EBA EUROPEAN BANKING AUTHORITY

Draft report on the calibration of the leverage ratio under Article 511(3) CRR

London – 15 April 2016

Disclaimer

The purpose of this presentation is to inform on the state of play of the report on the calibration the leverage ratio, which the EBA is mandated to produce for the Commission as per Article 511 (3) of the CRR. The requested time for delivery of this report is July 2016. The findings and conclusions that will be discussed are only preliminary and may change substantially when the analysis is finalised and the full report is published.

Structure

1. Background and rationale for the leverage ratio
2. Methodology and preliminary findings
3. Next steps

Background (1/3)

International policy developments on the leverage ratio:

1. December 2010: The Basel Committee on Banking Supervision (BCBS) introduced the Leverage Ratio (LR), which is to migrate to Pillar 1 in 2018 after a period of review.
   - The LR was introduced with the following objectives:

     "restrict the build-up of leverage in the banking sector to avoid destabilising deleveraging processes that can damage the broader financial system and the economy;" and "reinforce the risk-based requirements with a simple, non-risk based "backstop" measure".
   - The LR is defined as the ratio of Tier 1 capital over total exposure, which includes both on- and off-balance sheet positions. While exposures are not subject to risk-weights under the LR, different conversion factors apply to off-balance sheet positions reflecting differences magnitude of their utilisation. While netting between assets and liabilities is generally not permitted, specific rules apply to derivatives and so-called "Securities Financing Transactions" (SFTs), which include repurchase transactions, securities or commodities lending or borrowing transactions, long settlement transactions and margin lending transactions.
2. January 2014: The BCBS publishes refinements to the definition of the LR.
3. January 2016: The Governors and Heads Of Supervision (GHOS) publishes a press release indicating, amongst other things, a minimum level of 3%.
4. April 2016: The BCBS publishes a Consultative Document

Background (2/3)

European regulatory reforms on the leverage ratio:

June 2013: Regulation (EU) No 575/2013 and Directive 2013/36/EU (CRR/CRD IV).

a) It requires the implementation within the Supervisory Review and Evaluation Process (SREP) as well as disclosure of the LR and empowers the EU Commission to adopt a delegated act to amend the LR definition. This delegated act was published in January 2015 and is directly applicable.

b) Regarding SREP, CRD IV clarifies references that institutions should effectively manage the risk of excessive leverage, including with use of the LR, and also clarifies that this shall be part of the ICAAP/SREP process.

c) Regarding disclosure, disclosure of the LR should take place in 2015.

d) The CRR contains specific mandates for the EBA to develop draft Technical Standards on reporting and disclosure (recently published in the OJ) in order to enhance regulatory harmonisation in Europe through the single rulebook.

Background (3/3) Mandate to the EBA on the LR

- Article 511 (3) of the CRR mandates the EBA to report on various aspects, with a key question:
  - Whether the LR should migrate to Pillar 1 and, if so, what the minimum level(s) should be especially taking into account business models and risk profiles

  - A considerable number of other aspects, such as interaction with the RWA based ratios and liquidity requirements as well as the impact on various segments of financial markets, shall also be analysed (see Art 511(3) and (4) CRR). This includes the assessment of impact on:
    - financial markets, robustness of institutions, balance sheet structures, institution's risk-taking behaviour, clearing, settlement, and custody activities, and operations of central counterparties, cyclicality of the capital and total exposure measure, lending to SMEs, local authorities, regional governments, public sector entities, and trade financing.

  - More general, overarching aspects include:
    - The appropriateness of the LR as a tool to suppress the risk of excessive leverage and whether the CRD IV requirements for managing the risk of excessive leverage are sufficient.
    - The impact of accounting differences between accounting standards.

- By 31/12/2016, the EU Commission, considering the EBA report, shall submit a report on the impact and effectiveness of the LR to the European Parliament and the Council, and where appropriate, the report shall be accompanied by a legislative proposal on the introduction of a Pillar 1 LR, with appropriate level(s).

