M E M O R A N D U M

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SUBJECT:	Green Paper on Shadow Banking Consultation		
Date:	15 June 2012		

Executive summary

JWG is delighted to have the opportunity to respond to the EU's Green Paper on Shadow Banking and highlight the need for a fundamental discussion that has been missing from the debate thus far: how to get the data set. This is an unrivalled opportunity for the EU to finally forge a solution to how European banking, and non-banking, data is governed, allowing and avoiding the 'illusion of control' and the risk of 'Garbage In, Gospel out' (GIGO). As highlighted in our paper "Dirty Windows: regulating a clearer view" [attached], the EU should not miss this key leadership opportunity to act and set the global agenda for future shadow banking regulation.

As noted by the ECB in its recent paper on shadow banking, "*an improvement in the availability of data*" would be required for an "*in-depth assessment*".[1] JWG[2] research estimates that risk reporting for banks alone will cost over €33.8 billion[3] and, with the shadow banking sector, comprising up to 30%, it is obvious that there will be a serious cost involved in getting this right. When reporting from the non-banking sector is added to all the complexities of 27 member States, this cost climbs. Ultimately, the cost of inaction to the real economy is higher, with major negative political implications and the potential for systemic crises. The ability to provide adequate management and timely analysis of the banking data tsunami will be key to ensuring that data collection efforts for multiple, differing regulations translate into proper and realistic analysis of shadow risks.

If fundamental policy changes to the way information is exchanged are not made now, the cost of EU transparency will approach €49.1 billion[4] by 2015. This cost will be borne, not just by firms, but will be passed through to taxpayers and the real economy will suffer due to production of poor quality data contributing to the 'illusion of control'[5] and an inability to spot the next crisis. However, if the right changes are made in time, we can bridge a gap, resulting in savings of €24.9 billion.

1 "*Shadow banking in the Euro Area: An Overview*", European Central Bank, April 2012, p 4.

2 JWG is a London based financial services think-tank which works with regulators, investment firms and their information technology supply chain to help determine how the right regulations can be implemented in the right way. Over the past seven years we have conducted detailed research and thinking around G20 regulation in the EU and believe that we can offer commentary and insight that you will find constructive.

3 JWG Analysis Report '*Dirty windows: regulating a clearer view*', June 2012

4 JWG Analysis Report '*Dirty windows: regulating a clearer view*', June 2012

5 JWG Analysis report '*Achieving supervisory control of systemic risk*', September 2010

Ultimately, we believe that the EC should form a shadow banking data taskforce that develops a centralised data hub to standardise and collate supervisory information from member State banking and non-banking data collection initiatives. This approach would allow effective systemic risk analysis and the ability to adapt to the ever-expanding perimeter of shadow banking regulation without repeated compliance costs.

The financial sector has enough work to do with making sense of current regulatory data demands in the banking sector, let alone potential future shadow banking regulations. We assert that current European regulation of banking and non-banking entities is fragmented, regulated by different bodies with different powers, siloed and inconsistent in scope and detail, and any 'status quo' approach to shadow banking regulation will amplify these issues. Whilst the European Single Rulebook, data collection for trade repositories, trade reporting, risk reporting and macro risk reporting are all a valuable start in changing this situation, they are also indicative of the problem.

Getting this right will require a policy 're-orientation' in Europe, with an 'end-to-end' view of the problem, in which identifying the right data is just one piece of the puzzle. This should include what data is required, when it is needed, how to obtain it and a constant reassessment of the approach. Key challenges to be addressed include avoiding repeated data reporting, ensuring data quality and achieving consistency in definitions, granularity and frequency. EU regulators will need the right mandates, skills and resources to make cross-sector, cross-regulator data collection a workable reality. The EC has the power to engage in radical agenda setting to specifically address many of what we believe are underlying 'level 1' policy data collection issues, which it has already had a start on. To further this end, the European Parliament should consider the merits of establishing a US style Office for Financial Research (OFR) like entity for the EU to ensure this gets the policy attention it deserves.

While there are many approaches to take, it is imperative to have a single point of EU ownership for this discussion. We believe that ECON would be most strongly placed for a central role in setting shadow banking data collection via a central data hub as a policy priority. ECON would be able to give proper attention and focus on the large amount of policy issues that require sorting out to standardise these data collection issues across regulation, including the remit, mandate, dynamics and responsibilities around the target operating model gap analysis to be done.

There are clear opportunities for the EU in establishing a robust, consistent regulatory framework and supporting infrastructure. Being the 'first mover' in this area, will allow the EU to set the global agenda for shadow banking regulation. A coherent European approach will set the tone for international consistency in addition to minimising the opportunities for regulatory arbitrage. Without an effective approach to developing and implementing a coordinated shadow banking regulatory framework, the risk of a further catastrophic systemic crisis remains.

Recommendations

- ECON should develop a clear view of the draft organisational solutions that would achieve an effective governance structure for a new shadow banking regulatory data hub
- An EU-wide shadowing banking data gap analysis should be commissioned to complete the work already begun by the ECB, and should include the input of EU practitioners

- The EC should create a shadow banking data management taskforce to aid in the development of potential target operating models to meet the shadow banking objectives, including cost/benefit analyses.

The remainder of this response elaborates on these recommendations.

Question 5: What are the challenges for supervisory and regulatory authorities?

The regulatory status quo is insufficient for future shadow banking regulation

The ECB has noted in its shadow banking paper that current Euro area banking data is "*not detailed enough*" and requires "*an improvement in the availability of data*", until this is solved this will prevent in-depth assessment of shadow banking activities and linkages between banking and non-banking sectors.[6] This is amplified by the fact that information collection methods and models used to monitor the risks throughout the industry are not effective in quantifying the interconnectedness of firms and are, thus, seriously flawed. In sum, if EU data collection tools and methods are not sufficient to manage today's global, 'system' level events, they will not be adequate for the shadow banking sector. Ultimately, while the perimeter scoping exercises continue to define what exactly shadow banking is and, consequently, how to regulate it, we cannot expect any realistic answers without first solving the problem of the level 1 European data gaps.

Shadow banking data is not an island

Shadow banking regulation looks to be the next 'hot' regulatory focus area, and is now highlighted as a priority concern for the G20, FSB, US and European regulators. While this momentum is important and indicative of the scale of the problem, stakeholders are highly uncertain as to where this will actually lead and what problems shadow banking regulation should solve. To put it simply, the current state of shadow banking regulation is a chaotic combination of different regulators looking after different 'territories', endowed with differing mandates and powers. While the AIFMD and UCITS offer examples of the regulated shadow banking sectors, vast swaths of the banking and non-banking sector remain on the regulatory periphery, either inconsistently or completely unregulated. Additional regulation focused on shadow banking is not the answer, but joined up thinking to make best use of current regulation is.

In highlighting a few of the regulatory initiatives requiring financial data that are before the Commission and Parliament at present, it is clear that good quality data are necessary for a variety connected of policy issues:

- <u>Infrastructure</u>: Trade repositories, OTC derivatives, commodity prices, credit rating agencies, crisis management, etc.
- <u>Markets</u>: Market Abuse, MiFID trade and transaction reporting, High Frequency Trading, circuit breakers, etc.
- <u>Insurance</u>: Solvency II, consumer protection
- <u>Banking</u>: Capital requirements (Basel III), macroprudential risk management, SIFI management, shadow banking, compensation, consumer protection (e.g., mortgage lending, PRIPs, deposit guarantees).

[6] "*Shadow Banking in the Europe Area: An Overview*", European Central Bank, April 2012, p 6.

