Financial Stability Institute

FSI Insights
on policy implementation
No 8

Financial supervisory architecture: what has changed after the crisis?

By Daniel Calvo, Juan Carlos Crisanto, Stefan Hohl and Oscar Pascual Gutiérrez

April 2018

BANK FOR INTERNATIONAL SETTLEMENTS

FSI Insights are written by members of the Financial Stability Institute (FSI) of the Bank for International Settlements (BIS), often in collaboration with staff from supervisory agencies and central banks. The papers aim to contribute to international discussions on a range of contemporary regulatory and supervisory policy issues and implementation challenges faced by financial sector authorities. The views expressed in them are solely those of the authors and do not necessarily reflect those of the BIS or the Basel-based committees.

Authorised by the Chairman of the FSI, Fernando Restoy.

This publication is available on the BIS website (www.bis.org). To contact the BIS Media and Public Relations team, please email press@bis.org. You can sign up for email alerts at www.bis.org/emailalerts.htm.

ISSN 2522-2481 (print)
ISBN 978-92-9259-140-3 (print)

ISSN 2522-249X (online)
ISBN 978-92-9259-141-0 (online)

Contents

Financial supervisory architecture – what has changed after the crisis?[1]

Executive summary

An institutional design for financial sector oversight must be fit-for-purpose, if it is to support the post-crisis regulatory reforms. After the Great Financial Crisis (GFC), these reforms have helped to improve both crisis prevention and crisis management systems. Yet, an effective supervisory regime is essential to optimise the positive effect of the new rules. Effective oversight depends on an appropriate allocation of functions to one or more agencies. And these, in turn, should be able to act with clear objectives, operational autonomy, comprehensive and effective powers, sufficient resources and adequate incentives.

Different jurisdictions have assigned financial sector responsibilities to various authorities following a variety of models. The choice of a financial supervisory model entails trade-offs between synergies across functions and possible conflicts of interest between them. It is often influenced by the structure of the financial sector, past experience with financial crises as well as legal, historical, cultural and political economy considerations. A key feature of any financial supervisory architecture is the role assigned to central banks in respect to financial sector oversight.

The post-crisis reform has added two new relevant functions for financial sector authorities: macroprudential policy and resolution. These two functions have been assigned to new or existing authorities after facing similar trade-offs between synergies and conflicts of interest in the context of the above considerations.

This paper describes the current state and the evolution of the financial supervisory architecture since the GFC. The study is based on a survey covering 82 jurisdictions. Respondents were asked to describe their institutional arrangements for financial sector oversight in the areas of microprudential supervision, conduct of business supervision, financial stability monitoring and macroprudential policies as well as resolution.

Currently, financial supervisory arrangements around the world correspond roughly to one of the following models: sectoral, integrated and partially integrated. In the *sectoral* model, one financial sector authority is responsible for the prudential and conduct of business supervision of banks. Another authority has the same mandate for insurance companies. A third authority is responsible for market integrity and the securities business. In the *integrated* model, a single agency – which could be the central bank or a separated supervisory agency – is responsible for all oversight functions in all three sectors. *Partially integrated* models group responsibilities according to supervisory objectives or sectors. The *Twin Peaks* model is an example of the former, as two different agencies are in charge of prudential oversight and conduct of business for all types of financial institution, respectively. The *Two Agency* model is an example of the latter, as one agency is responsible for the supervision of both solvency and conduct of business for banks and insurance companies, and a second agency is responsible for market integrity and the securities business.

[1] Daniel Calvo, Central Bank of Chile, Juan Carlos Crisanto and Stefan Hohl, Bank for International Settlements, and Oscar Pascual Gutiérrez, PUCP Peru.

We would like to thank David Archer, Luis Morais and Paul Moser-Boehm for their input and comments on earlier versions of this paper. We are also grateful to Bettina Müller and Christina Paavola for their valuable assistance with this paper.

Post-GFC, most jurisdictions have implemented incremental changes in existing supervisory models. These reforms include new macroprudential and resolution frameworks; stronger consumer and investor protection; and improved coordination for the monitoring of financial stability.

Some jurisdictions have gone further by also changing their financial supervisory models. These jurisdictions (close to 15% of our sample) have tended to move in the direction of more integration of supervisory responsibilities. As a consequence, the *sectoral* model has lost some weight in favour of the *integrated* or *partially integrated* models. Yet, the *sectoral* model is still the most commonly used organisational arrangement for financial sector supervision. This model is employed in about half of the jurisdictions and still prevails in all regions, except Europe. The *integrated* model is applied in just under one third of the jurisdictions. *Partially integrated* models – ie the *Twin Peaks* and *Two Agency* models – have been adopted by around a fifth of jurisdictions including some with large financial systems.

As a result, central banks have acquired more responsibility for financial sector oversight. Currently, microprudential banking supervision resides in the central bank in two thirds of the surveyed jurisdictions. Moreover, central banks gained more microprudential responsibility for banks and insurance companies, alongside new macroprudential and resolution functions. Yet, insurance companies continue to be mostly supervised by separate supervisory agencies. This is the case in two thirds of jurisdictions. The role of separate supervisory agencies is even more predominant in the regulation and supervision of securities business and securities firms (slightly more than 80% of jurisdictions).

Significant changes in the institutional setup for consumer and investor protection have taken place since the GFC. These changes include new oversight powers for conduct of business rules; new dispute resolution procedures; or the creation of new bodies or specialised departments within existing agencies. In general, however, those changes have not included the creation of an integrated supervisor for conduct of business in the financial industry.

Central banks are the lead authority for macroprudential policy in most jurisdictions. Macroprudential responsibilities are more likely to be given to the central bank when the central bank is also the microprudential supervisor for banking. Dedicated committees are also responsible for macroprudential policy in a number of jurisdictions and typically include government representatives, central bankers and supervisory officials. More generally, most jurisdictions have strengthened their frameworks for monitoring financial stability, typically by setting up inter-agency committees. These efforts are ongoing.

The primary resolution authority is typically located within the authority responsible for the microprudential supervision of banks, especially when the latter is the central bank. However, in some cases, bank resolution involves more than one agency. That said, changes in the institutional setup of resolution regimes continue to be work in progress and have thus far taken place mainly in FSB member jurisdictions and EU countries.

In general, changes in the institutional arrangements after the GFC seek to exploit additional synergies. The increased integration of supervisory responsibilities within the central bank, particularly in countries most affected by the GFC, may respond to the need to correct possible coordination difficulties.

Introduction

1. **The weaknesses exposed by the GFC showed the need for a stronger regulatory framework.** The GFC exposed the inadequacy of key aspects of the financial regulatory framework to meet the challenges posed by a financial system that had grown progressively more complex, capital markets-

focused, and globally integrated.[2] In response, policy reforms have sought to increase the resilience of the financial system. In this regard, Basel III aims to ensure that there is sufficient high-quality bank capital and enough liquidity to withstand stress periods. In addition, macroprudential reforms seek to reduce procyclicality in the financial system and require additional capital for global systemically important banks. In relation to the latter, a set of financial reforms address the too-big-to-fail issue, including global standards to resolve the failure of large cross-border financial institutions safely and without recourse to public funds.