Introduction to the Report

- The LR as according to the Delegated Act on the LR is the starting point of the report in terms of calculation.
- In addition the recent GHOS communication serves as a benchmark in terms of calibration.
- The analysis underlying the report is based on different quantitative methods, involving both empirical methods as well as a simulation method. These include:
    - An analysis based on data reported under the EU Voluntary QIS exercise, which gives a comprehensive view of the leverage ratios by business model.
    - A sample of 246 credit institutions from 20 countries with June 2015 as a last reference date.
    - A benchmarking analysis with the objective of estimating the exposure to the risk of excessive leverage of business models (same data source used). This analysis applies indicators on (stability of) profitability, funding, business activity and concentration.

Introduction to the Report

- A simulation analysis to assess institutions' path to compliance with potential LR requirements. On the basis of EU Voluntary QIS exercise as well as CoRep reporting, institution-specific balance sheet data is used, rather than aggregate data, which allows for granular results and insights. Baseline scenario is 50% capital build-up and 50% exposure reduction.
- Empirical/model based approaches on robustness and risk taking as well as procyclicality.

Preliminary general conclusions

The results of the quantitative analyses performed by the EBA suggest that **a 3% level of calibration for the LR is generally consistent with the objective of a "backstop"** measure which supplements risk-based capital requirements.

The potential **impact** of introducing a LR requirement of 3% **on the provision of financing by credit institutions is relatively moderate when put into the context of the overall size of the banking sector**.

LR level of EU institutions (1/2)

Compliance by business model can differ

		Full sample	Business Models											
			Cross-border universal banks	Local universal banks	Automotive, consumer credit banks	Building societies	Locally active savings and loan associations, cooperative banks	Private banks	Custody banks	Merchant banks	Leasing and factoring banks	Public development banks	Mortgage banks including passthrough financing mortgage banks	Other specialised banks
Number of entities in the sample		246	34	71	8	7	68	3	5	3	4	12	12	19
Leverage ratio	Weighted average	4.4%	4.2%	4.9%	8.0%	4.1%	5.3%	6.4%	8.4%	8.3%	7.4%	4.6%	3.7%	3.8%
	Median	5.5%	4.5%	5.5%	8.7%	4.0%	6.6%	4.8%	5.2%	8.5%	4.1%	2.8%	3.9%	5.3%
3% LR requirement	Tier 1 shortfall (€bn)	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	2.1	0.8

Source: EBA QIS (June 2015)

- The business model categories resemble those of the EBA report on the NSFR, with the addition of the category of public development banks as per Article 511(4)(a)(iii) CRR.

LR level of EU institutions (2/2)

		Full sample	Size buckets				G-SII / Non G-SII	
			Small	Medium	Large	Very large	G-SII	Non G-SII
Number of entities in the sample		246	96	95	19	36	14	232
Leverage ratio	Weighted average	4.4%	3.8%	4.6%	5.5%	4.3%	4.1%	4.8%
	Median	5.5%	6.6%	5.0%	4.9%	5.2%	4.2%	5.5%
3% LR requirement	Tier 1 shortfall (€bn)	6.4	3.5	2.6	0.0	0.3	0.0	6.4

Source: EBA QIS (June 2015)

Benchmarking Risk of Excessive Leverage (1/4)

Mandate

- EBA mandated to assess business models according to their risk in the context of the leverage ratio report.
- Article 4(1)(94) CRR defines the risk of excessive leverage as "*the risk resulting from an institution's vulnerability due to leverage or contingent leverage that may require unintended corrective measures to its business plan, including distressed selling of assets which might result in losses or in valuation adjustments to its remaining assets*".

Methodology

- Four risk dimensions on (the stability of): i) profitability, ii) funding, iii) business activity and iv) concentration. There are 10 underlying risk indicators.
- On the basis of statistical analysis, that tests whether institutions of a specific business model tend to systematically outperform or underperform institutions following other business models, the exposure to the risk of excessive leverage can be assessed in relative terms (i.e. what types of business models tend to be more or less exposed to the risk of excessive leverage than others).
- This facilitates a ranked categorisation by business model and risk and may ultimately inform recommendations on the appropriateness of higher or lower leverage ratio requirements for particular types of institutions.