Banking data collection in the EU has been identified as a policy priority, as recognised through initiatives such as the European Single Rulebook, COREP/FINREP expansion and large exposures reporting. This has led to a 'tsunami' of siloed reporting data from trade repositories to risk and macroprudential risk reporting. At present there is no 'systemic' party in the middle to connect all this information. However, shadow banking – or the data to analyse it - is not owned by any singular EU regulatory body and is regulated unevenly by a mixture of the ECB, EBA, ESMA, EIOPA and the ESRB, who recognise the 'pieces problem' but do not yet have the approach to offer a solution. These entities have vague data collection mandates but are not empowered to fully do their jobs, and may never be.

> "*... one of the basic prerequisites for an effective macro-prudential function is the availability of a comprehensive set of information on the financial system that can be used for the detection and assessment of systemic risk. ... the national supervisors and national statistical authorities have the obligation to cooperate closely with the ESRB*"

ECB: 29 September 2010. The establishment of the European Systemic Risk Board – challenges and opportunities

An end-to-end evaluation of current data collection gaps across member States and regulatory frameworks will be necessary and required as soon as possible. We believe the EC should form a shadow banking data management taskforce to lead this assessment. This gap analysis should also identify areas of inconsistency and duplicative reporting in order to inform a robust, but cost effective, reporting framework. The challenge is to make best use of existing data collection rather than complicating an already fragmented EU data landscape.

Doing it right, with the right skills

If fundamental policy changes to the way information is exchanged are not made now, the cost of EU transparency will approach €49.1 billion by 2015. This cost will be borne, not just by firms, but will be passed through to taxpayers and the real economy will suffer due to production of poor quality data contributing to the 'illusion of control'[7] and an inability to spot the next crisis.

We asked 80+ firms across the EU about their approach to meeting the risk and financial reporting requirements within forthcoming regulation across the EU and examined the trends resulting from the responses. The results show that firms' approaches to reporting are highly fragmented by firm size/complexity, sector and geography. For example, integrated finance, risk and accounting systems are not widespread, firms have differing methods to assemble/manage their reports and take divergent approaches to technical solutions for their reporting 'problems'. Considering that the budget assigned to regulatory reporting averaged at €1.37 million for Tier 2 firms[8], with additional reporting costs, both inside and outside the still undetermined shadow banking perimeter, it can be understood that achieving transparency will not be easy or cheap. Furthermore, the fact that shadow banking, according to some estimates, comprises 5% of the GDP of the EU means that adapting reporting to such a varied and high value landscape will not be without difficulty. The European effort with regulating shadow banking will

[7] JWG Analysis report '*Achieving supervisory control of systemic risk*', September 2010
[8] JWG Analysis Report '*Dirty windows: regulating a clearer view*', June 2012

arguably be the most difficult, as it must address the differing cultural and legal environments across 27 member States.[9]

There will be the opportunity, however, to develop a more cost-effective target operating model. The right model will prevent data duplication and consequently contain the costs to the financial sector of data reporting. This model should also highlight the strong business case for the industry in supporting a robust but efficient regulatory framework.

The shadow banking data policy

We believe there to be fundamental issues for EU policy makers which, at present, are not being considered holistically and which will prove to be real impediments to achieving the policy mandate in the near term.

- Policy. How will cross-sector industry policy objectives be agreed (i.e., cross ESA collaboration)? Will the policy owner be able to define the policy for data collection despite confliction with member States' legal frameworks, business practices, languages?
- Governance. Given the many competing demands for the use of the data outlined above, how will decisions be made about the scope and objectives of the identifiers required and the position information needed?
- Operations and funding. Will an appropriately empowered and resourced body be created to develop and maintain the policy for legal entity tracking and collection? How much will be allocated to the effort?
- Model and risk mitigation. How will a system be designed to meet the policy objective of an overarching view without introducing the risk of a single point of failure for the European financial system? How will the best expertise be incentivised to collaborate on designing the best solution?
- Scope and rollout plan. For such a massive effort with high levels of demand for scarce resource, how will priorities be set, quality measures be defined and timetables be agreed so that an effective and efficient solution can be delivered?
- Leadership. In discussions with the EU regulators, we have heard that a lack of leadership, rather than financial resources or expertise, is the primary barrier to a more effective regime. Who will provide the leadership, direction and drive necessary to overcome the many potential barriers to effective and efficient shadow banking regulation?

As shadow-banking regulation is, per se, in its infancy, there are many options for the EU in moving towards achieving draft organisation solutions for sorting out EU-wide data collection. Ultimately, we believe that ECON would be best suited to undertake this work, due to its ability to give the adequate amount of 'level 1' policy attention required to this issue. ECON's work should include developing a clear view of the draft organisational solutions that would achieve an effective governance structure, and build and maintain a banking regulatory data hub.

The establishment of a centralised 'data hub', to act as a singular reporting point for data across European regulatory initiatives, is essential. This hub would allow effective systemic risk analysis and

[9] "*Shadow Banking in the Europe Area: An Overview*", European Central Bank, April 2012, p 13.

mapping of linkages, unconstrained by the limitations of current 'siloed' regulatory frameworks. Furthermore, the hub will allow the right data frameworks to adapt to the dynamically shifting borders of what is considered shadowing banking.

It should be noted that the banking sector has been discussing data tracking for decades but only recently are we getting to any tangible progress for a few thousand legal entities, as evidenced by the progress of the global LEI initiative. To avoid similar setbacks, ECON must discuss what role the regulator would play in data collection and tracking for shadow banking. While the task at hand looks daunting, the results of inaction are far worse, leaving the real economy exposed to systemic risk from the shadow banking sector.

Conclusion

We are at a crossroads for shadow banking regulation, not only in Europe but globally. Despite the challenges shadow banking regulation brings, it also provides an opportunity for the EU to solve its cross financial sector data collection issues and reap the benefits of the 'first mover' advantage.

We recommend that ECON assume a central role in developing the framework for this level 1 approach to data collection and be mandated to do so by the European Parliament. Furthermore, we suggest the EC form a shadow banking data management task force to perform a gap analysis to analyse how best to synergise current regulations and the cost and benefits of implementing them. This should include the formation of a data hub to act as a central repository for regulatory data.

While laying the level 1 framework for this will not be without cost for regulators and the industry, it provides tangible benefits in terms of preventing systemic crisis and making compliance for current and future regulations easier, cheaper and more straightforward.

Dirty windows: regulating a clearer view

The €24 billion case for EU transparency?

June 2012

Making sense of financial services regulation

About this research:

The research in this document has been conducted by the JWG Group. The report is based on JWG's analysis of:

- A JWG survey of Financial Services (FS) professionals from March 2012 through April 2012 covering 87 financial institutions representing investment banking, asset management, retail banking and insurance across 10 European countries
- Interviews with supervisory bodies, trade bodies and other industry experts
- 4,000+ pages of G20 global regulatory documents with specific reference to management of regulatory reporting and transparency topics. Our focus was on regulations that affect EU firms, but we did investigate other key jurisdictions that help set global standards in North America and Asia
- JWG consultation response to FSB's '*Understanding Financial Linkages: A Common Data Template for Global Systemically Important Banks*', November 2011
- JWG consultation response to the FSB's '*G-SIB I-I top 50 credit exposure template*', May 2012
- JWG consultation response to the European Commission's Green Paper consultation on Shadow Banking, June 2012
- JWG consultation response to the European Banking Authorities' consultation on '*Data point model related to Implementing Technical Standards on supervisory reporting*', June 2012
- '*Clearing the risk MI bar?*' Analysis Report, May 2011
- '*Achieving supervisory control of systemic risk*' JWG Analysis Report, September 2010
- '*FS Infrastructure: ready for G20 reform?*', JWG Analysis Report, March 2012

Please see Appendix 2 for more detail

JWG are recognised by regulators, financial institutions and technology firms as the independent analysts to help determine how the right regulations can be implemented in the right way

For more information, please see www.jwg-it.eu

Contents

Executive summary

The G20 drive to gain a deeper level of control over the banking system has created new transparency requirements never before envisioned by the industry's infrastructure. New and increased risk, finance and product reporting requirements have put in place a number of fundamental reforms to the way data is calculated and captured by both firms and regulators.

