



BANCA D'ITALIA
EUROSISTEMA

EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT SYSTEMIC IMPORTANCE (BUT WERE AFRAID TO ASK)

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Aim of the paper

- To provide a methodology by which market participants can directly assess banks' systemic relevance in a way that is consistent with, and directly comparable to, the FSB (Financial Stability Board) "official" assessment.
- To propose a reading of the crisis through the lenses of our systemic importance indicator for the global economy and two European sample: the EU and euro area.

Size vs Systemic importance

The term “systemic importance” has entered the economic jargon relatively recently. It was the demise of Lehman Brothers in 2008 that showed how the collapse of a single, possibly not big, but deeply interconnected financial institution could endanger financial stability worldwide.

“While size can be important in itself, it is much more significant when there are connections to other institutions. The relevance of size will also depend on the particular business model and group structure, and size may be of greater systemic concern when institutions are complex” (FSB/IMF/BIS, 2009).

Thus: not only size, but also systemic importance!

Systemic risk vs systemic importance

Systemic Risk (contribution): “risk of disruptions to financial services that is caused by an impairment of all or parts of the financial system and has the potential to have serious negative consequences for the real economy”

Systemic importance: “a financial institution is considered systemically important if its failure or malfunction causes widespread distress either as a direct impact or as a trigger of broader contagion” (IMF/BIS/FSB, 2009)

While SI can be considered as a LGD (loss given default) concept, SRC should be regarded as a PD (probability of default).

Different literatures?

Systemic Importance, Too-big-to-fail implicit subsidies and Systemic Risk Contribution are usually investigated in different branches of the literature.

TBTF: Mishkin (2006), Kroszner (2013) etc

SRC: Acharya et al. (2010), Adrian and Brunnermeier (2011), Drehmann and Tarashev (2011), Brownlees and Engle (2012), etc.

SI: ECB (2006), BCBS (2011), FSOC(2011), IAIS (2013), etc.

However, Völz and Wedow (JEF 2011), Demirgüç-Kunt and Huizinga (JBF 2013), Bertay et al. (JFI 2013), Zaghini (IF 2014)...

Policy makers vs market participants

SI definition and measurement are crucial to policy makers and the market.

Following a formal request by the G20-group, the Basel Committee on Banking Supervision (BCBS) proposed in 2011 a methodology to identify global systematically important financial institutions (G-SIFIs). The method was subsequently adopted by the FSB, which issued a first “official” list of G-SIFIs in November 2011.

The BCBS methodology has important practical implications, because all banks identified as G-SIFIs will be subject to capital surcharges (HLA- *Higher Loss Absorbency*) and enhanced prudential supervision.

Difficult understanding?

As of today, however, the BCBS procedure raises “concerns” in terms of communication and transparency.

The main potential weaknesses relate to:

1. the impossibility of replicating it due to its reliance on supervisory data;
2. the non-negligible role played by supervisory judgement in several steps of the procedure;
3. the incomplete disclosure of some of the underlying technical details.

Our contribution

Building on BCBS (2011) we provide a systemic importance (SI) index and a set of G-SIFIs derived from a procedure which is free of judgment at any step and is based exclusively on public data.

In this way we are able to fill the gap between financial market information about large and complex financial institutions and regulators' risk assessment and perception of systemic importance.

Two distinguishing features:

1. We apply the amended BSBC methodology to data before the start of the FSB exercise (6-year period 2007-2012);
2. We apply the procedure to three different populations of (100) banks: the global economy, the EU and euro area.

The BCBS methodology

1. Size (20%);

2. Interconnectedness (20%):

- a. Intra-financial system assets (6.67%);
- b. Intra-financial system liabilities (6.67%);
- c. Total marketable securities (6.67%);

3. Substitutability (20%):

- a. Assets under custody (6.67%);
- b. Payments cleared and settled through payments systems (6.67%);
- c. Values of underwritten transactions in debt and equity markets (6.67%);

4. Complexity (20%):

- a. OTC derivatives notional value (6.67%);
- b. Level 3 assets (6.67%);
- c. Held for trading and available for sale value (6.67%);

5. Cross-jurisdictional activity (20%):

- a. Cross-jurisdictional claims (10%);
- b. Cross-jurisdictional liabilities (10%).