Benchmarking Risk of Excessive Leverage (2/4)

Early results by Business models

Business model	*Dimension 1* Level and stability of profitability			*Dimension 2* Stability of funding			*Dimension 3* Stability of business activity		*Dimension 4* Concentration		# entities
	ROA (Sharpe ratio)	Peak loss	Z-score	HQLA to assets (mean)	ASF to assets (mean)	Deposits to assets (mean)	Growth rate of loans (sdt dev)	Growth rate of assets (sdt dev)	Primary class of assets (mean)	Primary source of income (mean)	
Cross-border universal banks	More exposed to R.E.L			More exposed to R.E.L			More exposed to R.E.L		Less exposed to R.E.L		34
	Too heterogeneous	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Significantly less exposed to R.E.L	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Too heterogeneous	Significantly less exposed to R.E.L	
Local universal banks	More exposed to R.E.L			Neutral			Neutral		Neutral		71
	Too heterogeneous	Significantly more exposed to R.E.L	Too heterogeneous	Neutral	Neutral	Significantly less exposed to R.E.L	Too heterogeneous	Too heterogeneous	Neutral	Too heterogeneous	
Automotive, consumer credit banks	Neutral			More exposed to R.E.L			Neutral		More exposed to R.E.L		8
	Neutral	Neutral	Neutral	Significantly more exposed to R.E.L	Neutral	Too heterogeneous	Neutral	Neutral	Significantly more exposed to R.E.L	Neutral	
Building societies	Neutral			Neutral			Neutral		More exposed to R.E.L		7
	Neutral	Neutral	Neutral	Neutral	Significantly less exposed to R.E.L	Neutral	Neutral	Neutral	Neutral	Significantly more exposed to R.E.L	
Locally active savings and loan associations, cooperative banks	Less exposed to R.E.L			Less exposed to R.E.L			Less exposed to R.E.L		More exposed to R.E.L		68
	Too heterogeneous	Significantly less exposed to R.E.L	Too heterogeneous	Too heterogeneous	Significantly less exposed to R.E.L	Significantly less exposed to R.E.L	Too heterogeneous	Significantly less exposed to R.E.L	Neutral	Significantly more exposed to R.E.L	
Private banks	Neutral			Neutral			More exposed to R.E.L		Neutral		3
	Neutral	Significantly less exposed to R.E.L	Neutral	Significantly less exposed to R.E.L	Neutral	Neutral	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Significantly less exposed to R.E.L	Significantly more exposed to R.E.L	
Custody banks	Neutral			More exposed to R.E.L			More exposed to R.E.L		More exposed to R.E.L		5
	Neutral	Neutral	Neutral	Neutral	Significantly more exposed to R.E.L	Too heterogeneous	Significantly more exposed to R.E.L	Neutral	Neutral	Significantly more exposed to R.E.L	

Benchmarking Risk of Excessive Leverage (3/4)