The premise that this data will be adequate to meet the regulatory objectives is founded on the belief that firms have the ability to produce it and that regulators can understand it. However, regulators are not mandating the fundamental standards, identifiers and contextualisation that will make this possible.

Four years into the crisis, the industry has shown itself slow to implement the substantial upgrades implied by these new requirements. Despite senior level commitment in firms, the lack of regulatory detail or mandate for a target operating model means the business case for integration is not apparent.

We estimate the total EU 'change the bank' budget assigned to regulatory reporting to be €33.3 billion over the next 3 years, a figure that could be reduced by billions through better articulation of regulatory objectives, longer implementation timeframes and adoption of common standards.

For this research we drew upon a survey of 80+ people in 30+ firms, previous JWG research and interviews with senior decision makers to make some startling conclusions on the state of the industry:

Current state: Despite high levels of sponsorship, 'run the bank' reporting costs remain high and there is little integration between risk management and reporting systems.

- 75% of respondents agreed that regulatory reporting improvement is fully sponsored across the firm
- Only 14% of respondents reported that their prudential/statistical reporting systems are fully integrated with risk management systems
- Prudential/statistical reporting is integrated with general ledger and accounting systems in 80% of Tier 2 firms but, only 45% of Tier 1 firms.

Transition: Although spend is high, fewer than half of survey respondents agreed that regulatory reporting programmes have sufficient resources and more than half felt that that they would have difficulty in producing accurate data in the timescales allowed to them.

- Only 48% of firms agreed that reporting programmes have sufficient resources and personnel
- 90% of firms identified that it would take a minimum of 6 months to implement a change to their reporting solutions, with 43% maintaining that it would take over a year
- 63% of firms are experiencing difficulty in producing complete and accurate RRP data in the time envisaged[1].

Target operating model: There is a disconnect between vendor-led solutions and firms' appetites as firms, burdened with the complexity of rules with which to comply, look for increased control over their reports or look to build in-house. For those considering buying, the price of 'packaged' solutions is a key decision factor.

- 57% of firms were likely to pursue self-configurable templates/toolkits as a system strategy or build their regulatory reporting solutions in-house
- 69% of firms who were prepared to buy a reporting solution identified cost as a key decision factor
- 79% of firms cited 'completeness and accuracy' as the most important functionality in a reporting solution.

Simply put: suffering from divergent and fragmented operating models and burdensome legacy systems, the industry has been unwilling to make the step change to the target operating model that regulators are pushing for, but not explicitly mandating. If fundamental policy changes to the way information is exchanged are not made now, the cost of EU transparency will approach €50 billion by 2015. However, if changes are made we can bridge a savings gap of €24.2 billion. This cost will be borne, not just by firms, but will be passed through to taxpayers and the real economy will suffer due to production of poor quality data contributing to the 'illusion of control'[2] and an inability to spot the next crisis.

1. Achieving a clearer view of banking

Introduction: The demand for transparency

The recent crisis was significantly exacerbated by the lack of clear information available or understandable to regulators. This shortcoming has been well recognised and the G20 action plan put in place significant political objectives to address this. Achieving transparency within the financial sector makes up a full ten points of the plan, comprising almost 20% of the G20 regulatory reform agenda.

We have estimated that there will be 250,000 pages of financial services regulation worldwide by 2013. The demand for transparency is a key driver within this legislation, manifesting itself in terms of disclosure to the market, periodical reporting to regulators, ad-hoc 'on request' reports or even raw data dumps to the regulators[3]. New reporting requirements are being defined on a continual basis, necessitating changes in the ways the industry collects the data, reports it and governs its usage.

Regulatory initiatives (see Figure 1), such as CRD IV, Solvency II, Recovery and Resolution Plans (RRPs), are being implemented now, with many other forthcoming regulations and data collection exercises at the design stage, such as the AIFMD and FSB's 'Common Data Templates' for globally systemically important banks. The technical standards for these will bring us closer to determining the full impact on financial services industry.

The reporting requirements within these not only broaden the scope into previously unreported areas, such as 'structural data'[4], but also augment existing requirements through extensive additional data items, more granular data and new reporting formats. With all this going on in a complex industry with diverse market behaviours, a detailed level of operating guidance is required to compare 'apples to apples'.

The type of information contained within these reports will be stored in a variety of systems and siloes across firms. Risk information will be sourced independently from the balance sheet or transactional level information. As a result of this, complying with all the upcoming regulatory requirements across financial, risk and product reporting will require upgrades across all the firm's information systems, and their ability to reference each other, to remain consistent.

The costs of validation, enrichment and quality assurance should not be underestimated. Ensuring data quality is a labour intensive task that requires skilled people who understand the issues within firms' systems to reconcile the differences in reporting techniques.

In order to aggregate information at a regional or international level, there will need to be agreement on definitions that will be, by their very nature, different. In short, whilst the data may be captured, it is not possible to transform it into the required information without rules that outline how it should be translated and linked.

Adoption of common identifiers, such as the LEI, needs to be explicitly mandated and clear use cases for the information need to be defined. Without these, we run the risk that the models we rely on to govern the system will be undermined by lack of referential integrity of the data which creates the risk of 'Garbage In, Gospel Out' (GIGO).

Figure 1: **Key transparency regulation 2012-2015 implementation factors**

Regulation	Transparency summary	EU implementation factors	Risk of delay
(CRD IV/ CRR) FINREP/COREP	New templates for provision of greatly increased and granular prudential and statutory data for banks, building societies and investment firms **Example data requirements:** Income and expenditure statement, breakdown of assets, large exposures, balance sheet, capital adequacy, group solvency, credit risk information , operational risk, market risk, own fund	► 20 June 2012: CRD IV finalised will determine mandatory adoption of FINREP ► July 2012: ITS released to determine final reporting requirements ► Implementation date seen as unachievable by EU industry (BBA cites 24 months implementation timeline for FINREP) ► French trade associations advocate postponement of large exposure reporting until 2016 ► Little XBRL adoption in DK, SE, FI and NL	Medium/high Implementation date: 1 January 2013
Crisis Management Directive / UK CP11/12 Recovery and resolution plans (RRPs)	Provision of highly granular exposure and financing data for banks, building societies and investment firms **Example data requirements:** Capital and funding, financing positions, counterparty data, derivatives and securities, collateral, large exposures	► UK CP11/16: Final rule not yet released, expected Q4 2012 ► EU Crisis Management Directive will influence final rules and whether Tier 2 firms are scoped in ► Crisis Management Directive: June 2012 final proposal released will determine scope and reporting requirements	Medium Implementation date: June 2014 Implementation: June 2012 (UK SIFIs) December 2012 for non-UK SIFIs
FSB G-SIB Common reporting template	New templates for provision of greatly increased and granular prudential and statutory data. New reporting areas for Globally Systemically Important Banks. **Example data requirements:** Large exposures, funding concentration, credit risk, market risk, income and distributions, assets, capital and funding, market risk	► June 2012: Final guidelines will confirm reporting requirements and implementation timelines ► Industry concerns over data confidentiality and data collection overlaps with CRD IV ► FR, DE and NL trade associations opposes ad-hoc data collection and considers frequency reporting largely unfeasible	Medium Implementation dates: Phase 1: March 2013 Phase 2: Q2 2014 Phase 3: Q4 2015
Alternative Investment Fund Managers Directive/Regulation (AIFMD/R)	Bank style reporting requirements for prudential and statutory data for non-UCITS hedge funds, private equity funds and other funds. **Example data requirements:** Concentrations, stress test results, exposures, assets and liabilities	► EU Commission rejected key elements of the ESMA's level 2 advice ► Further draft regulatory technical standards expected Q4 2012 ► FSA implementation proposal considers extension of voluntary hedge fund reporting regime (HFS and HFAC)	High Transposition: 22 July 2013 Implementation date: July 2014
Solvency II	Provision of greatly increased and highly granular prudential and statutory data for insurers **Example data requirements:** Underwriting risk, market risk, credit risk, liquidity risk, ALM risk, operational risk, exposures, assets and liabilities, own funds, business and performance	► 6-month implementation window between transposition and implementation date widely considered unachievable ► Omnibus directive final text may delay transposition date	High Transposition: June 2013 Implementation date: 1 January 2014