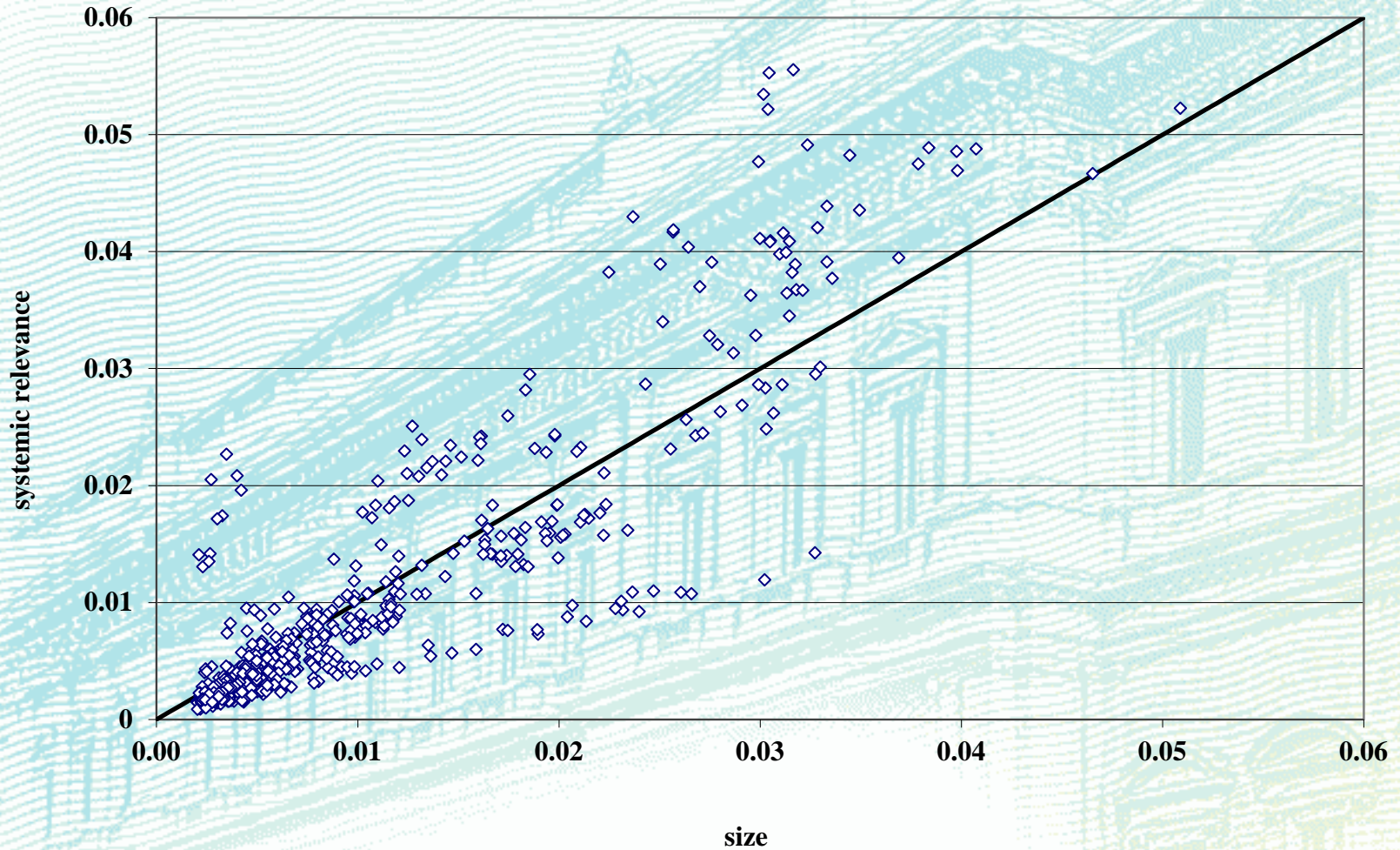
Data & methodology

- ❖ The database is built entirely relying on publicly available data, collecting data for the largest 100 banks for each year;
- ❖ Main sources: Bankscope, Dealogic, BIS international banking statistics, SNL Financial, Capital IQ;
- ❖ Some minor assumptions are necessary to adapt these data to each category descriptions of the BCBS (2013) methodology (Masciantonio 2012, Bank of Italy Occasional Paper);
- ❖ Once data are completed it is possible to calculate the overall SI score and rank all the banks accordingly.