2. **The post-crisis reforms need to be complemented with more effective supervision.** The G20 Leaders have stressed that supervisors should have strong and unambiguous mandates, sufficient independence to act and appropriate resources. They should also have a full suite of tools and powers to proactively identify and address risks. This includes early intervention powers and the ability to restructure or resolve all types of financial institution.[3]

3. **In some cases, enhanced supervisory effectiveness may require some institutional changes.** That is particularly the case when supervisors have insufficient institutional or operational independence, when their mandates entail significant conflicts of interest among different objectives or when the organisation of supervision does not ensure the necessary coordination across financial authorities with respect to crisis prevention and resolution.

4. **The post-crisis reforms have added new functions to the financial supervisory architecture.** Traditionally, the prudential dimension was mainly understood to refer to a microprudential perspective, ie monitoring financial institutions with the purpose of limiting risk of losses for their customers/investors and possible spill-over effects on other institutions. In the post-GFC environment, financial authorities have added a macroprudential policy dimension. This aims at increasing the resilience of financial institutions and at helping to smooth out the financial cycle. Additionally, following the publication of the FSB's *Key Attributes of Effective Resolution Regimes for Financial Institutions*,[4] jurisdictions are expected to add the resolution function to the tasks performed by financial authorities.

5. **This study outlines the current financial supervisory architecture and highlights the key institutional changes post-GFC.** This study builds upon previous FSI work on institutional arrangements for financial sector supervision[5] and is based on a survey conducted between February and September 2017. It covers 82 jurisdictions worldwide.[6] The structure of the paper is as follows: Section 1 describes the conceptual framework behind the institutional arrangements for financial sector supervision. Sections 2 to 5 present the main findings of the survey with respect to microprudential supervision, conduct of business supervision, macroprudential policy and resolution of financial institutions. Section 6 presents some concluding remarks.

[2] Carney (2017).

[3] G20 Toronto Summit Declaration (2010).

[4] Financial Stability Board (2014).

[5] Financial Stability Institute (2007).

[6] See Annex 1 for the complete list of jurisdictions included.

Section 1 – Financial sector supervisory models – concepts and evolution

6. **The setup of a financial supervisory architecture requires a number of key institutional decisions.**[7] These choices include (i) assigning specific functions to individual financial authorities; (ii) establishing coordination mechanisms; and (iii) specifying approaches and arrangements to avoid potential conflicts of interest.

7. **The choice of a specific model for financial sector supervision entails trade-offs[8] and is typically motivated by an array of considerations.** Settling on the appropriate choice requires assessing the synergies across financial oversight functions and the potential conflicts of interest among them. The considerations that generally influence the choice of a supervisory model include the structure of the financial sector, past experience with financial crises as well as legal, historical, cultural and political economy factors.

8. **From a conceptual point of view, financial supervisory models can be compared in terms of how much they help to optimise synergies and mitigate conflicts of interest.** Following Kremers et al,[9] different supervisory models can be classified according to their associated synergies and conflicts of interest. An important source of synergies identified by several authors[10] is the ability to facilitate crisis management by combining specific functions within a single agency. As an example of potential conflicts of interest, the priorities of microprudential supervision may not align with those of investor/consumer protection.

9. **The organisation of financial sector supervision traditionally followed a sectoral approach.** The *sectoral* model consists of three separate authorities that supervise three different financial sectors: banking, insurance and securities. The authority responsible for securities business covers market integrity and market intermediaries, such as securities firms and asset managers. Each authority typically has a prudential role and a conduct of business role in the sector they supervise. The prudential dimension focuses on financial institutions' safety and soundness. The conduct of business dimension deals with monitoring transparency and the fair treatment of customers and investors.[11] The *sectoral* model allows to monitor compliance with the relevant regulation in each sector. It developed at a time when there were only a limited number of credit institutions with insurance activities.

10. **The first wave of substantive reforms in financial supervisory architectures was connected with the introduction of the integrated supervisory model.** This model (also referred to as the single or unified model) involves the integration of supervisory functions for most or all financial sectors into a single authority. This includes the oversight of the prudential as well as the conduct of business requirements affecting different types of financial institution and their activities. The creation of single financial supervisory authorities was closely linked to the development of financial conglomerates, which

7 The institutional design of financial supervisory architecture has been discussed, among others, by Llewelyn (2006), Goodhart (2000), Kremers et al (2003), Cecchetti (2007), The Group of Thirty (2008), and the European Systemic Risk Board (2012).

8 For discussions of some of the trade-offs involved, see Llewelyn (2004), Goodhart (2000), Kremers et al (2003), Cecchetti (2007), The Group of Thirty (2008), European Systemic Risk Board (2012), among others.

9 Kremers et al (2003) developed a framework to analyse the trade-offs of different supervisory models by listing the synergies and conflicts of interest associated with them. This framework has recently been used by Shoenmaker and Verón (2017) to propose a Twin Peaks vision for Europe.

10 See for instance, Kremers et al (2003) and Morais (2016). Morais argues that adequate crisis management capabilities, including adequate information-sharing, must be another important post-GFC consideration in setting up financial supervisory architecture.

11 According to IOSCO (2017), the three objectives of securities regulation are protecting investors, which include customers or other consumers of financial services; ensuring that markets are fair, efficient and transparent; and reducing systemic risk.

pointed to relevant synergies in the supervision of banks, insurance companies and securities firms. It started with the creation of a single financial sector supervisor in Singapore in 1984. This was followed by the Scandinavian countries, with reforms taking place in Norway (1986), Denmark (1988) and Sweden (1991). However, it was only with the establishment of the Financial Services Authority (FSA) in 1997, that the single supervisory model gained wider recognition, given the United Kingdom's status as a major international financial centre.[12]

11. **The second wave of reforms in financial supervisory models corresponded with the introduction of the Twin Peaks model.** This model was first introduced in Australia in 1997. The *Twin Peaks* model is based on supervisory specialisation by objectives and hence envisages two separate financial supervisory authorities, one specialised in the prudential monitoring of regulated institutions and another on the oversight of business conduct. The latter function includes the oversight of market integrity and of the relationship between any form of financial intermediary and its clients. This model permits the mitigation of conflicts of interest between promoting the solvency of financial institutions and ensuring sufficient protection for their clients and investors.[13] In addition, the *Twin Peaks* model takes advantage of potential synergies arising in the prudential or the business conduct supervision of different types of financial institution.[14]

12. **In practice, most jurisdictions have implemented various forms of hybrid supervisory models.** For instance, in countries with integrated supervisors, there often exist separate agencies with specific investor/consumer protection responsibilities. In addition, in jurisdictions with separate agencies for prudential monitoring and conduct of business supervision, the prudential oversight of investment firms or asset managers is often assigned to the latter.

13. **A particular hybrid model which has gained relevance is what could be described as the Two Agency model**.[15] This scheme, currently adopted in France and Italy,[16] could be depicted as another partially *integrated* model with two supervisors: one agency is in charge of prudential and conduct supervision of the banking and insurance sectors, and another agency is responsible for securities firms and markets. This model takes advantage of the synergies between banking and insurance supervision. Compared with the *Twin Peaks* model, it is less well adapted to addressing possible conflicts of interest emerging from the prudential and consumer/investor protection objectives for banks and insurance companies, as both functions are assigned to the same agency.

14. **The involvement of central banks is a key feature of any financial supervisory architecture.** This is also a source of synergies and conflicts of interest. Synergies stem from the links between financial and economic stability and from the connection between monitoring the overall liquidity of the system – the role of central banks – and the oversight of financial system solvency, which is the role of the prudential supervisory function. On the other hand, conflicts of interest may emerge as monetary policy decisions concerning the setting of interest rates can impact banks' profitability and solvency. The assignment of prudential responsibilities to the central bank also raises concerns of a political economy nature including

[12] Morais (2016).