Source: JWG analysis of EU regulatory initiatives mandating prudential/statistical regulatory reporting.
Note: This table is not exhaustive. Other regulatory initiatives such as the FSA's ART programme, BCBS' liquidity working group, proposed shadow banking legislation, UCITS IV or CEREP may involve similar requirements but have not been scoped into this report.

The window into the industry

The goal of achieving increased transparency has become more challenging due to an increase in the complexity of banks' operations. Large scale international operations and expansion into non-traditional banking activities have created complex legal and managerial structures. Attaining continuous insight into such banks' activities and risks presents difficult challenges both to supervisors, who desire to build up a better picture of systemic risk, and to banks' own internal mechanisms to provide such data.

Many firms have already invested considerable time and expense in developing systems that can easily meet the new information requirements. However, others will not have such agile systems. New mapping tables, system protocols and codes will have to be implemented, necessitating the hiring of experienced and costly personnel to develop and maintain them. This has the potential to take a long time as well as being costly due to inflexible architectures and the intensive manual manipulation of mapping tables required.

The industry is well aware of the challenge they face in preparing for these regulatory demands. In the EU, there is significant investment in reporting programmes to prepare for the expansion of COREP under CRD IV. However, there are no 'silver bullets' available to firms to help solve these regulatory reporting requirements, especially not when there are such divergent business models and systems architectures in place across the industry.

We asked over 10,000 individuals, and received responses from 30+ firms across the EU, about their approach to meeting the risk and financial reporting requirements within forthcoming regulation and examined the trends resulting from these. The results show that firms' approaches to reporting are highly fragmented by firm size/complexity, sector and geography. Despite high levels of senior management involvement, there is little integration between risk management and reporting systems:

- Only 14% of respondents reported that their prudential/statistical reporting systems are fully integrated with risk management systems[5]
- 75% of respondents agreed that regulatory reporting improvement is fully sponsored across the firm[6]
- 57% of respondents agreed that their firm was likely to start a major reporting system transformation project in 2013[7]
- Only 48% of respondents agreed that reporting programmes have sufficient resources and personnel assigned[8]
- 90% of respondents from firms identified that it would take a minimum of 6 months in order to implement a change to their reporting solutions, with 43% maintaining that it would take over a year[9].

There are significant differences in the demand profiles of firms driven by specific regulations and system strategies that again diverge depending on sector, geography and size. For example, integrated finance, risk and accounting systems are not widespread, firms have differing methods to assemble/manage their reports and take divergent approaches to technical solutions for their reporting 'problems'.

These findings support the conclusions from JWG's 2011 report '*Clearing the Risk MI bar?*'[10] in that firms are still trying to determine just how exactly they can reconcile the height of the regulatory jump required with their current capability to achieve lift. As it stands, most firms' muscles will propel them well below where regulators have set the bar:

- Boards had not defined firm-wide risk data policies or data quality metrics or definitions
- Firms had little idea where risk data sits in the context of the entire firm
- Risk data ownership is scattered between the front, middle and back-offices – this lack of centralisation and coordination creates risk to data quality

- Many believed that their risk and business objectives are not aligned, though reconciling the two would be a 'win-win' for firms
- From a technology standpoint, firms need to reassess their input-process-output models in order to bring their capabilities in line with regulatory expectations.

The bar for transparency has been set high but firms are starting their journey to compliance from different points and towards an uncertain destination. However, in a review of firms' appetites for regulatory reporting solution characteristics, there appears to be a disconnect between vendor-led solutions to regulatory reporting, as firms, burdened with the complexity of rules with which to comply, look for increased control over their reports or look to build in-house. For those considering buying, the price of 'packaged' solutions is a key decision factor:

- 57% of respondents were likely to pursue self-configurable templates/toolkits as a system strategy or build their regulatory reporting solutions in-house[11]
- 69% of firms who were prepared to buy a reporting solution identified cost as a key decision factor for their choice of reporting solution[12]
- 79% of firms cited 'completeness and accuracy' as the most important functionality in a reporting solution.[13]

We found that the average amount of effort spent on aggregating data in 2006/2007 was 84% versus 16% on analysing[14]. In 2011, firms spent approximately 72% on aggregation and 28% on analysis. There is progress being made, albeit slowly. JWG research has found that, although regulators are increasingly scrutinising risk MI, firms perceive that the drivers for risk MI improvement are primarily internal and the benefits of it soft. As such, firms have been slow to respond to these new regulatory requirements.

It appears that the industry has not yet seen the light. It is aware of the problems and has set out the budgets with which to make considerable changes but, because firms do not know what 'good enough' looks like, they seem unwilling to commit to the step change towards full integration and, due to the lack of suitable solutions on the market, neither do they look to vendors to provide easy wins. The IIF found last year[15] that firms were preparing to spend an average of $390 million in improving risk IT and operations between 2011 and 2015. As a result, we can see that there is a big step up required to meet these regulatory requirements and although the industry is moving to meet them, there is still a long way to go.

In conclusion, the industry does not appear to have the preconditions to clear the 'dirt' from their windows for regulatory transparency.

The cost of clean reporting

There is a huge cost to the industry in achieving an adequate target operating model that complies with regulatory reporting demands. From firms' identified budget allocations[16] we can estimate that, across the EU, €33.3 billion has been assigned to regulatory reporting programmes from 2012 to 2015. JWG research has identified two scenarios (see Figure 2) in which the total cost of compliance across the EU varies significantly according to the road taken to get there:

In order to cope with current reporting obligations, firms will need to manage hundreds of mapping tables to aggregate their information efficiently. As a result, there will be heightened costs to comply with new requirements at short notice, as opposed to lengthier implementation deadlines. The quality of the systems within firms will increase and the cost of their implementation will diminish with the greater the length of time provided to plan, assign budgets, design and implement them. According to 90% of responses from firms, it would take a minimum of 6 months to implement a change to their reporting solutions[17], while 43% maintain it will take over a year.