Global geography

| share of banks | | | | | | |
|----------------|------|------|------|------|------|------|
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| US | 15.0 | 12.0 | 13.0 | 11.0 | 11.0 | 11.0 |
| EA | 38.0 | 39.0 | 38.0 | 34.0 | 30.0 | 29.0 |
| UK | 9.0 | 8.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| Ad-AS | 8.0 | 8.0 | 9.0 | 13.0 | 14.0 | 15.0 |
| BRIC | 12.0 | 15.0 | 16.0 | 17.0 | 21.0 | 20.0 |
| Ad-RW | 18.0 | 18.0 | 18.0 | 19.0 | 18.0 | 19.0 |
| Size score | | | | | | |
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| US | 17.7 | 15.3 | 15.0 | 14.7 | 13.9 | 13.8 |
| EA | 39.3 | 38.4 | 37.3 | 33.5 | 30.2 | 29.2 |
| UK | 15.6 | 15.4 | 13.1 | 12.3 | 12.0 | 11.2 |
| Ad-AS | 7.6 | 8.8 | 9.5 | 10.5 | 12.1 | 12.0 |
| BRIC | 7.0 | 9.7 | 12.6 | 15.2 | 18.2 | 19.6 |
| Ad-RW | 12.9 | 12.4 | 12.5 | 13.7 | 13.6 | 14.1 |
| SI score | | | | | | |
| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| US | 23.2 | 22.1 | 22.6 | 22.8 | 23.5 | 22.7 |
| EA | 38.5 | 37.4 | 35.9 | 33.5 | 31.5 | 29.0 |
| UK | 15.9 | 16.0 | 14.7 | 13.5 | 13.7 | 13.0 |
| Ad-AS | 5.6 | 7.1 | 8.0 | 9.0 | 9.0 | 10.8 |
| BRIC | 3.2 | 4.5 | 6.0 | 7.6 | 8.5 | 10.2 |
| Ad-RW | 13.6 | 13.0 | 12.8 | 13.6 | 13.9 | 14.3 |

Size and systemic relevance



European top 100

| | 2007 | | 2008 | | 2009 | | 2010 | | 2011 | | 2012 | |
|--------------------|----------|----------|---------|---------|----------|---------|----------|---------|----------|---------|----------|---------|
| | EU | EA | EU | EA | EU | EA | EU | EA | EU | EA | EU | EA |
| Austria | 5 | 5 | 5 | 5 | 6 | 6 | 4 | 7 | 4 | 6 | 3 | 5 |
| Belgium | 3 | 4 | 2 | 3 | 2 | 5 (1) | 3 (1) | 5 (1) | 4 (1) | 5 (1) | 4 | 6 (1) |
| Cyprus | | | 2 | 2 | 2 | 2 | 2 | 2 | | 3 | | |
| Finland | 1 | 3 (1) | 1 | 3 (2) | 1 | 3 (1) | 1 | 3 (1) | 1 | 3 (1) | 1 | 3 (2) |
| France | 6 | 8 (1) | 7 | 8 (1) | 6 | 7 (1) | 6 | 8 (1) | 6 | 9 (1) | 5 | 6 (1) |
| Germany | 22 (1) | 23 (2) | 21 | 23 (2) | 19 | 22 (2) | 18 | 22 (1) | 16 | 21 | 16 | 22 |
| Greece | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 4 | 4 |
| Ireland | 5 (1) | 6 (2) | 4 (1) | 4 (1) | 5 (1) | 5 (1) | 4 (1) | 5 (1) | 4 (1) | 5 (1) | 4 (1) | 6 (2) |
| Italy | 8 | 11 | 8 | 12 | 9 | 12 | 8 | 12 | 10 | 14 | 12 | 16 |
| Lux | 1 | 2 (1) | 1 | 2 (1) | 1 | 2 (1) | | 1 | 1 | 2 | 1 | 1 |
| Netherlands | 3 | 7 (2) | 3 | 5 (1) | 3 | 5 (1) | 4 | 5 | 4 | 5 | 4 | 6 |
| Portugal | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |
| Spain | 12 | 22 (1) | 14 | 23 (1) | 14 | 22 (1) | 16 | 21 (1) | 15 | 18 (1) | 16 | 20 (1) |
| Denmark | 2 | | 2 | | 2 | | 2 | | 2 | | 2 | |
| Poland | | | | | | | 1 | | 1 | | 1 | |
| Sweden | 4 | | 4 | | 4 | | 4 | | 4 | | 4 | |
| UK | 20 (9) | | 18 (8) | | 18 (9) | | 19 (10) | | 20 (10) | | 19 (9) | |
| Total | 100 (11) | 100 (10) | 100 (9) | 100 (9) | 100 (10) | 100 (9) | 100 (12) | 100 (6) | 100 (12) | 100 (5) | 100 (10) | 100 (7) |

EU Top 100: Is UK different?