[13] The two types of supervision generally require different mindsets and skills that may occasionally conflict with each other. For example, Schoenmaker and Verón argue that in times of stress, authorities might close their eyes to questionable commercial practices if these help a bank to increase its profitability and, as a result, its capital. Conversely, prudential considerations might be less important during benign times. This is what arguably happened in the run-up to the GFC at the UK Financial Services Authority in its supervision of several banks (see Schoenmaker and Verón (2017)).

[14] The report of the Wallis Commission of Inquiry on the Australian financial system, for example, mentions both gaining greater efficiency, especially in regulating financial conglomerates, and removing a potential conflict of interest for the central bank if it provided banks with emergency liquidity assistance in order to bolster its own reputation (see Hanratty (1997)).

[15] In this case, the term agency is used in a broad sense, since one of the agencies could be the central bank (see also Annex 4).

[16] China recently announced that it would implement a Two Agency model by merging the China Banking Regulatory Commission (CBRC) and the China Insurance Regulatory Commission (CIRC).

reputational risk and excessive concentration of authority. All models (ie the sectoral, integrated, Twin Peaks and Two Agency) are compatible with different degrees of central bank involvement.

15. **After the GFC, the macroprudential policy and resolution functions were added to the financial supervisory architecture.** These functions generate both synergies and potential conflicts with other policy areas. In particular, the integration of both macro- and microprudential responsibilities within the same agency can facilitate an integrated approach to financial stability assessment and coordinated action. At the same time, the risk arises that macroprudential policies, with their typically longer time horizon, could become subordinated to microprudential priorities, which are more short-term. The integration of the resolution function within the authority responsible for microprudential banking supervision may facilitate the achievement of well-coordinated arrangements for crisis prevention and resolution. By contrast, integration could also encourage supervisory forbearance, as the prudential authority may have an incentive to delay resolution in order to protect its credibility or to avoid a potential spill-over to other institutions. Table 1 summarises the potential benefits and costs associated with different combinations of supervisory functions. For the sake of simplicity, the table shows the effects of adding functions only to the microprudential banking supervisor.

16. **Trade-offs associated with different financial supervisory models could be smoothed by introducing complementary arrangements**. In particular, in jurisdictions adopting both the sectoral and the partially integrated models (ie Twin Peaks or Two Agency), additional synergies can be obtained by establishing effective coordination arrangements between agencies.[17] At the same time, conflicts of interest within integrated or partially integrated models can be reduced by establishing a strict functional separation of responsibilities across departments within the agency and/or different boards to decide on issues belonging to different policy domains (ie monetary policy, micro- or macroprudential, resolution etc).[18]

[17] A good example is the Twin Peaks model in Australia. It establishes a Council of Financial Regulators, on a non-statutory basis, comprising members from the Australian Prudential Regulation Authority, the Australian Securities and Investment Commission, the Central Bank and the Treasury; and it is chaired by the Governor of the Reserve Bank. The Twin Peaks model in the Netherlands seeks to deal with the coordination element between the prudential and consumer protection supervisors through detailed and regularly revised cooperation agreements.

[18] An example is the new financial architecture in the United Kingdom, established after the GFC. The Bank of England holds responsibilities in the areas of monetary policy, micro- and macroprudential supervision as well as resolution. The different responsibilities are attached to different units that report to specific committees such as the Monetary Policy Committee (MPC), the Financial Policy Committee (FPC) and the Prudential Regulatory Committee (PRC). Those committees have different statutory functions and membership, and include the participation of external members.

Potential benefits and costs of attaching additional financial supervisory responsibilities to the microprudential banking supervisor

Table 1

Functions added	Potential benefits	Potential costs
+ Microprudential insurance	Similar required technical capacity Supervision of financial conglomerates	Potential confusion among beneficiaries of the safety net (deposit insurance)
+ Business conduct, consumer/investor protection	Integrated supervisory examinations Consumer/investor protection issues could signal some broader weaknesses, including prudential	Risk of subordinating investors' interests to a bank's solvency and profitability
+ Monetary policy (banking supervisor is the central bank)	Integrated liquidity, solvency and payment system oversight Better knowledge of transmission mechanism of monetary policy	Biases in monetary policy decisions Reputational risk
+ Macroprudential policy	Integrated financial stability assessment	Risk of subordinating macroprudential to microprudential objectives
+ Resolution of banks	Integrated crisis prevention and management Similar required technical capacity and better knowledge of institution	Risk of forbearance (ie delaying the trigger of resolution)

Section 2 – Post-crisis financial supervisory models

17. **Most supervisory models broadly fall into three categories: sectoral, integrated or partially integrated.** For the purpose of this study, we distinguish between two subcategories within the integrated models,[19] depending on whether the central bank (integrated-CB model) or a separate supervisory agency (integrated-SSA model) is the integrated supervisor. We also distinguish between two subcategories of the partially integrated model: the Twin Peaks model, where two different supervisors are responsible for the prudential oversight and the conduct of business, respectively, of all types of financial institution, and the Two Agency model, where one agency conducts prudential and business conduct supervision of both banks and insurance companies and the other agency supervises markets and security businesses. See Annex 4 for a more detailed description of the classification of supervisory models used in this study.

18. **Supervisory models in the United States and the European Union have special characteristics.** In the United States, different functions are typically assigned to several agencies at the federal or state level. In the European Union, countries within the euro zone share a single prudential supervisory authority (the ECB's Single Supervisory Mechanism) for significant banks. Member States do, however, keep responsibility for the prudential oversight of smaller institutions and for other supervisory functions. Annexes 2 and 3 describe the most relevant arrangements in the United States and the European Union. Given the uniqueness of these two jurisdictions, they are not included in our comparative analysis. For the European Union, each Member State is treated separately.

19. **The prevailing model of financial sector supervision is still sectoral.** This model is present in almost half of the jurisdictions and it is the most frequently applied in all regions of the world, except

[19] Also referred as unified or single models in the literature.

Europe (see table 2). In Africa, this model is currently employed in all surveyed jurisdictions, although the Twin Peaks model has just been implemented in South Africa and is consequently not reflected in the survey data.[20]

Model of supervision by region (percentage, rounded) — Table 2

	Africa		America		Asia & Pacific		Europe		Middle East		Total	
Sectoral	9	100%	9	52%	7	50%	10	30%	4	66%	39	50%
Integrated-CB	0	0%	1	6%	2	14%	5	15%	1	17%	9	11%
Integrated-SSA	0	0%	1	6%	2	14%	11	33%	0	0%	14	18%
Two Agency	0	0%	3	18%	1	8%	4	12%	1	17%	9	11%
Twin Peaks	0	0%	3	18%	2	14%	3	10%	0	0%	8	10%
Total	9	100%	17	100%	14	100%	33	100%	6	100%	79	100%

20. **The integrated model is employed by close to 30% of the jurisdictions.** Some 23 jurisdictions in our sample have implemented the *integrated* model for supervision. This is most prominent in Europe, where about half of the jurisdictions apply this model. In most cases, the integrated supervisor is a separate supervisory agency. We also find that certain jurisdictions operating with a single supervisory authority are relatively small in terms of population or GDP.[21]

21. **Slightly more than a fifth of the jurisdictions have implemented partially integrated models.** The Twin Peaks model is present in eight jurisdictions, including some with large financial systems such as Australia and the United Kingdom. Half of the Twin Peaks jurisdictions locate the prudential agency within the central bank and the others locate it in a separate agency. The Two Agency model is used in nine jurisdictions, including large financial centres such as those of France and Italy.