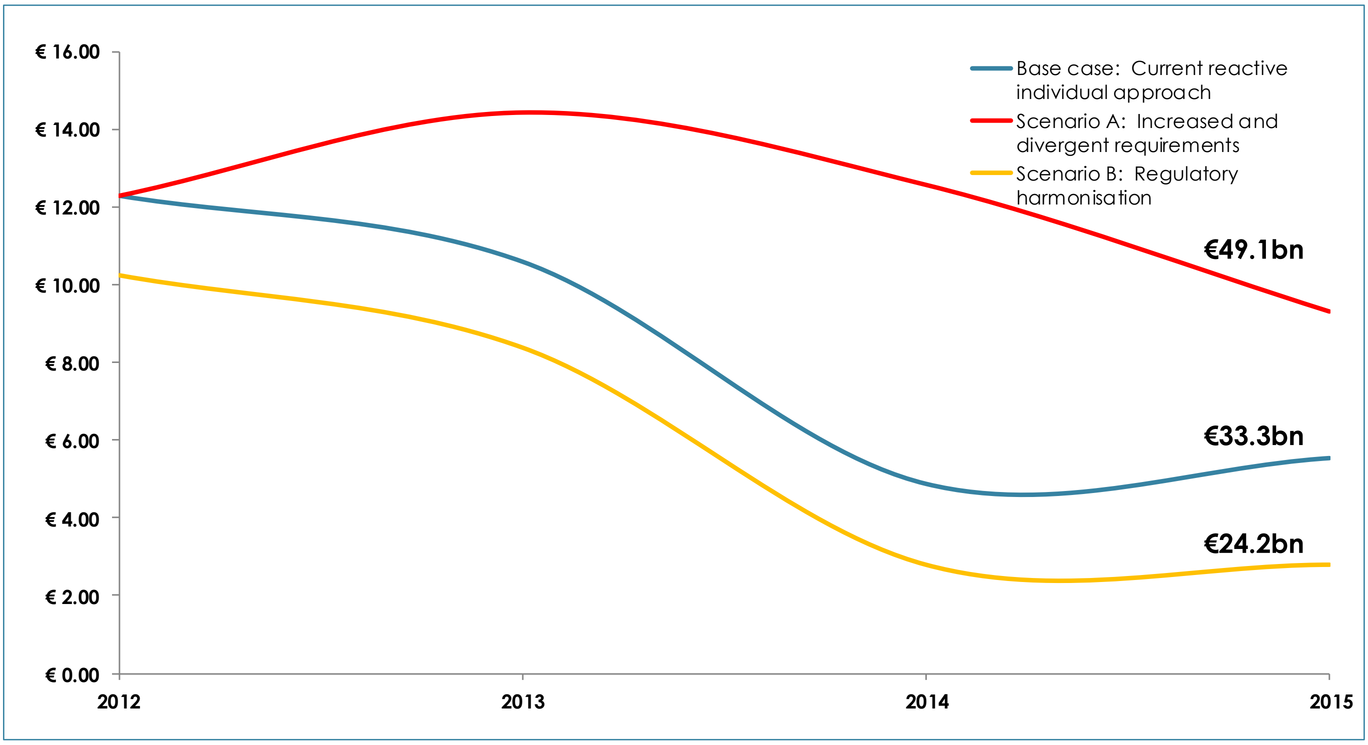
The largest regulatory driver for reporting solutions, as identified by respondents, was the implementation of COREP by January 2013. Given the fact that the technical standards have yet to be released, firms will have a very limited timespan in which to put in place a solution. The alternative is to start implementing solutions now without knowing what exactly the requirements are - an approach that is likely to end up causing even more pain and frustration.

The root of this pain is that the Capital Requirements Directive (CRD IV) and Regulation (CRR), the underlying legislation, have yet to be finalised. The possibility of last minute additions, changes or retractions as a result of this can only disincentivise any form of forward planning. The survey results confirm this as we can see that respondents reported that little budget had been assigned to prepare for future reporting requirements in 2014 or 2015 and many are betting on delays, with 57% planning system transformation projects to prepare for COREP in 2013[18].

The base case

The base case for the industry is a reactive, individual approach to preparing for these forthcoming regulatory requirements. Little system integration and short regulatory implementation windows from last minute technical standards has meant that there are high budgets but not enough resources to implement solutions. The lack of certainty of what 'good' looks like for regulatory reporting solutions has left vendors with an inability to design solutions to problems that have yet to be defined. The result of this is a very high spend but little forward planning. This does not bode well for the increase in scope of new regulation programmes, for example shadow banking, that are not factored into these estimates.

Figure 2: **Estimated total EU regulatory reporting spend 2012-2015 (€ billion)**



Source: JWG analysis of European Tier 2 firms' budget allocations to improving prudential/statistical regulatory reporting, as identified within survey results, and extrapolated across number of banks/credit institutions operating within the EU.

Scenario A: Increased and divergent regulatory requirements

There is a multitude of reporting requirements collected today by supervisors both nationally and internationally on many of the same topics. The differences between new proposed data sets and what data firms already provide will drive costs. Therefore, a large overlap in reporting standards will ease the reconciliation exercises that will have to be performed. Conversely, if there is a greater difference between what firms already provide and the new requirements, there will be considerable increases in costs due to generation of the additional necessary information.

The scope of regulatory initiatives continues to increase. No sooner had the Crisis Management Directive been finalised in the EU, plans to expand the scope of the RRPs to Globally Systemic Insurers[19] and Central Counterparties (CCPs)[20] were released. New requirements for Domestic Systemically Important Banks (D-SIBs) are expected to be discussed in the November 2012 G20 meeting, whilst the release of the EU's Green Paper has shown bringing transparency to shadow banking is becoming more prominent on the agenda. Accordingly, the cost of regulatory reporting across the industry can only increase as more sectors are brought within the regulatory perimeter and heightened requirements continue to be released.

From the survey, it became apparent that there was little awareness amongst our respondents of future regulatory initiatives that may have a large impact on reporting requirements. For example, preparedness for the FSB's 'Common reporting template', with a likely implementation date of 2013, had been given comparatively little thought in comparison to the immediate demands of CRD IV and COREP. As a scenario it is likely, then, that the closer these come to reality, the more significant the increases in the budgets for 2013-2015 will be, and costs across the industry could sky rocket.

Scenario B: Regulatory harmonisation

Regulatory harmonisation has been an EU policy goal for some time, but it is not always effective. Uneven distribution of requirements, different adoption rates for standards and little alignment in implementation timelines for similar requirements mean that compliance costs are considerably higher than they could be and firms are left vulnerable to regulatory changes or delay.

We're moving to an increasingly fragmented, disproportionately expensive system where financial institutions are trapped in a reactive, individual approach to compliance where short term thinking and tight implementation windows mean quality is sacrificed. Without a change to the 'status quo', any approach to future transparency regulation will amplify these issues.

With adequate regulatory alignment of policy goals, sufficient implementation timelines and common standards these vulnerabilities would be considerably mitigated and, as a result, the cost to the industry would be considerably reduced. JWG believes that this scenario is optimal for both regulators and firms, as extended implementation timelines provide opportunities to achieve quality in regulatory requirements as well as improve firms' approaches to meeting them.

There are two options in the way this situation may change that will have huge consequences for the industry. In Scenario A, this poorly defined, ad hoc and rushed current situation does not change and new increased requirements force the industry to higher compliance costs or Scenario B, where regulatory harmonisation allows the industry onto a clearly defined path along which they can take a proactive approach to efficient, cheaper compliance.

There are barriers of poorly defined policy objectives, legacy systems and a lack of common standards that will need to be overcome in achieving Scenario B, but, as seen in Figure 2, the benefits of effective harmonisation are in the tens of billions.