In the EU sample, the UK is by far the top player. It shows the highest value in the overall SI index and in each category every single year.

However, the paramount role played by UK financial institutions is largely due to the concentration on its jurisdiction of several subsidiaries of non-EU banks (15.1%).

SI Index - EU sample

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---------------|-------------|-------------|-------------|-------------|-------------|-------------|
| EA | 62.3 | 61.5 | 63.2 | 66.6 | 57.9 | 58.2 |
| non EA | 37.7 | 38.5 | 36.8 | 33.4 | 42.1 | 41.8 |
| UK | 33.3 | 34.8 | 32.5 | 27.6 | 36.4 | 36.2 |
| other | 4.4 | 3.7 | 4.3 | 5.8 | 5.7 | 5.6 |

Our G-SIBs

| 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|----------------------------|----------------------------|
| Royal Bank of Scotland | JP Morgan | JP Morgan | JP Morgan | JP Morgan | JP Morgan | JP Morgan |
| Citigroup | BNP Paribas | BNP Paribas | Deutsche Bank | Deutsche Bank | Deutsche Bank | Citigroup |
| Deutsche Bank | Deutsche Bank | Citigroup | BNP Paribas | Citigroup | Barclays | Barclays |
| Barclays | Barclays | Barclays | Barclays | HSBC | HSBC | HSBC |
| BNP Paribas | Royal Bank of Scotland | Deutsche Bank | Citigroup | Barclays | Citigroup | BNP Paribas |
| JP Morgan | Citigroup | Royal Bank of Scotland | HSBC | BNP Paribas | BNP Paribas | Deutsche Bank |
| UBS | HSBC | HSBC | Bank of America | Bank of America | Bank of America | Bank of America |
| HSBC | UBS | Bank of America | Royal Bank of Scotland | Royal Bank of Scotland | Royal Bank of Scotland | Mitsubishi UFJ |
| Crédit Agricole | Crédit Agricole | Crédit Agricole | UBS AG | UBS | Crédit Agricole | Credit Agricole |
| Credit Suisse | Bank of America | Mitsubishi UFJ | Crédit Agricole | Crédit Agricole | Mitsubishi UFJ | Société Générale |
| Goldman Sachs | Mitsubishi UFJ | UBS | Société Générale | Mitsubishi UFJ | UBS | Royal Bank of Scotland |
| Société Générale | Credit Suisse | Société Générale | Goldman Sachs | Goldman Sachs | Goldman Sachs | Goldman Sachs |
| Bank of America | Société Générale | Credit Suisse | Credit Suisse | Société Générale | Société Générale | UBS |
| Merrill Lynch | Goldman Sachs | Goldman Sachs | Mitsubishi UFJ | Credit Suisse | Mizuho Financial Group | Bank of New York Mellon |
| Morgan Stanley | Morgan Stanley | Morgan Stanley | Morgan Stanley | Bank of New York Mellon | Bank of New York Mellon | Wells Fargo |
| Bank of New York Mellon | Bank of New York Mellon | Lloyds Banking Group | Bank of New York Mellon | Morgan Stanley | Credit Suisse | Mizuho Financial Group |
| Lehman Brothers | Merrill Lynch | BPCE Group | Banco Santander | Banco Santander | Morgan Stanley | Morgan Stanley |
| ING Bank | ING Bank | Mizuho Financial Group | Mizuho FG | Wells Fargo | Wells Fargo | ICBC |
| Mitsubishi UFJ | Mizuho Financial Group | Banco Santander | ING Bank NV | Mizuho Financial Group | Banco Santander | Sumitomo Mitsui |
| Fortis | Unicredit | Bank of New York Mellon | Unicredit | BPCE Group | BPCE Groupe | BPCE Group |
| Unicredit | Banco Santander | Commerzbank | BPCE Group | ING Bank | Sumitomo Mitsui | Credit Suisse |
| Banco Santander | Wells Fargo | Dexia | Wells Fargo | Unicredit | Lloyds Banking Group | Banco Santander |
| Danske Bank | Dexia | UniCredit | Dexia | State Street Corporation | ICBC | Agricultural Bank of China |
| Mizuho Financial Group | State Street | Wells Fargo | Lloyds Banking Group | Sumitomo Mitsui | State Street Corporation | State Street |
| HBOS | Groupe Caisse d'Epargne | State Street | State Street Corporation | Lloyds Banking Group | Unicredit | Bank of China Ltd |
| Dexia | Sumitomo Mitsui | ING Bank | Sumitomo Mitsui FG | ICBC | Royal Bank of Canada | Lloyds Banking Group |
| Groupe Caisse d'Epargne | HBOS | Sumitomo Mitsui | Commerzbank | Nordea Bank | Bank of China Limited | China Construction Bank |
| Commerzbank | Commerzbank | Nordea Bank | Royal Bank of Canada | Commerzbank | ING Bank | Unicredit |
| Dresdner Bank | | | ICBC | Dexia | Nordea Bank | Royal Bank of Canada |
| | | | Nordea Bank | Bank of China Ltd | Agricultural Bank of China | Nordea |
| | | | | Royal Bank of Canada | China Construction Bank | ING Bank |
| | | | | Rabobank | Commerzbank | |