20 South Africa's financial supervisory architecture is in a period of transition. In August 2017, the Financial Sector Regulation Act 9 of 2017 was enacted. This Act became effective on 1 April 2018 and is in the process of being implemented. It introduces a Twin Peaks supervisory model in South Africa. The Prudential Authority, is a new entity within the Reserve Bank. It replaces the Banking Supervision Department, and will be responsible for the safety and soundness of banks, insurers, and other financial institutions. The Financial Sector Conduct Authority will supervise how financial institutions conduct their business and treat customers. It replaces the Financial Services Board.

21 In line with Barth et al (2013).

Changes in the model of financial sector supervision

Table 3

		Current					
	From \ To	Sectoral	Integrated-CB	Integrated-SSA	Twin Peaks	Two Agency	Total pre-GFC
Pre-GFC	Sectoral	39	1	3	1	2	46
	Integrated-CB	0	6	0	0	0	6
	Integrated-SSA	0	2	11	2	0	15
	Twin Peaks	0	0	0	5	0	5
	Two Agency	0	0	0	0	7	7
	Total current	39	9	14	8	9	79

Total changes	11

Note: changes are highlighted/shaded.

22. **Since the beginning of the crisis, a limited number of jurisdictions have shifted their supervisory model.** The survey shows that 11 out of 79 jurisdictions have changed their supervisory model (see Table 3). However, as seen below, a number of jurisdictions have adjusted their existing supervisory model to improve the monitoring of financial stability and incorporate new functions, such as macroprudential policies and resolution, as well as to strengthen the coordination among the various actors in financial supervision.[22]

23. **Most jurisdictions that reported changes have been shifting away from a sectoral model towards a more integrated model.** As a consequence, the sectoral model has lost ground in favour of the integrated-CB model and the two partially integrated models.

[22] Morais (2016).

Changes in model of financial sector supervision in crisis countries — Table 4

		Current					
	To / From	Sectoral	Integrated-CB	Integrated-SSA	Twin Peaks	Two Agency	Total pre-GFC
Pre-GFC	Sectoral	5	1	1	0	1	8
	Integrated-CB	0	0	0	0	0	0
	Integrated-SSA	0	2	5	2	0	9
	Twin Peaks	0	0	0	1	0	1
	Two Agency	0	0	0	0	1	1
	Total current	3	6	5	3	2	19

Total changes	7

Note: changes are highlighted/shaded.

25. **GFC-affected jurisdictions that have changed their model[23] have tended to give more supervisory powers to their central banks.** Around a third of the jurisdictions that experienced a crisis have changed their financial supervisory architecture (seven jurisdictions out of 19, see Table 4). The most frequently used model of supervision among crisis jurisdictions before the GFC was the integrated-SSA, closely followed by the sectoral model. Both models have lost some relevance since the GFC (a reduction from 17 jurisdictions to eight). In addition, the post-GFC changes broadly point to the replacement of supervisory models where central banks have little or no prudential responsibility with models where the central bank in most cases has a central role, ie the integrated-CB model; the Twin Peaks model where the prudential peak is located in the central bank; and the Two Agency model where the central bank hosts the supervisory authority for banks and insurance companies.

26. **Only a limited number of jurisdictions appear to have specific mechanisms to deal with conflicts of interest stemming from different supervisory roles within an authority.** About a quarter of jurisdictions indicated having structures in place to limit potential conflicts of interest stemming from additional supervisory functions. The most common mechanisms include assigning conflicting responsibilities to different departments or board members. In a small number of jurisdictions, these responsibilities appear to be assigned to different decision-making bodies (boards/committees) within the same organisation.

[23] To identify crisis countries, we followed Laeven and Valencia (2010) and included all countries characterised as having experienced either a "systemic crisis" or a "borderline crisis": Austria, Belgium, Denmark, France, Germany, Greece, Hungary, Iceland, Ireland, Kazakhstan, Latvia, Luxembourg, the Netherlands, Portugal, Russia, Slovenia, Spain, Switzerland, Ukraine, the United Kingdom and the United States. It is worth noting that neither the United States nor Kazakhstan were included in the results of the survey.

Section 3 – Microprudential supervision[24]

27. **Central banks remain the predominant primary microprudential banking supervisor.**[25] Two thirds of the jurisdictions assign banking supervision to the central bank (see Table 5). About one third locate it in a separate supervisory agency (SSA). There are no longer departments within the government responsible for banking supervision.

28. **Insurance companies and securities business[26] are mostly supervised by an SSA.** In contrast to banking, the supervision of insurance companies is performed by an SSA in about two thirds of cases. The role of SSAs is even more predominant in the regulation and supervision of securities business and securities firms. This is conducted by an SSA in slightly more than 80% of cases. In a handful of cases, the responsibility for supervising the insurance sector still lies with a department within the government (and only one case in the securities sector).

Current organisation of microprudential supervision[27] Table 5

	Banking		Insurance		Securities/investment firms	
Central bank	54	66%	22	28%	13	17%
Separate supervisory agency	28	37%	52	65%	63	82%
Government department	0	0%	6	7%	1	1%
Total	82	100%	80	100%	77	100%

29. **There have only been a few changes with respect to the location of the primary microprudential supervisor of banks since the GFC.** From this limited number of changes, the main reform has been the reallocation of supervisory responsibility for banks from SSAs to central banks (see Table 6). In particular, out of the seven changes reported, in six cases, this function has been moved to the central bank.

24 This section refers to the "primary" microprudential supervisor, unless indicated otherwise this approach is similar to the one taken in the previous FSI study, see Financial Stability Institute (2007). The primary supervisor is the supervisory authority with the main responsibility for the regulation and supervision of financial institutions in the respective financial sector. For the purpose of this paper, we supplemented the survey responses with public and other readily available information when necessary.

25 If an SSA is a subsidiary of, or an agency sponsored by the central bank, the SSA was considered within the central bank category.

26 We use the term "securities firms" for institutions which are allowed to perform securities underwriting, brokering, dealing and mutual fund business. These will, in general, be distinct from investment banks. We included in the survey questions regarding investment banks and development banks. However, the data quality of the responses did not allow for a separate analysis.

27 In the analysis, the category "government department" has been exclusively assigned to jurisdictions in which the supervisory function is directly performed by a unit within the government or a ministry.

Changes in the primary microprudential authority for banking supervision				Table 6
		Current		
	From / To	Central bank	Separate supervisory agency	Total pre-GFC
Pre-GFC	Central bank	48	1	49
	Separate supervisory agency	5	27	32
	Government department	1	0	1
	Total current	54	28	82

Total changes	7

Note: changes are highlighted/shaded.

30. **The main change in the supervision of the insurance sector has been the migration from an SSA to the central bank.** In eight out of 11 changes, the central bank has become the primary supervisor responsible for the supervision of insurance companies (see Table 7). In seven jurisdictions, the central bank has taken over this responsibility from an SSA and in only one case from a department within the government. In three cases, the supervision of the insurance sector has been moved from a department within the government to an SSA.