2. Focusing the policy lens

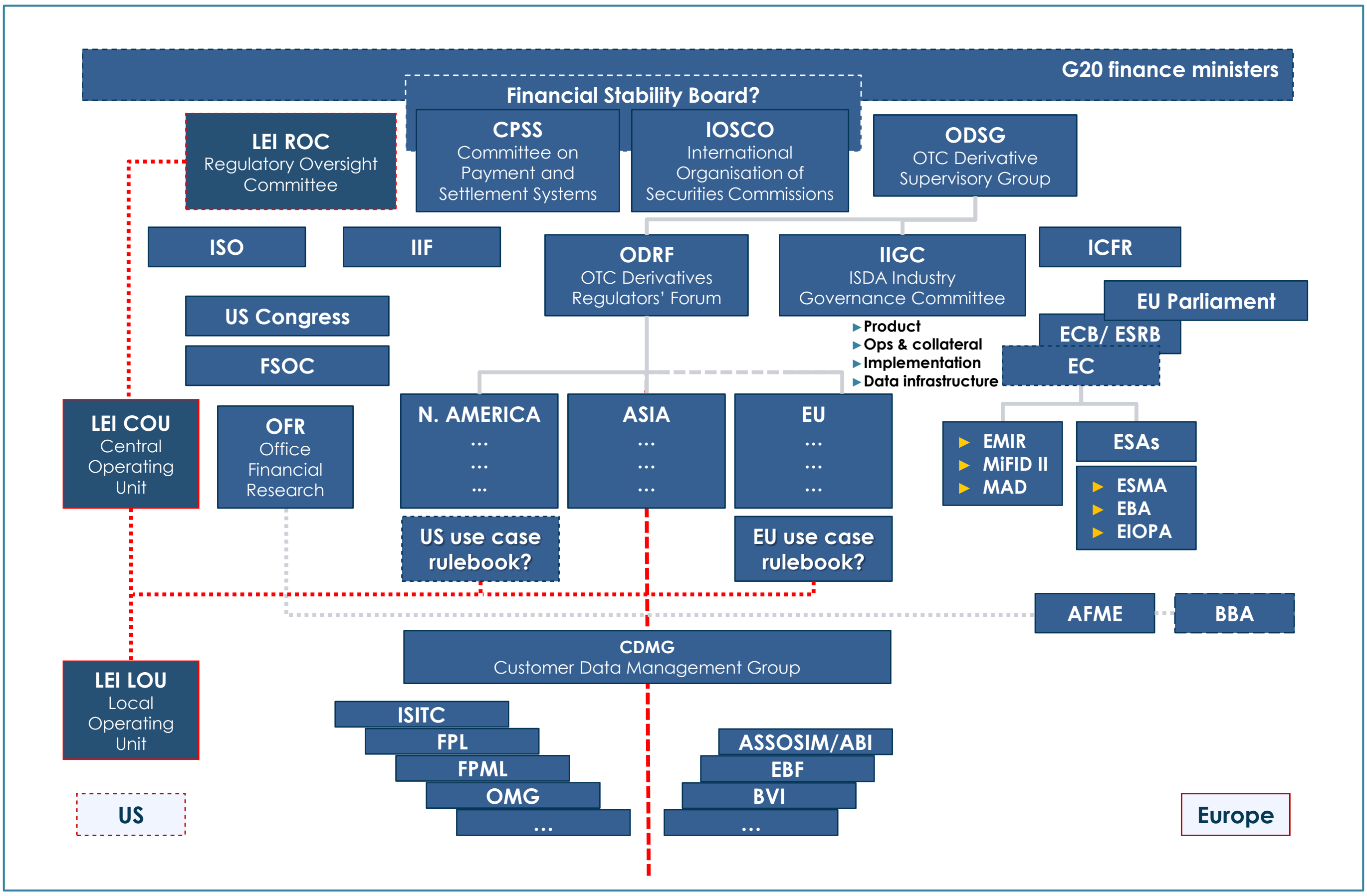
Poor articulation of regulatory use cases

As the G20 operates a common policy framework but different implementation pathways (See Figure 3), each regulator is free to detail exactly what they want, by when and how. With no international agreement on what transparency means and how much is required, 'more is better' remains a politically attractive option regardless of the potential use cases for that data.

With only orders, but no G20 guidance, from regulators, the onus of demonstrating what 'good enough' is going to look like falls back on the industry.

The absence of standards creates an interesting variation on the prisoner's dilemma. Because there have been no standards set out, and regulators will be requesting information from individual firms to make comparisons, the industry is doing itself a disservice by not defining just how 'good' it should be. When the regulator compares firm A with firm B, one of those firms is going to lose, and could pay dearly.

Figure 3: **Regulatory data standards maze**



Source: JWG analysis of national and international level regulators and standards setters.

This becomes especially difficult for international organisations. When pressured for the 'single view' of the truth, in terms of risk data, how do you align your global policies so that 'truth' adequately complies in multiple jurisdictions with potentially divergent regulation? With general guidelines at global level and more specificity at national, this becomes a complex task.

In the EU, where regulators increasingly overlay the same requirements across a range of divergent jurisdictions through regulation (as opposed to directives), differing laws, languages, economies and political systems all contribute to differing levels of regulatory alignment. Adoption of accounting standards, reporting standards, such as XBRL, and identifiers all differ between the EU member States. As such, requirements specified in regulation may be unfeasible in one member State but may force another to remove the 'gold plating' from its own, incumbent, requirements.

As you can see in Figure 3, there is a diverse range of regulators, political systems and standards setters. Who exactly will 'own' the mandate for new standards or identifiers, or how they will be aligned internationally is a difficult question to answer. With the move towards the LEI now having been confirmed, and the ROC, COU and LOU being proposed by the FSB, there are still questions as to what their membership will look like in order to be able to make the LEI widely adopted and truly 'common'.

The reverse is also true, as political will at national level can force regulatory 'front running'. An example of this can be seen in the FSA's proactive approach to the UK's RRPs, where firms were forced to start submitting reports with only a consultation paper as a reference; a concrete policy statement has yet to be released at the time of writing this. To compound the confusion, the release of the Crisis Management Directive will force the UK into a national transposition of EU rules that have the potential to be completely different, whilst the addition of 'bail in' rules is expected to raise the bar yet again.

Another example can be seen in the industry outcry in the UK[21] against the inclusion of FINREP in EBA's 'CP50 Draft Implementing Technical Standards for Supervisory reporting requirements for institutions'. In the CRR proposal, it had been left to national discretion as it was considered a major cost burden, however, in the draft ITS, it was placed back on the table as a mandate.

These differences contribute to fundamentally divergent approaches within the industry to comply with the same requirement. The adoption rates of COREP and FINREP under Basel 2.5, when it was discretionary, will govern the expenditure amongst firms now that they may become mandatory. The effect of all this is that Europe is still a very long way from being a 'level playing field'.

Such differences can mean that firms forced into strict implementation timelines can only take a view to implementing the next thing 'down the pipe'. Any attempt to proactively comply or prepare systems sufficiently in advance is punished by regulatory delays, changes or conflicting requirements further down the line.

Without clear objectives and a target 'end state', firms will not be able to align themselves well enough with the regulatory 'vision' for a compliant target operating model. Without this alignment firms will continually be unable to satisfy regulatory demands without significant changes to the way they operate.

