to understand the **rationale** for certain processes, and the drivers of the current model. It should also highlight **exceptions, and idiosyncratic processes** (for instance, local entities incorporated to meet specific local regulatory requirements). It will also be possible to use this data to understand the **key constraints** on the booking model – for instance, whether it is cost-control or availability of capital which is more pressing.

The process will likely throw up a host of issues around the banking group's booking practices, such as missing data, and lack of knowledge of the underlying rationale for current practices due to staff turnover. Redundant legal entities may be unearthed, as well as the existence of trapped capital and liquidity. Inconsistent treatment of the same products between different business lines is another frequently encountered issue, as well as a lack of consistent definitions of what those products are and the associated processes.

This effort to understand how things work (and perhaps in some cases do not work) today is a prerequisite for a strategic assessment of future state options, as well as the key challenges in implementing them.

Key characteristics of the target state – what to aim for

Having identified issues in the review and documentation process, it should be possible to identify concrete options for change, and then perform a detailed technical assessment of the feasibility of each option, as well as the various regulatory and tax implications.

The data challenge

Sourcing the relevant data to document current booking practices can be a significant challenge, with data often sitting in a variety of places and of varying quality. The real challenge is to do this holistically, at a level above business lines.

Legal entity information required will include the type of entity, its authorisations, regulatory permissions (such as model approvals), its geographical location, its business activities, the products it transacts in, membership of financial market infrastructures, financials, capital and liquidity positions, and more.

On a **product** basis, it will be necessary to identify notional amounts, RWA consumption and contribution towards the leverage ratio, and other regulatory information, details of how the product is booked and why, and a view of which clients transact in individual products and why. Understanding the client perspective here is critical, as specific client demands may explain idiosyncrasies in booking practices.

Granular information on **revenue attribution** is crucial – an understanding of what drives it, and where it sits within the group. Not only is revenue a vital technical part of the picture (illustrating how costs are transferred throughout the group, for example), but it is also a key internal "political" issue, as it determines the bottom line for particular business lines, and therefore the incentives for individuals within those business lines.

But when it comes to designing a target state booking model, there is a welter of questions which need to be asked at a senior level within the organisation, such as:

What do clients want? Which entities should be client-facing? Which entities should hold market risk? Which entities need regulatory risk model approvals? Where should risk control functions be located? Where to locate traders? Where to locate sales personnel? How should back-to-back arrangements be structured? Does this change for different product sets? What is the strategy for clearing house membership? When to clear and when to trade bilaterally? Are there local nuances in tax? Capital requirements? Supervisory expectations? How to maximise trade compression opportunities? How much infrastructure should be shared? Is operational subsidiarisation an avenue worth exploring?

Whatever the answers to some of the key questions for an individual banking group, there are some general design principles of a good booking model which would be welcomed by all three of a banking group's main stakeholders – customers, regulatory authorities, and investors. To name but a few:

- Simplicity is a virtue – the new regulatory regime penalises complexity, most obviously through the resolution framework, but also from the perspective of going-concern supervision, where transparency is important. Given that global markets are not seamless there will always be some degree of idiosyncrasy to a booking model, for instance to meet local regulatory requirements (which can sometimes stipulate that certain activities are only performed through a subsidiary and cannot be performed by a branch, for instance), but in general, exceptions should be exceptional.

- Consistency of processes across product-types – this is especially true where different business lines are dealing in the same products. The more consistent the treatment of individual products, the more efficiently the risks can be managed.

- Efficient use of collateral – collateral optimisation requires a globally consolidated view of assets and liabilities in order to identify where the most suitable collateral for a given transaction lies, and also needs to be supplemented by analytics to help determine the most efficient distribution of collateral across a portfolio of trades.

- Efficient distribution of regulatory model approvals – gaining and maintaining approvals can be costly, so their distribution between entities (and the resulting distribution of human capital between those entities) should be managed carefully.

- Front office processes supporting good control functions – processes should be embedded, and there should be clear processes for escalation of issues to committees, while trader mandates should be clear about what can be booked where. The three lines of defence of risk management begins with front office staff.

- Facilitating portfolio compression - opportunities should be sought out and exploited wherever possible. Compression can reduce counterparty risk while leaving the market risk of a portfolio unchanged, and is thus a useful exercise to undertake (not to mention that exploring opportunities for compression is a regulatory requirement under EMIR).[8] Portfolio compression is also a key component of managing a book against the leverage ratio, which penalises excessive notional exposures.

- Using shared infrastructure – effective use of shared infrastructure and back office functions should be structured within the context of any operational reforms being made as part of resolution planning or ring-fencing work – in particular, it is crucial to keep the operational components of booking models aligned with the creation of operational subsidiaries or service centres.