Changes in the primary microprudential authority for insurance supervision					Table 7
		Current			
	From / To	Central bank	Separate supervisory agency	Government department	Total pre-GFC
Pre-GFC	Central bank	14	0	0	14
	Separate supervisory agency	7	49	0	56
	Government department	1	3	6	10
	Total current	22	52	6	80

Total changes	11

Note: changes are highlighted/shaded.

31. **Only a few changes have been observed since the GFC in the location of the microprudential supervisor for securities firms.** The main movement of responsibilities has been the reassignment from an SSA to the central bank, in line with other financial sectors (see Table 8).

Changes in the primary microprudential authority for securities/investment services firms

Table 8

	To / From	Central bank	Separate supervisory agency	Government department	Total pre-GFC
Pre-GFC	Central bank	8	0	0	8
	Separate supervisory agency	5	62	0	67
	Government department	0	1	1	2
	Total current	13	63	1	77

Total changes	6

Note: changes are highlighted/shaded.

Section 4 – Conduct of business supervision

32. **The regulation and supervision of business conduct has gained relevance since the GFC.** Many jurisdictions have or are in the process of implementing changes to enhance their role in conduct supervision. Given its wide scope, the concept of "conduct supervision" often means different things depending on the context and the type of business being regulated. The framework for conduct supervision involves, at a minimum, transparency rules, market integrity, selling practices related to financial services and dispute resolution.

33. **In many cases, conduct supervision is performed by several agencies.** In a number of jurisdictions, a dedicated consumer protection agency has a wide set of responsibilities to protect consumer interests. In the case of financial products, this function is mostly shared with other authorities. In the case of banking products, there are 19 jurisdictions with a shared responsibility. This is also the case for the supervision of insurance products in 10 jurisdictions.

34. **The prudential supervisor, independent of the chosen supervisory model, is in most cases responsible for consumer/investor protection of banking products.** Central banks and SSAs play a key role in performing supervision of conduct of business in relation to retail banking products. In jurisdictions where the central bank is the primary microprudential bank supervisor, it is also the sole conduct supervisor in two thirds of these jurisdictions (see Table 9). When the SSA is the primary prudential supervisor (as it is in 25 jurisdictions), it also holds the sole responsibility for consumer/investor protection in almost half of those jurisdictions. Central banks and SSAs not have any role in conduct supervision in 15% of jurisdictions, despite being the primary prudential supervisor.

Authorities sharing responsibilities of consumer/investor protection for banking products by primary microprudential supervisor[28]

Table 9

Authorities for consumer/investor protection – banking products								No of countries
9.1 When the central bank is the primary microprudential banking supervisor								
Central bank				●	●	●	●	40
Dedicated authority			●			●	●	9
Separate supervisory agency		●						5
Government department	●				●			4
Other							●	1
Number of countries (48)	1	5	2	31	6	2	1	

Authorities for consumer/investor protection – banking products							No of countries
9.2 When a separate supervisory agency is the primary microprudential banking supervisor							
Central bank						●	1
Dedicated authority				●	●		9
Separate supervisory agency		●	●		●	●	21
Government department	●		●				3
Other							0
Number of countries (25)	2	12	2	1	7	1	

Note: green dots represent the authority, as mentioned in the corresponding row, that has responsibility for consumer/investor protection of banking products or is sharing this responsibility when the primary microprudential banking supervisor is either the central bank (in 9.1) or a separate supervisory agency (in 9.2). More than one green dot per column represents more than one authority sharing this function. The last row shows the number of jurisdictions in which a specific combination of responsible authorities exists. The last column provides the number of jurisdictions for each type of authority performing the function either with sole responsibility or sharing the responsibility with other authorities.

35. **In the case of insurance products, the supervision of consumer protection is predominantly located in an SSA.** This reflects the fact that SSAs are in most cases the primary microprudential insurance supervisor and, in these cases, they also carry the sole responsibility for consumer protection in 75% of jurisdictions (see Table 10). Central banks are the sole supervisor for consumer protection in two thirds of the jurisdictions if they are also the primary prudential supervisor. There are five jurisdictions where a department within the government is the microprudential insurance supervisor and at the same time the supervisor for consumer protection. In general, the case of shared responsibilities for conduct supervision in insurance products is less widespread compared to conduct supervision for banking products.

[28] We considered the primary supervisor of consumer/investor protection to be the authorities that survey respondents identified as responsible for the "Oversight of selling/offering practices, including transparency obligations". There were 73 jurisdictions that have at least one authority with this responsibility. We did not include agencies, institutions or persons that were either a self-regulatory agency or a privately sponsored arbitrator.

Authorities sharing responsibilities of consumer protection of insurance products by primary microprudential supervisor

Table 10

Authorities for consumer protection – insurance products							No of countries
10.1 Separate supervisory agency – primary microprudential insurance supervisor							
Central bank					●	●	3
Dedicated authority			●	●		●	10
Separate supervisory agency		●		●	●	●	42
Government department	●						2
Number of countries (47)	1	35	4	4	1	2	
10.2 Central bank – primary microprudential insurance supervisor							
Central bank		●	●				17
Dedicated authority			●				3
Separate supervisory agency	●						4
Government department							0
Number of countries (25)	4	14	3				

Note: green dots represent the authority mentioned in the corresponding row that has responsibility for consumer protection of insurance products or is sharing this responsibility when the primary microprudential insurance supervisor is either a separate supervisory agency (on 10.1) or the central bank (in 10.2). More than one green dot per column represents more than one authority sharing this function. The last row shows the number of jurisdictions in which a specific combination of responsible authorities exists. The last column provides the number of jurisdictions for each type of authority performing the function either with a sole responsibility or sharing the responsibility with other authorities.

36. **Separate supervisory agencies, by a large majority, have responsibility for consumer/investor protection in the securities sector**. SSAs are involved in consumer/investor protection in the securities sector in 53 out of 69 jurisdictions. There are only four cases where the SSA is not involved in this activity (see Table 11).

Authorities sharing responsibilities of consumer/investor protection for securities business

Table 11

Authorities for consumer/investor protection – securities business								No of countries
Central bank		●	●		●		●	12
Dedicated authority	●				●	●		7
Separate supervisory agency			●	●	●	●	●	53
Government department			●	●				2
Other					●			2
Number of countries (69)	3	1	54	4	4	2	1	

Note: green dots represent the authority, as mentioned in the corresponding row, that has responsibility for consumer/investor protection of securities business or is sharing this responsibility. More than one green dot per column represents more than one authority sharing this function. The last row shows the number of jurisdictions in which a specific combination of responsible authorities exists. The last column provides the number of jurisdictions for each type of authority performing the function either with a sole responsibility or sharing the responsibility with other authorities.

37. **Approximately half of the respondents report major changes in the institutional setup for consumer/investor protection post-crisis.** Table 12 shows changes in consumer/investor protection for the three different financial sectors. These changes are divided in two broad categories: legal or regulatory and administrative. Most jurisdictions adopting reforms have implemented legal changes that strengthen the regulatory framework, including the establishment of a new specialised authority. The most common type of reported change is the establishment of either a new unit or a department dedicated to consumer protection within the supervisory authority. The changes affected all three sectors.