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| 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|----------------------------|----------------------------|
| Royal Bank of Scotland | JP Morgan | JP Morgan | JP Morgan | JP Morgan | JP Morgan | JP Morgan |
| Citigroup | BNP Paribas | BNP Paribas | Deutsche Bank | Deutsche Bank | Deutsche Bank | Citigroup |
| Deutsche Bank | Deutsche Bank | Citigroup | BNP Paribas | Citigroup | Barclays | Barclays |
| Barclays | Barclays | Barclays | Barclays | HSBC | HSBC | HSBC |
| BNP Paribas | Royal Bank of Scotland | Deutsche Bank | Citigroup | Barclays | Citigroup | BNP Paribas |
| JP Morgan | Citigroup | Royal Bank of Scotland | HSBC | BNP Paribas | BNP Paribas | Deutsche Bank |
| UBS | HSBC | HSBC | Bank of America | Bank of America | Bank of America | Bank of America |
| HSBC | UBS | Bank of America | Royal Bank of Scotland | Royal Bank of Scotland | Royal Bank of Scotland | Mitsubishi UFJ |
| Crédit Agricole | Crédit Agricole | Crédit Agricole | UBS AG | UBS | Crédit Agricole | Credit Agricole |
| Credit Suisse | Bank of America | Mitsubishi UFJ | Crédit Agricole | Crédit Agricole | Mitsubishi UFJ | Société Générale |
| Goldman Sachs | Mitsubishi UFJ | UBS | Société Générale | Mitsubishi UFJ | UBS | Royal Bank of Scotland |
| Société Générale | Credit Suisse | Société Générale | Goldman Sachs | Goldman Sachs | Goldman Sachs | Goldman Sachs |
| Bank of America | Société Générale | Credit Suisse | Credit Suisse | Société Générale | Société Générale | UBS |
| Merrill Lynch | Goldman Sachs | Goldman Sachs | Mitsubishi UFJ | Credit Suisse | Mizuho Financial Group | Bank of New York Mellon |
| Morgan Stanley | Morgan Stanley | Morgan Stanley | Morgan Stanley | Bank of New York Mellon | Bank of New York Mellon | Wells Fargo |
| Bank of New York Mellon | Bank of New York Mellon | Lloyds Banking Group | Bank of New York Mellon | Morgan Stanley | Credit Suisse | Mizuho Financial Group |
| Lehman Brothers | Merrill Lynch | BPCE Group | Banco Santander | Banco Santander | Morgan Stanley | Morgan Stanley |
| ING Bank | ING Bank | Mizuho Financial Group | Mizuho FG | Wells Fargo | Wells Fargo | ICBC |
| Mitsubishi UFJ | Mizuho Financial Group | Banco Santander | ING Bank NV | Mizuho Financial Group | Banco Santander | Sumitomo Mitsui |
| Fortis | Unicredit | Bank of New York Mellon | Unicredit | BPCE Group | BPCE Groupe | BPCE Group |
| Unicredit | Banco Santander | Commerzbank | BPCE Group | ING Bank | Sumitomo Mitsui | Credit Suisse |
| Banco Santander | Wells Fargo | Dexia | Wells Fargo | Unicredit | Lloyds Banking Group | Banco Santander |
| Danske Bank | Dexia | UniCredit | Dexia | State Street Corporation | ICBC | Agricultural Bank of China |
| Mizuho Financial Group | State Street | Wells Fargo | Lloyds Banking Group | Sumitomo Mitsui | State Street Corporation | State Street |
| HBOS | Groupe Caisse d'Epargne | State Street | State Street Corporation | Lloyds Banking Group | Unicredit | Bank of China Ltd |
| Dexia | Sumitomo Mitsui | ING Bank | Sumitomo Mitsui FG | ICBC | Royal Bank of Canada | Lloyds Banking Group |
| Groupe Caisse d'Epargne | HBOS | Sumitomo Mitsui | Commerzbank | Nordea Bank | Bank of China Limited | China Construction Bank |
| Commerzbank | Commerzbank | Nordea Bank | Royal Bank of Canada | Commerzbank | ING Bank | Unicredit |
| Dresdner Bank | | | ICBC | Dexia | Nordea Bank | Royal Bank of Canada |
| | | | Nordea Bank | Bank of China Ltd | Agricultural Bank of China | Nordea |
| | | | | Royal Bank of Canada | China Construction Bank | ING Bank |
| | | | | Rabobank | Commerzbank | |