Conclusion

Conclusion

All global banking groups have for some time been reassessing what they do, where and how they generate return on equity in excess of their cost of equity, and how they can manage costs more efficiently. Decisions have been taken to exit or shrink business lines, most notably investment banking services. These decisions have tended to be driven by regulatory capital and liquidity considerations which have changed the economic attractiveness of certain activities. But the regulatory picture continues to evolve, and other factors should to be brought into the equation. The booking model and its connections to structural reform should be a core consideration in any ongoing strategic decisions about what the banking group does, and where and how it does it.

The new regulatory environment penalises complexity and puts a premium on legal entity rationalisation. We are seeing supervisors asking direct and challenging questions of banking groups' booking practices, and we expect them to become more systematic in their scrutiny. The authorities are in turn empowered by structural reform regulations and resolution requirements to mandate changes to banking groups' legal entity, financial and operational structures, including their booking practices.

A key part of the business case for booking model change is therefore about cost avoidance: preventing supervisory interventions which could lead to forced structural change. In our experience some of the necessary components for generating a clear understanding of current practices are often absent – documentation is not robust, and there is limited understanding of booking practices as a whole at a high level. Banking groups should look to pre-empt supervisory interventions by reviewing existing practices, rooting out unnecessary complexities and inconsistencies, and moving towards fit-for-purpose target state booking models.

In addition to the regulatory reform and cost avoidance agendas, there are good reasons to review booking practices and look for efficiencies – many banking groups will find that there is scope to allocate capital more efficiently, liberate trapped capital and liquidity by eliminating superfluous legal entities, make better use of shared back office infrastructure, and generate a clearer understanding of profit and loss across the group, among other benefits.

What structural reform means for an individual banking group is highly dependent on what that group looks like: there is no "one size fits all" solution. Each business faces its own challenges, depending on its country of headquarters, business mix, and current legal entity structures. UK banking groups face different challenges from Swiss banking groups, which in turn face different challenges than their US and eurozone counterparts. And while all banking groups will need to be 'resolvable', in practice this will mean different things to different groups.

Some banking groups will have more to do than others in order to meet the requirements of the new regulatory environment. Global, centralised booking and risk management models face the most significant challenges, as banking becomes more regionalised and fragmented. Global models are by no means completely proscribed by new regulations, but the barriers to operating them, and their associated costs, have increased significantly, and banking groups looking to retain more globalised structures will have more work to do to convince supervisors that back-to-back transactions do not compromise resolvability, and that controls around remote booking are robust.

A booking model transparency exercise is therefore extremely useful for banking groups to undertake. Understanding the outcomes regulators are trying to achieve in the new environment, and measuring existing practices against them, is crucial. It is not an easy task for complex banking groups operating in multiple countries and in multiple business lines, but it is an essential one for those banking groups looking to satisfy the competing demands of their various stakeholders.

Appendix – other regulatory considerations

In addition to the regulatory factors covered in the main body of the text, there is a range of other initiatives which are relevant for booking models. This includes the prudential framework, derivatives rules, and market access requirements, each of which is covered in more detail below.

The prudential framework

In general, having more booking centres creates more regulated entities with individual capital requirements, fragmenting capital and liquidity within the group, as well as creating the potential for profits to be trapped, as regulators may restrict dividend payments. Within the context of the new prudential framework – whereby banking groups need not only to meet a risk-based capital requirement, but also a leverage ratio and formal liquidity requirements – there are clearly incentives to examine what is booked where, including methods of intra-group risk transfer. For instance, from a solo bank perspective, it may be more capital-efficient to book products which consume a large amount of risk-weighted assets into entities where risk-insensitive leverage is the binding constraint. On the other hand, although back-to-back booking models can help to centralise credit and market risks (and thereby reduce capital fragmentation), the doubling up of notional amounts of trades can lead to a build-up of a banking group's leverage ratio exposure measure. In short, the prudential and legal entity framework is no longer as straightforward as it used to be, creating reasons to revisit historical practices.

Much of the post-crisis regulatory reform framework has minimised capital 'arbitrage' opportunities – all major jurisdictions have robust minimum regulatory requirements in place which mean it is not possible to shift activities to avoid tough regulatory treatment.

But there are still differences between countries, such as between US and EU leverage ratio requirements: US banking groups currently face a nominally higher leverage ratio (although differences in accounting bases reduce the headline gap), which may create incentives for non-US headquartered banking groups to book outside of the US. The EU framework also currently exempts banks from having to capitalise credit valuation adjustment (CVA) risk for certain counterparties (although the future of these exemptions remains unclear[9]) which may also provide incentives to book outside the US.