Reported changes in the institutional setup for consumer/investor protection in financial sector[29]

Table 12

Nature of change	Type of change	Banking	Insurance	Securities	Number of countries
Legal/regulatory	More powers/responsibilities	9	5	4	12
	New agency/authority	9	11	9	12
	Enhanced consumer[30] and/or investor safeguards	8	7	4	14
Jurisdictions with legal/regulatory changes		26	23	18	32
Jurisdictions with administrative changes (new units/departments in existing authorities)		15	7	5	17
Jurisdictions with legal/regulatory or administrative changes[31]		**35**	**26**	**20**	**39**

38. **A number of jurisdictions indicated that they were planning to implement changes in consumer and investor protection.** Jurisdictions that are planning to make adjustments to their current conduct supervisory framework (around 18) describe a wide range of changes including strengthening day-to-day supervision and creating new authorities dealing only with conduct issues. To improve conduct supervision in the wider sense, some jurisdictions also reported that they are establishing a better framework for corporate governance and improving corporate culture in financial institutions.

Section 5 – Macroprudential policy

39. **Post-GFC, some jurisdictions have adopted a macroprudential policy framework**. This required, among other actions, modifying legislation to adopt the new macroprudential tools and assigning them to existing or newly created authorities. In many jurisdictions, specific bodies have been created with the purpose of either activating macroprudential policies[32] or issuing recommendations for other financial authorities to conduct macroprudential policy actions.

40. **Central banks are the leading authority for macroprudential policy in the largest number of jurisdictions.** Currently, this responsibility is assigned to either an existing financial authority or to a dedicated inter-agency committee with the involvement of central banks, supervisory authorities,

[29] In five cases, we were unable to classify the additional information provided because it was only partial. They cover regulations dealing with alternative dispute resolution; the way complaints are dealt with; access to borrowers' own financial information; and transparency of financial information and contracts, among others.

[30] "Enhanced consumer and/or investor safeguards" cover a broad range of changes reported by jurisdictions. These changes are different from setting up a new authority and are not related to gaining more powers or responsibilities.

[31] Some jurisdictions reported changes in multiple categories and therefore the totals do not necessarily add up.

[32] The reference to "activating macroprudential policies" throughout the paper refers to both the decision to implement macroprudential tools and the actual operationalisation of these tools.

government representatives and, sometimes, independent external experts.[33] We identified the primary authority for macroprudential policy, within existing institutional arrangements, by examining the availability of macroprudential tools and the power to activate these tools.[34] This led to the conclusion that central banks are the primary authority for macroprudential policy in close to 60% of the surveyed jurisdictions (see Table 13). The macroprudential responsibility is largely aligned with the banking microprudential responsibility when central banks are also in charge of the latter (close to 80% of the cases). In about half of these cases, central banks can both activate available macroprudential tools and also make concrete recommendations to other agencies.

41. **The allocation of the macroprudential function varies more in jurisdictions where a separate supervisory agency is the microprudential bank supervisor.** As seen in Table 13, when an SSA is the primary microprudential bank supervisor (26 jurisdictions), the SSA is the macroprudential authority only in a handful of cases (six jurisdictions). In this scenario, central banks are responsible for macroprudential supervision in a similar number of jurisdictions. More frequently (in 11 cases) a dedicated committee[35] has been set up as the macroprudential authority. In only four cases the responsibility for macroprudential policy is assigned to a governmental department.

Primary authority responsible for macroprudential policy — Table 13

Primary banking supervisor	Entity responsible for macroprudential policy	Recommendation only	Activation only	Recommendation and activation	Total
Central bank	Central bank	0	18	17	35
	Dedicated committee	5	0	5	10
Separate supervisory agency	Central bank	1	1	3	5
	Dedicated committee	7	1	3	11
	Separate supervisory agency	0	4	2	6
	Government department	0	2	2	4
Total		13	26	32	71

42. **Dedicated committees are responsible for macroprudential supervision in a number of jurisdictions and typically include government representatives, central bankers and supervisory officials.** Table 13 shows that a dedicated committee is the primary entity responsible for macroprudential supervision in close to a third of the jurisdictions included in our sample. This holds for an almost equal number of cases where the central bank and the SSA are the primary banking supervisors. Table 14 shows that, in nearly all cases, dedicated committees comprise representatives of the government, the central

[33] IMF-BIS-FSB (2016).

[34] The survey question on macroprudential supervision included possible responses for up to four agencies. In order to define the primary entity responsible for macroprudential policy we followed this criteria: first, whether the survey respondent explicitly stated the macroprudential authority; and second, whether the survey respondent indicated the existence of a dedicated committee that could at least make recommendations on macroprudential policy. If both responses were negative, we determined whether the central bank had the power to activate macroprudential tools. We only considered in this section jurisdictions where, according to their responses, macroprudential tools were available to their authorities. In the category department of the government we also included representative of the government such as the ministry of finance or a group of ministers in addition to a regular department.

[35] A "dedicated committee" refers to an inter-agency council. The analysis in this paper focuses on the composition of the committee and not on individual responsibilities such as chairing the committee.

bank and supervisory agencies. The central bank is excluded from the dedicated committee in one jurisdiction. Authorities responsible for deposit insurance participate in a third of the jurisdictions that contributed to this part of the survey. It is quite unusual that external (non-official sector) representatives form part of the dedicated committees. This happens only in three jurisdictions.

Composition of a dedicated committee — Table 14

Composition of dedicated committees when it is the macroprudential authority						No of countries
Ministry or ministries	●	●	●	●	●	21
Central bank		●	●	●	●	20
Supervisory agency		●	●	●		19
Deposit insurance agency/authority			●		●	7
External experts				●		3
Total countries (21)	1	10	6	3	1	

Note: green dots represent the authority/representatives, as mentioned in the corresponding row, that is part of the dedicated committee. More than one green dot per column shows that more than one authority/representative is part of the committee. The last row shows the number of jurisdictions in which a specific combination of responsible authorities/representatives exists. The last column shows the number of jurisdictions for each type of authority/representative participating in a dedicated committee.

43. **Most jurisdictions have strengthened and continue to further develop their frameworks for financial stability monitoring**. More than half of the jurisdictions that participated in the survey (ie 45 jurisdictions) indicated that they are introducing changes in the setup to monitor financial stability.[36] Table 15 shows that the creation of a specific coordination body has taken place in almost 80% of the jurisdictions that have introduced changes in this domain. In addition to the 21 jurisdictions that have created dedicated committees designated as macroprudential authorities, another 14 jurisdictions have created a financial stability coordination committee, albeit without specific macroprudential powers. Within the jurisdictions that have not set up coordination committees, a significant number have formed specifically designated financial stability units or departments. A number of jurisdictions (25) mentioned that they have plans to further strengthen macroprudential supervision.

Changes in the setup of monitoring financial stability — Table 15

Creation of						Total
Dedicated committee (macroprudential authority)	●			●		21
Financial stability coordination committee		●			●	14
Financial stability unit or department			●	●	●	19
Total countries (45)	18	8	10	3	6	

Note: green dots represent the specific arrangement for setting up the monitoring of financial stability mentioned in the corresponding row. More than one green dot per column represents more than one arrangement. The last row shows the number of jurisdictions in which a specific combination of responsible authorities exists. The last column shows the number of jurisdictions for each type of authority participating in a dedicated committee.

[36] This observation is in line with similar findings by other authors. See, for example, Edge (2017).