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| Royal Bank of Scotland | JP Morgan | JP Morgan | JP Morgan | JP Morgan | JP Morgan | JP Morgan |
| Citigroup | BNP Paribas | BNP Paribas | Deutsche Bank | Deutsche Bank | Deutsche Bank | Citigroup |
| Deutsche Bank | Deutsche Bank | Citigroup | BNP Paribas | Citigroup | Barclays | Barclays |
| Barclays | Barclays | Barclays | Barclays | HSBC | HSBC | HSBC |
| BNP Paribas | Royal Bank of Scotland | Deutsche Bank | Citigroup | Barclays | Citigroup | BNP Paribas |
| JP Morgan | Citigroup | Royal Bank of Scotland | HSBC | BNP Paribas | BNP Paribas | Deutsche Bank |
| UBS | HSBC | HSBC | Bank of America | Bank of America | Bank of America | Bank of America |
| HSBC | UBS | Bank of America | Royal Bank of Scotland | Royal Bank of Scotland | Royal Bank of Scotland | Mitsubishi UFJ |
| Crédit Agricole | Crédit Agricole | Crédit Agricole | UBS AG | UBS | Crédit Agricole | Credit Agricole |
| Credit Suisse | Bank of America | Mitsubishi UFJ | Crédit Agricole | Crédit Agricole | Mitsubishi UFJ | Société Générale |
| Goldman Sachs | Mitsubishi UFJ | UBS | Société Générale | Mitsubishi UFJ | UBS | Royal Bank of Scotland |
| Société Générale | Credit Suisse | Société Générale | Goldman Sachs | Goldman Sachs | Goldman Sachs | Goldman Sachs |
| Bank of America | Société Générale | Credit Suisse | Credit Suisse | Société Générale | Société Générale | UBS |
| Merrill Lynch | Goldman Sachs | Goldman Sachs | Mitsubishi UFJ | Credit Suisse | Mizuho Financial Group | Bank of New York Mellon |
| Morgan Stanley | Morgan Stanley | Morgan Stanley | Morgan Stanley | Bank of New York Mellon | Bank of New York Mellon | Wells Fargo |
| Bank of New York Mellon | Bank of New York Mellon | Lloyds Banking Group | Bank of New York Mellon | Morgan Stanley | Credit Suisse | Mizuho Financial Group |
| Lehman Brothers | Merrill Lynch | BPCE Group | Banco Santander | Banco Santander | Morgan Stanley | Morgan Stanley |
| ING Bank | ING Bank | Mizuho Financial Group | Mizuho FG | Wells Fargo | Wells Fargo | ICBC |
| Mitsubishi UFJ | Mizuho Financial Group | Banco Santander | ING Bank NV | Mizuho Financial Group | Banco Santander | Sumitomo Mitsui |
| Fortis | Unicredit | Bank of New York Mellon | Unicredit | BPCE Group | BPCE Groupe | BPCE Group |
| Unicredit | Banco Santander | Commerzbank | BPCE Group | ING Bank | Sumitomo Mitsui | Credit Suisse |
| Banco Santander | Wells Fargo | Dexia | Wells Fargo | Unicredit | Lloyds Banking Group | Banco Santander |
| Danske Bank | Dexia | UniCredit | Dexia | State Street Corporation | ICBC | Agricultural Bank of China |
| Mizuho Financial Group | State Street | Wells Fargo | Lloyds Banking Group | Sumitomo Mitsui | State Street Corporation | State Street |
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| Dexia | Sumitomo Mitsui | ING Bank | Sumitomo Mitsui FG | ICBC | Royal Bank of Canada | Lloyds Banking Group |
| Groupe Caisse d'Epargne | HBOS | Sumitomo Mitsui | Commerzbank | Nordea Bank | Bank of China Limited | China Construction Bank |
| Commerzbank | Commerzbank | Nordea Bank | Royal Bank of Canada | Commerzbank | ING Bank | Unicredit |
| Dresdner Bank | | | ICBC | Dexia | Nordea Bank | Royal Bank of Canada |
| | | | Nordea Bank | Bank of China Ltd | Agricultural Bank of China | Nordea |
| | | | | Royal Bank of Canada | China Construction Bank | ING Bank |
| | | | | Rabobank | Commerzbank | |