Early results by Business models

Business model	*Dimension 1* Level and stability of profitability			*Dimension 2* Stability of funding			*Dimension 3* Stability of business activity		*Dimension 4* Concentration		# entities
	ROA (Sharpe ratio)	Peak loss	Z-score	HQLA to assets (mean)	ASF to assets (mean)	Deposits to assets (mean)	Growth rate of loans (sdt dev)	Growth rate of assets (sdt dev)	Primary class of assets (mean)	Primary source of income (mean)	
Merchant banks	Neutral			Neutral			More exposed to R.E.L		Neutral		3
	Neutral	Neutral	Neutral	Neutral	Neutral	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Neutral	Neutral	
Leasing and factoring banks	Neutral			Neutral			Less exposed to R.E.L		Neutral		4
	Neutral	Neutral	Neutral	Neutral	Neutral	Significantly more exposed to R.E.L	Neutral	Significantly less exposed to R.E.L	Significantly more exposed to R.E.L	Significantly less exposed to R.E.L	
Public development banks	Neutral			Neutral			Neutral		Neutral		12
	Neutral	Neutral	Neutral	Neutral	Significantly less exposed to R.E.L	Significantly more exposed to R.E.L	Neutral	Neutral	Neutral	Neutral	
Mortgage banks including passthrough financing mortgage banks	Neutral			More exposed to R.E.L			Neutral		More exposed to R.E.L		12
	Neutral	Neutral	Significantly less exposed to R.E.L	Significantly more exposed to R.E.L	Neutral	Significantly more exposed to R.E.L	Too heterogeneous	Neutral	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	
Other specialised banks	Neutral			Neutral			More exposed to R.E.L		Neutral		19
	Neutral	Neutral	Neutral	Significantly less exposed to R.E.L	Significantly more exposed to R.E.L	Too heterogeneous	Neutral	Significantly more exposed to R.E.L	Too heterogeneous	Neutral	

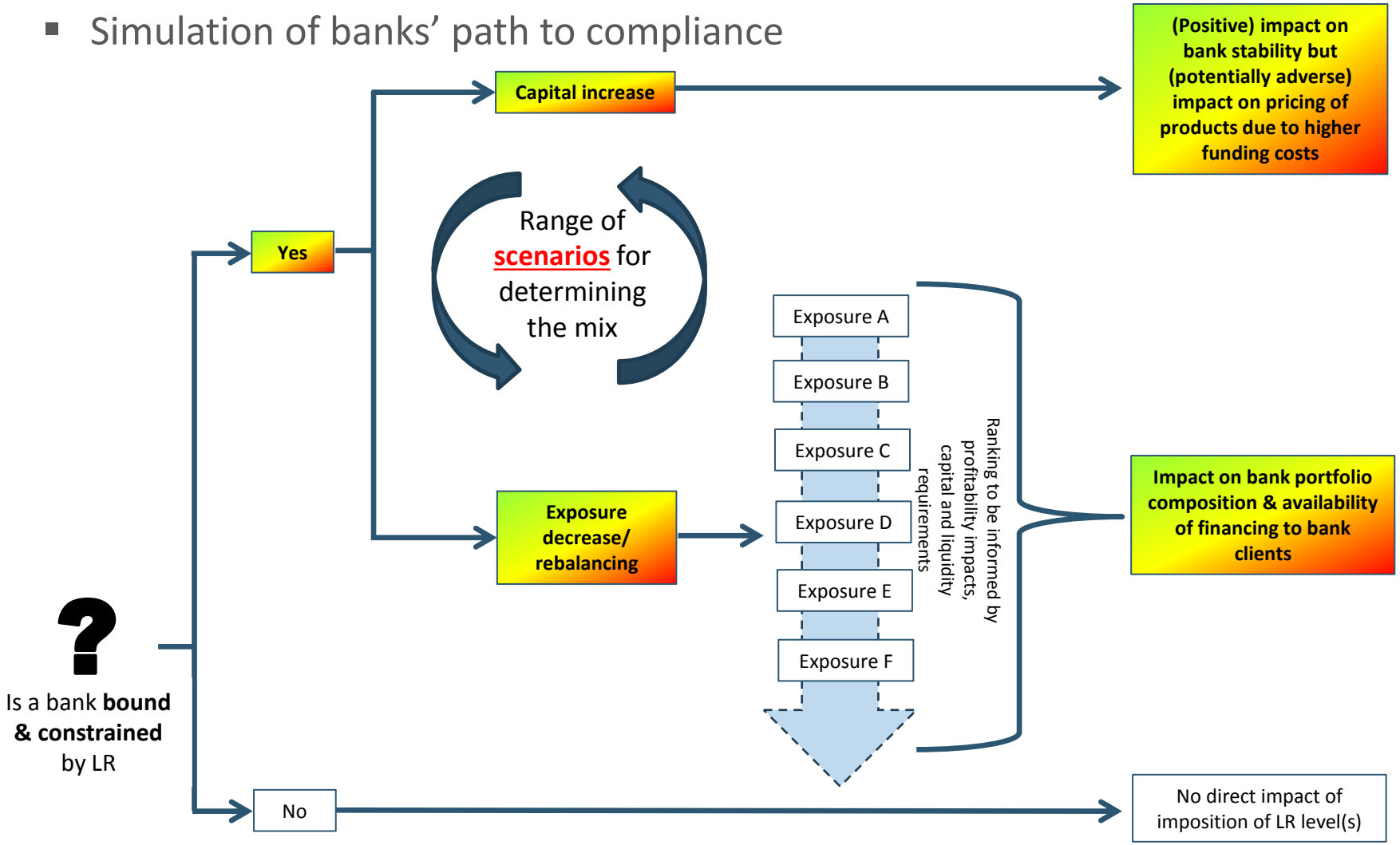
Benchmarking Risk of Excessive Leverage (4/4)