Section 6 – Resolution of financial institutions

44. **A critical new function for financial authorities stems from the FSB's key attributes of effective resolution regimes for financial institutions (the Key Attributes).**[37] These global standards set out the core elements of an effective resolution regime. FSB member jurisdictions are expected to implement them in a way that will allow resolution authorities to resolve financial institutions in an orderly manner without using taxpayer money while at the same time maintaining continuity of vital economic functions. A number of FSB member countries, mostly G-SIB home jurisdictions, have already implemented the Key Attributes, though some of the critical powers for resolution authorities are still lacking.[38]

45. **The Key Attributes do not prescribe specific institutional arrangements for resolution authorities.** They must, however, have operational independence, as well as sufficient resources and powers to adopt international agreements with resolution authorities in other jurisdictions. Where there is more than one resolution authority in a single jurisdiction, one of the agencies should play a coordinating role.[39]

46. **The primary resolution authority is typically located within the microprudential supervisory authority for banks, especially when the latter is the central bank.** The survey indicates that in most cases, central banks are the primary resolution authority. This is especially true in cases where the central bank is the primary microprudential supervisor for banks. Table 16 shows that, when central banks are responsible for the microprudential supervisor of banks, it is also the authority in charge of resolving deposit-taking institutions in almost 90% of cases. When an SSA is the microprudential supervisor for banks, it is also their resolution authority in close to two thirds of cases.

Primary responsibility for the resolution of deposit-taking institutions[40] Table 16

	Primary banking microprudential authority		Total countries
	Central bank	Separate supervisory agency	
Central bank	39	1	40
Dedicated authority	2	4	6
Deposit insurance agency	3	3	6
Separate supervisory agency	0	16	16
Other	0	1	1
Total countries	44	25	69

47. **In a number of jurisdictions, bank resolution requires the involvement of more than one agency.** This is the case in slightly more than 40% of cases (see Table 17). Central banks play a key role, as they are typically still involved in the resolution process even when the central bank is not the single resolution authority. Altogether, central banks are involved in more than 70% of jurisdictions. SSAs participate in the resolution process in 35% of jurisdictions. A specialised resolution authority, a dedicated authority or a deposit insurance agency, outside the central bank, exists in close to 25% of jurisdictions.

[37] FSB (2014).

[38] FSB (2017).

[39] FSB (2014).

[40] To determine the primary resolution authority, we followed this criteria: if there was only one resolution authority, we selected this authority; if there was more than one authority involved, we selected the one in charge of resolution tools; and if there was more than one authority in charge of resolution tools, we selected the one responsible for "resolution planning".

Authorities participating in the resolution process of deposit-taking institutions — Table 17

17.1 Jurisdictions with one resolution authority					Total
Central bank				●	31
Dedicated authority or deposit insurance authority			●		2
Separate supervisory agency		●			9
Government department					0
Dedicated committee	●				1
Other					0
Total countries (43)	1	9	2	31	

17.2 Authorities involved in resolution (jurisdictions with shared responsibilities in resolution)[41]						Total
Central bank			●	●	●	13
Dedicated authority or deposit insurance authority	●	●		●		11
Separate supervisory agency	●	●	●			7
Government department					●	5
Dedicated committee		●				2
Other						0
Total countries (18)	3	2	2	6	5	

Note: green dots represent the authority, as mentioned in the corresponding row that has the responsibility for the resolution of deposit-taking institutions or shares this responsibility. More than one green dot per column represents more than one authority sharing the resolution responsibility. The last row shows the number of jurisdictions for which a specific combination of responsible authorities prevail. The last column shows the number of jurisdictions for each type of authority performing the function either with a sole responsibility or sharing the responsibility with other authorities.

48. **Changes in the institutional setup of resolution regimes are work in progress and have taken place mainly in FSB member jurisdictions and EU countries.** Most of the observed changes in resolution regimes since the GFC have taken place in FSB member jurisdictions. Table 18 shows that 27 countries have implemented a new resolution framework. Among them, 21 countries are members of either the FSB, the European Union or both. In Europe, this development is based on the national implementation of the Bank Recovery and Resolution Directive (BRRD). Among the survey respondents, 18 jurisdictions have announced plans to change their existing resolution framework. Many responses highlighted the need to develop and implement a framework for resolution of central counterparties (CCPs) and insurance companies.

[41] There are eight additional countries where authorities have shared resolution responsibilities under a unique combination setup:
(1) Central bank (CB)+Separate supervisory agency (SSA) + Government department (DG);
(2) CB + Dedicated authority/deposit insurance authority (DA/DIA)+SSA+Dedicated committee (DC);
(3) CB+DA/DIA+SSA;
(4) CB+DA/DIA + SSA + DG;
(5) CB+SSA +DG+DC;
(6) DA/DIA + SSA;
(7) SSA +DG; and
(8) SSA+ other agency different from the above.
Within these eight unique resolution setups, the CB shares responsibility in five of these combinations; the DA/DIA in four; the SSA in eight; the DG in four; the DC in two: and other agencies in one.

Changes in the resolution framework since the Great Financial Crisis			Table 18
Countries with a new resolution framework	Countries with new resolution tools added (within the same framework)	Countries attaching resolution role to an existing supervisor	Countries with a new resolution authority
27 (22)	5 (2)	27 (21)	4 (4)

Note: The number of members of the FSB and the European Union that reported changes in the resolution framework is stated in parenthesis.

Concluding remarks

49. **A proper design of the financial supervisory architecture is a relevant factor for the effective functioning of any financial system.** An adequate setup of supervisory arrangements in a jurisdiction contributes to an effective implementation of supervision by exploiting synergies across functions and mitigating conflicts of interest, such as those potentially arising between microprudential, macroprudential, monetary policy and consumer/investor protection. Therefore, a well-designed supervisory architecture contributes to strengthen the ability of financial authorities to prevent financial crises and mitigate their impact.

50. **Post-GFC, most jurisdictions have implemented incremental, but noticeable, changes within their institutional arrangements for financial sector oversight.** These changes respond to the adoption of the new macroprudential and resolution functions; a strengthening of consumer and investor protection; and improvements in financial stability monitoring.

51. **The post-GFC changes to financial supervisory models consist mainly in integrating supervisory functions and shifting more supervisory responsibilities to central banks.** In general, our survey identified a limited degree of change to financial supervisory models post-GFC. These changes reflect a tendency towards (i) greater integration of financial supervisory functions and (ii) shifting additional supervisory functions to central banks. These functions included, in several cases, the microprudential supervision of banks and insurance companies and, in most cases, macroprudential policy actions and bank resolution.

52. **The regulatory and supervisory framework for business conduct has been strengthened worldwide.** Only in a few cases, however, has this resulted in the establishment of a business conduct supervisory authority separate from the prudential supervisor. The Twin Peaks model is thus still confined to just a few jurisdictions, although they include some with highly developed financial systems.

53. **The post-GFC changes in supervisory models seem to have primarily aimed more at exploiting synergies than at preventing conflicts of interest.** This appears to be broadly consistent with the trend towards greater integration of supervisory responsibilities with an increasing focus on improving crisis management capabilities. The changes followed coordination failures, particularly between central banks and separate supervisory organisations, as seen in some jurisdictions during the past crisis. This helps explain the additional roles assigned to the central banks and the creation of inter-agency committees that specialise in the monitoring of financial stability risks.

54. **There seems to be no "silver bullet" for an ideal architecture of the organisation for financial supervision.** Recent experience indicates that no predefined model for financial supervision can obviate mistakes in crisis prevention and resolution. However, experience also shows that fit-for-purpose arrangements to facilitate information flows, adequate coordination across relevant parties and a good

structure of incentives for responsible authorities do matter. It therefore looks worthwhile to regularly conduct assessments of the functioning of the supervisory architecture in each jurisdiction in the light of prevailing objectives.