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| Royal Bank of Scotland | JP Morgan | JP Morgan | JP Morgan | JP Morgan | JP Morgan | JP Morgan |
| Citigroup | BNP Paribas | BNP Paribas | Deutsche Bank | Deutsche Bank | Deutsche Bank | Citigroup |
| Deutsche Bank | Deutsche Bank | Citigroup | BNP Paribas | Citigroup | Barclays | Barclays |
| Barclays | Barclays | Barclays | Barclays | HSBC | HSBC | HSBC |
| BNP Paribas | Royal Bank of Scotland | Deutsche Bank | Citigroup | Barclays | Citigroup | BNP Paribas |
| JP Morgan | Citigroup | Royal Bank of Scotland | HSBC | BNP Paribas | BNP Paribas | Deutsche Bank |
| UBS | HSBC | HSBC | Bank of America | Bank of America | Bank of America | Bank of America |
| HSBC | UBS | Bank of America | Royal Bank of Scotland | Royal Bank of Scotland | Royal Bank of Scotland | Mitsubishi UFJ |
| Crédit Agricole | Crédit Agricole | Crédit Agricole | UBS AG | UBS | Crédit Agricole | Credit Agricole |
| Credit Suisse | Bank of America | Mitsubishi UFJ | Crédit Agricole | Crédit Agricole | Mitsubishi UFJ | Société Générale |
| Goldman Sachs | Mitsubishi UFJ | UBS | Société Générale | Mitsubishi UFJ | UBS | Royal Bank of Scotland |
| Société Générale | Credit Suisse | Société Générale | Goldman Sachs | Goldman Sachs | Goldman Sachs | Goldman Sachs |
| Bank of America | Société Générale | Credit Suisse | Credit Suisse | Société Générale | Société Générale | UBS |
| Merrill Lynch | Goldman Sachs | Goldman Sachs | Mitsubishi UFJ | Credit Suisse | Mizuho Financial Group | Bank of New York Mellon |
| Morgan Stanley | Morgan Stanley | Morgan Stanley | Morgan Stanley | Bank of New York Mellon | Bank of New York Mellon | Wells Fargo |
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| Mitsubishi UFJ | Mizuho Financial Group | Banco Santander | ING Bank NV | Mizuho Financial Group | Banco Santander | Sumitomo Mitsui |
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| Unicredit | Banco Santander | Commerzbank | BPCE Group | ING Bank | Sumitomo Mitsui | Credit Suisse |
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| Mizuho Financial Group | State Street | Wells Fargo | Lloyds Banking Group | Sumitomo Mitsui | State Street Corporation | State Street |
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| Groupe Caisse d'Epargne | HBOS | Sumitomo Mitsui | Commerzbank | Nordea Bank | Bank of China Limited | China Construction Bank |
| Commerzbank | Commerzbank | Nordea Bank | Royal Bank of Canada | Commerzbank | ING Bank | Unicredit |
| Dresdner Bank | | | ICBC | Dexia | Nordea Bank | Royal Bank of Canada |
| | | | Nordea Bank | Bank of China Ltd | Agricultural Bank of China | Nordea |
| | | | | Royal Bank of Canada | China Construction Bank | ING Bank |
| | | | | Rabobank | Commerzbank | |

Case Study 1: failed & distressed G-SIBs

Several banks deemed to be systemic in 2007, failed or faced financial distress during the following years (Lehman Brothers, Merrill Lynch, Fortis Bank, Dresdner Bank, Wachovia Corporation, Bear Stearns, HBOS, RBS, UBS, Citigroup) → excessive risk-taking? Ex-post case for increased supervision of G-SIBs...