Lack of common standards

We have observed in the most recent EU regulatory initiatives (e.g., capital, liquidity, operational risk, etc.) a lack of detailed understanding of regulatory data capture – including, for example, an understanding of what data is already reported, intrinsic issues of data quality, differences in data semantics, practical issues in data capture and the feasibility of both capturing and analysing the implied volume of data. There is a perceived need to identify activity at granular levels not previously reported (i.e., counterparties, instruments, venues, trades) but perhaps without a clear idea of business purpose.

Despite the thousands of data points collected by regulators across the globe today, there is no agreed regulatory data architecture in place. Financial and technological innovation continually shifts the goal posts on what information is required. As big market infrastructure changes and hundreds of new data intensive rules are implemented, there is little time for the development of appropriate standards that allow information to be aggregated and compared.

Dirty windows: regulating a clearer view

Today's transaction reporting regime in the EU illustrates many of the technical issues that regulators already face in collecting reliable data from multiple firms from many jurisdictions. Some of these include having the correct time zones, date formats, correct identifiers used, currency formats and data quality obligations[12]. Firms currently have a fiduciary responsibility to provide correct information and to follow the guidelines for reporting error corrections.

For example, the information collected from firms in the UK differs in the way that it is linked from that of other regulators. Standard reporting templates from the FSA use FRN (Firm Reference Number) codes and group identifiers, whilst for transaction reporting the Bank Identifier Code is currently used alongside the FRN. When looking at counterparty data it is important, then, to realise that each firm will likely use internal codes to identify institutions with which they are engaged and their own codes to identify the financial instruments, sectors and geographies involved. So, while linking counterparties to instruments via identifiers may be a comparatively simple exercise at national level, without standards the complexity rises when taking the same information across jurisdictions.

In highlighting a few of the regulatory initiatives requiring financial data that are before the Commission and Parliament now, it is clear that good quality data are necessary for a variety of policy issues:

- Infrastructure: trade repositories, OTC derivatives, commodity prices, credit rating agencies, RRPs
- Markets: Market Abuse, MiFID transaction reporting, High Frequency Trading, circuit breakers, etc.
- Insurance: Solvency II, consumer protection, RRPs
- Banking: Capital requirements (Basel III), macroprudential risk management, SIFI management, shadow banking, compensation, consumer protection.

All of these policy initiatives, which are being pursued independently, rely on a complex information system for the fundamental data (e.g., legal entity identifiers, financial instrument identifiers, role identifiers and agreed data semantics) which is not yet in place across Europe. Divergent banking practices resulting from the jurisdictionally specific legal, tax, accounting, regulatory and supervisory regimes will define what the definitions will be.

By way of example, a single set of customer data can be viewed through a variety of regulatory lenses including, but not limited to, anti-money laundering (beneficial ownership), large exposures (interconnectedness), liquidity (concentration risk), MiFID conduct of business (suitability /appropriateness), carbon footprint (ownership), single customer view (transactional activity) and resolution (exposure and asset value). In aggregate these rules form a patchwork of compliance requirements, but nowhere are set-out the business rules for managing this information to appropriate quality levels.

Before macroprudential regulations came into being, there was no explicit operational requirement for banks to aggregate the data in these forms and to present it externally across businesses, products and jurisdictions. Now that regulations require more information to increase transparency and protect the customer, a new regulatory tool is required: the 'regulatory use case' rulebook.

Without the rulebook, we are very likely to have a fundamental 'apples to apples' problem with the data. That is, if we can't identify that a specific type of apple is not a red banana or a green pear then, when we look to make judgements about what is happening in the fruit bowl, we might miss important issues because we only see a puree – or at best a fruit salad. If regulators want to meet the political objective of identifying the 'bad apples', then use cases must set data definitions, standards and quality metrics up front which allow them to be spotted. It is only in the crucible of articulating how they intend to use the information to make decisions, that the technical specifications for the manual will be drafted.

If each G-SIB is free to report in whatever format it would like, it is the regulator that will bear the cost burden of mapping and maintaining a vast army of 'data scrubbers'. Of course, this army will not just be busy mapping legal entities, but will also be trying to understand the discrepancies in 'gross MTM' derivatives receivables (where data is submitted by products that do not have standard codes). Should we get it wrong, we run the risk that the models we rely on to govern the system will be undermined by lack of referential integrity of the data, which creates the risk of 'Garbage In, Gospel Out' (GIGO).

Firms' lack of a target operating model

In an industry where it has been estimated that 90% of a firm's IT budget goes to maintenance of legacy systems,[22] baked in 'run the bank' costs will define what is possible to achieve.

Many financial institutions are trying to run services on disparate systems whose complexity and inflexibility make it difficult to respond to regulatory demands. Decades of ad hoc technology investment, combined with merger and acquisition activity, has left them with disconnected silos of information and duplicative processes. Systems that were developed in an attempt to stay 'ahead of the game' are now holding firms back. Some refer to these physical components as 'boxes and wires', but they are much more than that. In reality, what supports a highly technical and information intensive industry like financial services is an ecosystem of networks, application servers, databases, physical storage, end user computing and the physical housing of all this.

Regulatory change requests, even relatively minor ones, can therefore have a huge impact on the way firms need to rearrange their internal systems to comply.

As the regulatory perimeter expands into insurance, fund management and 'shadow banking' so will the cost of compliance with increasing 'bank-style' regulation for institutions that have not historically been required to maintain the same level of mastery over their data.

Such initiatives come with regulatory expectations that firms will be able to provide up-to-the minute, flexible data aggregation and analysis of granular data sets at varying frequencies. Depending on the readiness of firms, such expected capabilities will require expensive and time consuming programmes to achieve them. Many gaps in the technology that firms are employing today will have to be addressed and a re-evaluation of the operating model is required in order to bring firm practices into what regulators are expecting to be possible.

Vendors will also have a role to play. They are going to require clarity on what exactly is required in order to shape technological solutions that are fit for purpose from both an individual firm's risk modelling and stress testing point of view and but also from a regulatory viewpoint of what is fit for purpose. With no set standard to be working towards, there have evolved numerous disparate solutions for firms that are proving to be inappropriate to the level of requirements firms are facing.

Without clear regulatory guidelines for a target operating model these problems will be difficult to overcome.

3. Conclusion: The light at the end of the tunnel?

The industry needs to have a view of the end-game in order to make the transition as smooth and efficient as possible. Implementing one isolated change after another is inefficient and costly, and will only serve to undermine the goals that regulators hope to achieve. Therefore, the industry and regulators must engage in conversation and cooperation, not just in this particular instance, but towards the common goal that the policy change alludes to.

Current European regulation of banking and non-banking entities is fragmented, regulated by different bodies with different powers, siloed and inconsistent in scope and detail, and any 'status quo' approach to further regulation will amplify these issues. Whilst the European Single Rulebook, data collection for trade repositories, trade reporting, risk reporting and macro risk reporting are all a valuable start in changing this situation, they are also indicative of the problem.

- Policy: How will cross-sector industry policy objectives be agreed (i.e., cross ESA collaboration)? Will the policy owner be able to define the policy for data collection despite confliction with member States' legal frameworks, business practices, languages?
- Governance: Given the many competing demands for the use of the data outlined above, how will decisions be made about the scope and objectives of the identifiers required and the position information needed?
- Operations and funding: Will an appropriately empowered and resourced body be created to develop and maintain the policy for legal entity tracking and collection? How much will be allocated to the effort?
- Leadership: In discussions with the EC and UK regulators, we have heard that a lack of leadership, rather than financial resources or expertise, is the primary barrier to a more effective regime. Who will provide the leadership, direction and drive necessary to overcome the many potential barriers to effective and efficient transparency regulation?