Early results by size and systemic relevance

Size bucket	*Dimension 1* Level and stability of profitability			*Dimension 2* Stability of funding			*Dimension 3* Stability of business activity		*Dimension 4* Concentration		# entities
	ROA_optA_sharp	Peak_Loss	Z_score	HQLA_to_Asset_mean	ASF_to_Asset_mean	Dep_to_Assets_mean	GrowthRate_Loans_std	GrowthRate_Assets_std	Prim_Asset_Class_mean	Prim_Income_Source_mean	
Small	Less exposed to R.E.L			Neutral			Neutral		Neutral		96
	Too heterogeneous	Too heterogeneous	Significantly less exposed to R.E.L	Too heterogeneous	Too heterogeneous	Too heterogeneous	Too heterogeneous	Too heterogeneous	Neutral	Too heterogeneous	
Medium	More exposed to R.E.L			Neutral			Neutral		Neutral		95
	Too heterogeneous	Significantly more exposed to R.E.L	Too heterogeneous	Neutral	Neutral	Too heterogeneous	Too heterogeneous	Too heterogeneous	Too heterogeneous	Neutral	
Large	More exposed to R.E.L			More exposed to R.E.L			Neutral		Neutral		19
	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Too heterogeneous	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Neutral	Neutral	Neutral	Neutral	
Very large	More exposed to R.E.L			More exposed to R.E.L			More exposed to R.E.L		Less exposed to R.E.L		36
	Too heterogeneous	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Significantly less exposed to R.E.L	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Neutral	Significantly more exposed to R.E.L	Significantly less exposed to R.E.L	Too heterogeneous	
	Dimension 1 Level and stability of profitability			*Dimension 2* Stability of funding			*Dimension 3* Stability of business activity		*Dimension 4* Concentration		# entities
	ROA_optA_sharp	Peak_Loss	Z_score	HQLA_to_Asset_mean	ASF_to_Asset_mean	Dep_to_Assets_mean	GrowthRate_Loans_std	GrowthRate_Assets_std	Prim_Asset_Class_mean	Prim_Income_Source_mean	
GSII	More exposed to R.E.L			More exposed to R.E.L			More exposed to R.E.L		Less exposed to R.E.L		14
	Neutral	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Neutral	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	Significantly less exposed to R.E.L	Significantly less exposed to R.E.L	
Non-GSII	Less exposed to R.E.L			Less exposed to R.E.L			Less exposed to R.E.L		More exposed to R.E.L		232
	Neutral	Significantly less exposed to R.E.L	Significantly less exposed to R.E.L	Neutral	Significantly less exposed to R.E.L	Significantly less exposed to R.E.L	Significantly less exposed to R.E.L	Significantly less exposed to R.E.L	Significantly more exposed to R.E.L	Significantly more exposed to R.E.L	