| | Size | Cross | SI | ROA | ROE | Leverage |
|-------------------------|---------|-----------|---------|-------------|------------|-------------|
| All banks | 0.0102 | 0.0102 | 0.0479 | 0.0075 | 0.1554 | 25.240 |
| Safe banks (a) | 0.0099 | 0.0090 | 0.0450 | 0.0084 | 0.1654 | 22.486 |
| Crisis Banks (b) | 0.0108 | 0.0131 | 0.0545 | 0.0054 | 0.1319 | 31.697 |
| Delta (b) - (a) | 0.0009 | 0.0041 ** | 0.0094 | -0.0030 *** | -0.0335 ** | 9.2111 *** |
| Observations | 97 (29) | 97 (29) | 97 (29) | 97 (29) | 97 (29) | 97 (29) |
| | NIIS | LDR | LAR | DAR | T1 | MTBV |
| All banks | 0.3139 | 0.9657 | 0.4839 | 0.5616 | 8.4654 | 9.4896 |
| Safe banks (a) | 0.3311 | 0.9691 | 0.4847 | 0.5777 | 8.6252 | 10.885 |
| Crisis Banks (b) | 0.2736 | 0.9574 | 0.4819 | 0.5216 | 8.0394 | 6.2916 |
| Delta (b) - (a) | -0.0575 | -0.0117 | -0.0028 | -0.0561 * | -0.5858 * | -4.5935 *** |
| Observations | 97 (29) | 94 (27) | 94 (27) | 94 (27) | 88 (24) | 79 (24) |

Case Study 1: failed & distressed G-SIBs

Considering the SI categories we see that those that contribute most to the SI of the failed and distressed banks are complexity and cross-jurisdictional activity → **banks too-complex-to-manage?**

Main developments following failures and distresses:

- bailed-out banks saw their SI score decrease through the period 2007-2012;
- several banks were taken over by other G-SIBs, leading to an increase in the acquirers' SI scores;
- several banks within the G-SIBs set, not extremely complex at the onset of the crisis, increased their complexity.

Not all these developments in line with regulators view → which policy implications?

Case Study 2: Rules text 2013

The main amendment of the new BCBS rules text (2013) concerns a cap on the substitutability category, that is disproportionately relevant for US banks.

A cap on this category might not be advisable (the US are at the center of the international financial system, Bruno and Shin 2013, Rey 2013, etc.).

In the EU the substitutability category account the most for foreign subsidiaries (again, US banks). A cap on this category would greatly increase the SI of traditional, more retail-oriented, European banks.

Case Study 2: Rules text 2013

Ranking of 2012 G-SIBs with and without substitutability

| Bank Name | Rank with Subst. | Rank without Subst. | Difference | Bank Name | Rank with Subst. | Rank without Subst. | Difference |
|------------------|------------------|---------------------|------------|----------------------|------------------|---------------------|------------|
| JP Morgan | 1 | 1 | = | Morgan Stanley | 17 | 19 | -2 |
| Deutsche Bank | 2 | 2 | = | Wells Fargo | 18 | 15 | 3 |
| Barclays | 3 | 3 | = | Banco Santander | 19 | 16 | 3 |
| HSBC | 4 | 4 | = | BPCE Groupe | 20 | 18 | 2 |
| Citigroup | 5 | 10 | -5 | Sumitomo Mitsui | 21 | 20 | 1 |
| BNP Paribas | 6 | 5 | 1 | Lloyds Banking Gr. | 22 | 21 | 1 |
| Bank of America | 7 | 6 | 1 | ICBC | 23 | 22 | 1 |
| RBS | 8 | 7 | 1 | State Street | 24 | 77 | -53 |
| Crédit Agricole | 9 | 8 | 1 | Unicredit | 25 | 23 | 2 |
| Mitsubishi UFJ | 10 | 9 | 1 | Royal Bank of Canada | 26 | 31 | -5 |
| UBS | 11 | 14 | -3 | Bank of China Ltd. | 27 | 25 | 2 |
| Goldman Sachs | 12 | 13 | -1 | ING Bank | 28 | 26 | 2 |
| Société Générale | 13 | 12 | 1 | Nordea Bank | 29 | 27 | 2 |
| Mizuho FG | 14 | 11 | 3 | Agric. Bank of China | 30 | 24 | 6 |
| BNY Mellon | 15 | 60 | -45 | China Constr. Bank | 31 | 28 | 3 |
| Credit Suisse | 16 | 17 | -1 | Commerzbank | 32 | 30 | 2 |

THANK YOU



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