Getting this right will require a policy 're-orientation' in Europe, with an 'end-to-end' view of the problem, in which identifying the right data is just one piece of the puzzle. This should include what data is required, when it is needed, how to obtain it and a constant reassessment of the approach. Key challenges to be to be addressed include avoiding repeated data reporting, ensuring data quality and achieving consistency in definitions, granularity and frequency. Poorly interpreted signals, culturally different views and divergent approaches will make this task harder.

Careful planning will be required to identify dependencies between new regulatory requirements and changes to existing ones. For example, if we do not quickly identify the precise way in which the LEI will be (and will not be) used, we will create confusion and misunderstanding as to what problems we are solving with it (and which we are not). The bottom line is that clarity on the definition of the code will only be achieved through looking in detail at the potential uses of the code and validating that the definition is fit for purpose. Even when mandated, new identifiers can take decades to be introduced, such as with the ISIN.[14]

EU regulators will need the right mandates, skills and resources to make cross-sector, cross-regulator data collection a workable reality. The EU has the power to engage in radical agenda setting to specifically address many of the underlying 'level 1' data collection issues, which it has already had a start on.

Efforts need to be made to leverage existing international standards and, perhaps, create new ones. However, it cannot be owned by a standards body without the correct engagement model and oversight. In Europe, the ESRB and the ESAs should all play a role. Internationally, the BIS and/or FSB and IMF could also be involved.

There are clear opportunities for the EU in establishing a robust, consistent regulatory framework and supporting infrastructure and coherent European approach will set the tone for international consistency in addition to minimising the opportunities for regulatory arbitrage.

Appendix 1: Regulatory implementation cost impact factors

Scenario regulatory implementation cost factors			Scenario budget implication (+/-)		
Category	**Issue**	**Example**	**Base**	**B**	**C**
Target operating model requirements	Different starting points	Jurisdictional variance in COREP/FINREP/XBRL adoption	✓	✓	
	No common standard	Jurisdictional variance in identifiers (France has no client ID)	✓	✓	
	Adoption of common standards	Mandatory use of common LEI, UPI and other identifiers			✓
	Divergent approaches	FSA's CP11/12 Large Exposures and ART programme's approaches diverge from EU level reform	✓	✓	
	Lack of clear of objectives	No explicit integration objective	✓	✓	
	Testing	Short timelines for COREP implementation require	✓	✓	
	Increased regulatory requirements	UK unprepared for possible FINREP implementation mandate		✓	
	Duplicated requirements	Overlap between COREP and FSB Common Reporting Template data requirements		✓	
Timing	Poor scheduling/short implementation windows	CRR technical standards for supervisory reporting not yet released for Q1 2013 implementation	✓	✓	
	Delayed regulatory requirements definitions	Policy statement not yet released for UK RRPs	✓	✓	
	Common implementation timeframes	If implementation dates for COREP, FINREP and FSB's Common Reporting Template were aligned			✓
	Longer implementation windows	Extension on implementation date for Solvency II, COREP			✓
Transition	Poor cost estimates	FSA's estimation of RRP implementation costs (£6,700-7m)	✓	✓	
	Vendor confusion/cost	Large divergence in firms' appetite for self-configurable templates versus 'out of the box ' solutions according to size meaning few appropriately tailored solutions	✓	✓	
	Consulting/ contractor rates	Common implementation timeframes for CRD IV means 'same time' demand for consultants/contractors	✓	✓	
	Training	Common implementation timeframes for CRD IV means subject matter experts in high demand for training	✓	✓	
	Internal resource	Common implementation timeframes for multiple regulations means internal resourcing is squeezed by multiple work streams	✓	✓	
	Commercial licensing	Inappropriate vendor-led commercial models increase risk of having to replace incumbent solutions instead of update	✓	✓	

Appendix 2: About the research

JWG is a financial services think-tank which works with regulators, investment firms and their information technology supply chain to help determine how the right regulations can be implemented in the right way. We are actively engaged with firms in helping to catalogue and interpret the many requirements for counterparty identification across the G20 reform programme.

As part of our daily business, we have catalogued over 70,000 pages of regulatory reform into our database this year and we produce up-to-the-minute daily alerts for our membership.

For this research we used results from three surveys conducted over the past year and a half with senior professionals in financial services.

About the surveys	
'Will your firm clear the risk MI bar?' (concluded May 2011)	► 20+ financial services professionals from 16 financial institutions ► 10 questions on firms' approaches to improving their risk MI ► Questions were answered online, by phone and in face-to-face interviews
'The 2015 target operating model for EU regulatory reporting' (concluded June 2012)	► 80+ financial services professionals from 30+ identified financial institutions ► 16 questions on firms' current approaches to prudential/statistical regulatory reporting, key regulatory change drivers and approaches to new operating models ► Questions were answered online, by phone and in face-to-face interviews
'How is your firm preparing for Recovery and Resolution Plans?' (concluded November 2011)	► 20+ financial services professionals from 18 financial institutions ► 8 questions on firms' investment in systems, tools and infrastructures and data provision abilities ► Questions were answered online, by phone and in face-to-face interviews

Notes

1 JWG Survey '*How is your firm preparing for Resolution and Recovery Plans?* November 2011
2 JWG's '*Achieving supervisory control of systemic risk*', September 2010
2 JWG's '*Achieving supervisory control of systemic risk*', September 2010
3 FSA's ART project
4 FSB's '*Common reporting template for globally systemically important banks*'
5 JWG analysis of 81 respondents to the question 'To what extent are your regulatory reporting systems integrated with other systems?'
6 JWG analysis of 56 respondents to the question 'agree/disagree? 'Regulatory reporting improvement is fully sponsored across the firm'
7 JWG analysis of 56 respondents to the question 'agree/disagree? 'Your firm is likely to start a major reporting system transformation project in 2013'
8 JWG analysis of 56 respondents to the question 'agree/disagree? 'Regulatory reporting programmes have sufficient resources and personnel assigned'
9 JWG analysis of 50 respondents to the question 'If a change is required to your reporting solutions, how long will it take to implement?'
10 '*Clearing the risk MI bar?*' JWG Analysis Report, May 2011
11 JWG analysis of 55 respondents to the question 'when investing in a regulatory reporting solution, what type of system strategy are you likely to pursue?'
12 JWG analysis of 55 respondents to the question 'If you are prepared to buy, what 3 decision factors most drive your choices for a reporting solution?'
13 JWG analysis of 52 respondents to the question 'What functionality matters most in a reporting solution?'
14 '*Clearing the risk MI bar?*' JWG Analysis Report, May 2011
15 Institute of International Finance (IIF) and McKinsey & Company '*Risk IT and Operations*', June 2011
16 JWG analysis of 56 respondents to the question 'How much 'change the bank' budget has been allocated to improving/enhancing micro, macro and statutory regulatory reporting?'
17 JWG analysis of 50 respondents to the question' If a change is required to your reporting solutions, how long will it take to implement?'
18 JWG analysis of 56 respondents to the question 'agree/disagree? 'Your firm is likely to start a major reporting system transformation project in 2013'
19 International Association of Insurance Supervisors (IAIS) '*Global Systemically Important Insurers: Proposed Assessment Methodology*'
20 FSB's '*Common reporting template for globally systemically important banks*'
21 BBA consultation response to EBA's '*CP50 Draft Implementing Technical Standards for Supervisory reporting requirements for institutions*'
22 *'Replacing legacy payment systems: An industry guide from ACI'*