Banking groups are also now facing multiple local **stress testing requirements**, under the auspices of the Federal Reserve, the Bank of England, and the European Banking Authority (EBA). Each authority has its own approach. Stress testing exercises are, in their own right, a challenging undertaking, but there may also be implications for revenue and cost sharing across legal entities. Supervisors are likely to scrutinise banking groups' transfer pricing agreements and SLAs to ensure that assumptions about intra-group flows are robust to stress scenarios. This will be particularly challenging for banking groups implementing an IHC in the US (especially for trading businesses, where large shares of revenue are often transferred into IHC entities based on agreements with other group entities in order to compensate US-entity employees for trades booked elsewhere). Transfers are often governed by a patchwork of individually tailored transfer agreements with the complication that revenue is often transferred net of various costs and losses associated with the positions, while some agreements transfer some or all of the market losses on the positions into the IHC. This extends the IHC's sources of revenue and risk beyond its own assets and liabilities in idiosyncratic and often unpredictable ways.

The application of CCAR to an IHC raises numerous other issues. For instance, transfer agreements that affect IHC entities need to be reflected in projections, and a host of assumptions need to be made about the financial relationship with the parent and other affiliates (such as around availability and cost of funds in a stress scenario). Governance of the process also needs to meet the Federal Reserve's goals, but remain sensible for the institution as a whole. It is also unclear as to whether the consequences of an IHC 'failing' CCAR are as clear as for US bank holding companies (BHCs).

It is important to be aware that for some firms putting an IHC in place, there are no true peers among US BHCs from which to infer supervisory expectations on these and other issues. Ultimately, existing arrangements between IHC entities, and their relationships with the parent and other affiliates, may not be fit for purpose in the post-IHC world. Consolidation of regulatory requirements at the level of the IHC, and the invasiveness of stress testing, means that assumptions about what is best booked where may have to be revisited.

Derivatives: central clearing, netting and compression

The Dodd-Frank Act's swaps rules have also been a clear driver of booking model change, initiated in some cases by customer requests not to transact with US counterparties.[10] This is prompting some banking groups to restructure, rerouting business away from the US, for instance by creating London subsidiaries and booking significantly more business there. This is a clear case of a non-structural regulation prompting changes to legal entity structures, intra-group arrangements, and governance.

Divergent regulatory frameworks are leading to some fragmentation of derivatives markets. This has been a concern since the passage of US swaps rules in the Dodd-Frank Act and the EU's European Market Infrastructure Regulation (EMIR) and recast Markets in Financial Instruments Directive and accompanying Regulation (collectively MiFID II). Global derivatives markets appear to be separating along geographical lines into distinct US and EU "liquidity pools", with a higher share of transactions taking place between counterparties within the same region.[11] Prospects for equivalence decisions between EU and US rules remain unclear, with stop-gap measures having been put in place to avoid the cliff effects of non-equivalence (such as a potential overnight increase in capital requirements for certain transactions or for exposures to a central counterparty's (CCP) default fund). The future treatment of intra-group transactions between entities in these jurisdictions remains unclear, and in the extreme such trades may be required to be cleared, become subject to the bilateral margining rules, or become more capital intensive, which would have significant implications for back-to-back transactions. Indeed, it remains an open question as to whether US rules will provide for an exemption from margining requirements for intra-group transactions at all, an exemption which does exist under EU and Japanese rules.

Efficient netting of transactions is also increasingly important in a world in which the leverage ratio can become a binding constraint on the balance sheet. There is some recognition of netting in the calculation of the leverage ratio,[12] so that portfolio compression and adjustments to netting practices, collateral, and cash variation margin can all contribute to improving a banking group's leverage exposure measure.

Opportunities for netting are clearly maximised by the most centralised risk management models: having a single global entity which holds all risk positions and needs only a single ISDA Master Netting Agreement (MNA) per counterparty enables maximum netting of exposures to those counterparties. The more entities within the group structure, the greater number of MNAs are needed between the group and its counterparties, as well as between entities within the group, in order to make the greatest use of netting opportunities. But these netting efficiency benefits clearly need to be balanced against the supervisory pressures on centralised models discussed above.

Effective use of central clearing may also enhance opportunities for netting because CCPs net transactions between all participants (multilateral netting). A bank using a CCP therefore has a net exposure only to the CCP, without the need for multiple bilateral netting agreements with all of the CCP's members.