Simulation analysis – adjustment to different LR levels

- Simulation of banks' path to compliance



Simulation analysis – adjustment to different LR levels

- The simulation results should be seen as a rough, indicative estimate of the potential marginal impact of imposing a leverage ratio requirement. In particular, this impact is measured and quantified in terms of estimated reductions of exposures

Amount of exposure reduction, given several leverage ratio requirements (in €bn) – Baseline adjustments scenario

	Baseline (b) adjustments scenario (50% shortfall elimination through capital increases)	**Benign (a)** adjustments scenario (66% shortfall elimination through capital increases)	**Adverse** (c) adjustments scenario (33% shortfall elimination through capital increases)	**Extreme** (d) adjustments scenario (0% shortfall elimination through capital increases)
LR at **2%**	€12bn (0.0% of aggregate exposure)	€8bn (0.0% of aggregate exposure)	€17bn (0.1% of aggregate exposure)	€25bn (0.1% of aggregate exposure)
LR at **3%**	€54bn (0.2% of aggregate exposure)	€37bn (0.1% of aggregate exposure)	€72bn (0.3% of aggregate exposure)	€108bn (0.4% of aggregate exposure)
LR at **4%**	€793bn (2.9% of aggregate exposure)	€539bn (2.0% of aggregate exposure)	€1,062bn (3.9% of aggregate exposure)	€1,579bn (5.8% of aggregate exposure)
LR at **5%**	€2,289bn (8.4% of aggregate exposure)	€1,557bn (5.7% of aggregate exposure)	€3,067bn (11.2% of aggregate exposure)	€4,566bn (16.7% of aggregate exposure)
LR at **6%**	€3,871bn (14.1% of aggregate exposure)	€2,632bn (9.6% of aggregate exposure)	€5,187bn (18.9% of aggregate exposure)	€7,725bn (28.2% of aggregate exposure)

Preliminary conclusions (1/2)

- The results of the quantitative analyses performed by the EBA suggest that **a 3% level of calibration for the LR is generally consistent with the objective of a "backstop"** measure which supplements risk-based capital requirements. In particular, a (Tier 1 capital-based) LR calibrated at a level of 3% would constitute a higher capital requirement than a risk-based Tier 1 capital requirement of 8.5% for around 33% of the analysed credit institutions.

- The results of a simulations-based analysis suggest the potential **impact** of introducing a LR requirement of 3% **on the provision of financing by credit institutions would be relatively moderate when put into the context of the overall size of the banking sector**.

- The quantitative benchmarking results give indications **for a potentially elevated exposure to R.E.L.** in the case of the **largest and most complex credit institutions**, in particular for those that operate the business model of a **"cross-border universal bank"** and are at the same time G-SIIs.
- The empirical results reveal **a very moderate increase in risk-taking** at credit institutions which stood at a LR level below 3% in 2010 (when the BCBS introduced the LR). At the same time, increases in LR lead to robustness.
- The empirical results indicate that the LR is somewhat more sensitive to the economic cycle than risk-based capital requirement, and potentially countercyclical.

Preliminary conclusions (2/2)

- EBA mandate to investigate the need for any potential differentiations for very specialised business models as per what the mandate requires. Important is qualitative judgment, where needed, in addition to the quantitative analysis. No conclusions yet.
- Qualitative analysis aim particularly at capturing the specificities of each business model and specific constraints under which they have to operate (e.g. legal mandates, regulatory constraints other than CRR/CRD, etc).
- However, possible common features for some business models can be hard to capture because of the diverse ways activities are organised in jurisdictions across the EU.
- In addition it is difficult to design a differentiated treatment which would need to stay constraining enough not to defeat the mere purpose of the leverage ratio

- No significant impact of accounting differences

- Developments in Basel (6 April 2016 Consultative Document) are being monitored

Next steps

1. The final draft report will be presented to the EBA Governance Structures in May and June.

2. The final report will be submitted to the European Commission by end July.

3. The final report will be published on the EBA website.

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