Market access

The terms on which cross-border banking groups access foreign markets is a major factor influencing the ways in which banking groups operate abroad. Each country or region has its own expectations of foreign banking groups operating locally, and various pre-requisites which those banking groups must satisfy before they can go live (the conditions for authorisation). It is important to be aware of regulatory developments which change the terms of market access, which can have implications for permitted legal entity structures, regulatory permissions, and a host of other issues. Most significantly at the present juncture, positive equivalence decisions for MiFID II could alter the terms on which non-EU banking groups would be able to provide investment services and perform investment activities with respect to some professional clients and eligible counterparties in the EU. Ultimately, non-EU banking groups could be permitted to provide such services without the need to establish a branch in the EU.[13] This would represent a major development for US, Swiss, Japanese and other non-EU banking groups, which would then be able to consider whether to retain EU branches or subsidiaries for those activities, or to relocate those activities to their home countries. However, it is by no means certain which countries will receive an equivalence decision, particularly due to the EU's insistence on reciprocity (which may pose significant challenges for EU-US equivalence in particular), and the timing of decisions also remains unclear.

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End notes

1 For simplicity's sake, we sometimes refer to regulators, supervisors and resolution authorities as one and the same, but will distinguish between them when it is appropriate to do so. Simplistically, *regulators* are the institutions that create and apply rules, *supervisors* are the teams that oversee individual financial institutions, and *resolution authorities* are responsible for resolution planning and execution.

2 See for instance http://www.bis.org/publ/joint07.pdf "...efforts that firms have been making to develop more systematic and integrated firm-wide approaches to risk management should continue to be strongly encouraged by the regulatory and supervisory community." The report also notes that "an integrated risk management process does not necessarily imply a centralised risk management structure", but it goes on to say "Most of the firms with an extensive presence in the banking sector anticipate further centralisation in their risk measurement and management structure. For example, many banking organisations, in part spurred by the Basel II initiative, expect to develop further their frameworks for managing credit and operational risks in order to optimise their regulatory capital posture, as well as their own risk management capabilities."

3 The UK Prudential Regulation Authority (PRA) for instance requests diagrammatic depiction of the booking model, along with specific data related to intra-group exposures, trading volumes, risk management procedures, intra-group guarantees, collateral management, and more. See PRA SS19/13.

4 See e.g. Key Attribute 4 of the Financial Stability Board's (FSB) Key Attributes of Effective Resolution Regimes for Financial Institutions, available at http://www.financialstabilityboard.org/wp-content/uploads/r_141015.pdf

5 Note that transfer pricing is primarily a tax concept, and different types of authority (tax vs. non-tax) may apply differing levels of scrutiny and may disagree in their views of acceptable practices reflecting their individual mandates.

6 See our blog http://blogs.deloitte.co.uk/financialservices/2015/06/individual-and-collective-responsibilityrewriting-agatha-christie.html

7 A recent survey of G-SIBs conducted by the FSB suggested that RRP work had provided "significant and additional new insights into enterprise risk management" as well as shedding light on legal entity structures and intra-group arrangements. See the FSB's 'Thematic Review on Supervisory Approaches and Approaches for SIBs', available online at http://www.financialstabilityboard.org/wp-content/uploads/Thematic-Review-on-Supervisory-Approaches-to-SIBs.pdf

8 Note that portfolio compression is not a panacea, however – legal, tax, accounting and operational issues may provide reasons why compression is not appropriate in some circumstances. See p.14 IOSCO's Risk Mitigation Standards for Non-centrally Cleared OTC Derivatives, available at http://www.iosco.org/library/pubdocs/pdf/ioscopd469.pdf

9 This exemption remains a matter of contention among regulatory authorities – see the Basel Committee's Regulatory Consistency Assessment of the EU which marked the EU's CVA framework as 'non-compliant' with Basel III standards http://www.bis.org/bcbs/publ/d300.pdf, as well as the European Banking Authority's recommendation that the CVA framework be "reconsidered" and exemptions "possibly removed" once the Basel Committee's Fundamental Review of the Trading Book is complete https://www.eba.europa.eu/documents/10180/950548/EBA+Report+on+CVA.pdf

10 There is a relatively low threshold ($8bn notional) for swaps activities with US counterparties before foreign firms are required to register as 'swap dealers', and thereby become subject to US swaps reporting requirements. Some non-US corporates are as a result avoiding transacting with US counterparties.

11 See ISDA 'Cross-Border Fragmentation of Global Derivatives: End-Year 2014 Update' available online at http://www2.isda.org/attachment/NzUzMQ==/Market%20fragmentation%20FINAL.pdf

12 Although the continuing divergent treatment of offsetting under US GAAP and IFRS remains a contentious issue.

13 See MiFIR Article 46 http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0600&from=EN and FAQ 22 at http://europa.eu/rapid/press-release_MEMO-14-305_en.htm?locale=en

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