References

Barth, J, G Caprio and R Levine (2013): "Bank regulation and supervision in 180 countries from 1999 to 2011", *Journal of Financial Economic Policy*, vol 5, pp 111–220.

Bank for International Settlements (2011): *Central bank governance and financial stability*, report by a Study Group.

Borio, C (2003): "Towards a macroprudential framework for financial supervision and regulation?", *BIS Working Papers*, no 128.

Carney, M (2017): "Ten years on: fixing the fault lines of the global financial crisis", *Financial Stability Review*, Bank of France, no 21, pp 13–20, April.

Cecchetti, S (2008): "The Subprime Series, part 3: Why central banks should be financial supervisors", in A Felton and C Reinhart (eds), *The first global financial crisis in the 21st century*, VoxEU.org Publication, CEPR.

Darvas, Z, D Schoenmaker and N Véron (2016): "Reform of the European Union financial supervisory and regulatory architecture and its implications for Asia", *ADBI Working Paper Series*, no 615, November.

de Haan, J, S Oosterloo and D Schoenmaker (2015): *Financial markets and institutions: a European perspective*, third edition, Cambridge University Press.

Dincer, N and B Eichengreen (2012): "The architecture and governance of financial supervision: sources and implications", *International Finance*, vol 15, no 3, pp 309–25.

Edge, R and N Liang (2017): "New financial stability governance structures and central banks", *Hutchinsons Center Working Paper*, no 32.

European Commission (2009): *Report of the high-level group on financial supervision in the EU* ("de Larosière report"), February.

——— (2012): *A roadmap towards a banking union*, September.

——— (2014): *Report from the Commission to the European Parliament and the Council on the operational of the operation of the European Supervisory Authorities and the European System of Financial Supervision (ESFS)*, August.

European Parliament, Directorate General for Internal Policies (2012): *Monetary policy and banking supervision*.

European Systemic Risk Board (2012): "Forbearance, resolution and deposit insurance", *Reports of the Advisory Scientific Committee*, no 1.

——— (2014): "Allocating macro-prudential powers", *Reports of the Advisory Scientific Committee*, no 5.

G20 Information Centre (2010): *G20 Toronto Summit Declaration*.

Goodhart, C (2000): "The organisational structure of banking supervision", *FSI Occasional Papers*, no 1.

Financial Stability Board (2011): *Macroprudential policy tools and frameworks – Progress Report to G20*.

——— (2014): *Key attributes of effective resolution regimes for financial institutions*.

——— (2017): *Implementation and effects of the G20 financial regulatory reforms*, Third Annual Report.

Financial Stability Institute (2007): *Institutional arrangements for financial sector supervision: Results of the 2006 FSI Survey*.

Hanratty, P (1997): *The Wallis Report on the Australian financial system: summary and critique*.

Huang, R and D Schoenmaker (2015): *Institutional structure of financial regulation, theories and international experiences*, Taylor and Francis.

IMF-FSB-BIS (2016): *Elements of effective macroprudential policies – lessons from international experience*.

International Organization of Securities Commissions (2017): *Objectives and principles of securities regulation*.

Kremers, J, D Schoenmaker and P Wierts (2003): "Cross-sector supervision: which model?", in R Herring and R Litan (eds), *Brookings-Wharton Papers on Financial Services*, Brookings Institution, Washington DC.

Laeven, L and F Valencia (2010): "Resolution of banking crises: the good, the bad, and the ugly", *IMF Working Papers*, no 10/146.

Liikanen, E (2012): High-level expert group on reforming the structure of the EU banking sector.

Llewellyn, D (2006): "Institutional structure of financial regulation and supervision: the basic issues", in A Fleming, D Llewellyn and J Carmichael (eds), *Aligning financial supervision structures with country needs*, World Bank Publications, Washington DC, pp 19–85.

Lindgren, C, T Baliño, C Enoch, A-M Gulde, M Quintyn and L Teo (1999): "Financial sector crisis and restructuring – lessons from Asia", *IMF Occasional Papers*, no 188.

Masciandaro, D, R Vega Pansini and M Quintyn (2011): "The economic crisis: did financial supervision matter?", *IMF Working Papers*, no 11/261.

Morais, L (2016): *Modelos de Supervisão Financeira em Portugal e No Contexto da União Europeia*.

National Treasury of Republic of South Africa (2018): "Media statement – the launch of twin peaks".

Nier E, J Osiński, L Jácome, and P Madrid (2011): "Institutional models for macroprudential policy", *IMF Staff Discussion Note*, no 11/18.

Oreški, T and A Pavković (2014): "Global trends in financial sector supervisory architectures", in *Recent Advances in Financial Planning and Product Development*, Proceedings of the Fifth International Conference on Finance, Accounting and Law, December.

Quaglia, L (2013): "Financial regulation and supervision in the European Union after the crisis", *Journal of Economic Policy Reform,* vol 16, no 1, pp 17–30.

Single Resolution Board (2016): *Single Resolution Mechanism, introduction to resolution planning*, September.

Schoenmaker, D and N Véron (2017): "A 'twin peaks' vision for Europe", Bruegel Policy Contribution, no 30.

The Group of Thirty (2008): *The structure of financial supervision: approaches and challenges in a global marketplace*.

Wymeersch, E (2007): "The structure of financial supervision in Europe: about single, twin peaks and multiple financial supervisors", *European Business Organization Law Review*, no 8, pp 237–306.

Annex 1 – Jurisdictions included in the study

Regional classification– Africa, Americas and Asia & Pacific

Table 19

	Jurisdiction	Region		Jurisdiction	Region
1	Angola	Africa	27	Australia	Asia & Pacific
2	Botswana	Africa	28	Bangladesh	Asia & Pacific
3	Egypt	Africa	29	Hong Kong SAR	Asia & Pacific
4	Mauritius	Africa	30	India	Asia & Pacific
5	Morocco	Africa	31	Japan	Asia & Pacific
6	South Africa	Africa	32	Korea	Asia & Pacific
7	Tunisia	Africa	33	Kyrgyz Republic	Asia & Pacific
8	Sudan	Africa	34	Malaysia	Asia & Pacific
9	Zambia	Africa	35	New Zealand	Asia & Pacific
10	Argentina	Americas	36	Pakistan	Asia & Pacific
11	Bahamas	Americas	37	Philippines	Asia & Pacific
12	Belize	Americas	38	Russia	Asia & Pacific
13	Brazil	Americas	39	Singapore	Asia & Pacific
14	Canada	Americas	40	Thailand	Asia & Pacific
15	Chile	Americas	41	Timor-Leste	Asia & Pacific
16	Colombia	Americas	42	Vietnam	Asia & Pacific
17	Dominican Republic	Americas			
18	Ecuador	Americas			
19	El Salvador	Americas			
20	Guatemala	Americas			
21	Mexico	Americas			
22	Panama	Americas			
23	Paraguay	Americas			
24	Peru	Americas			
25	Trinidad and Tobago	Americas			
26	Uruguay	Americas			

Regional classification– Europe and Middle East

Table 20

	Jurisdiction	Region		Jurisdiction	Region
43	Albania	Europe	63	Macedonia	Europe
44	Austria	Europe	64	Netherlands	Europe
45	Belgium	Europe	65	Norway	Europe
46	Bosnia and Herzegovina	Europe	66	Poland	Europe
47	Bulgaria	Europe	67	Portugal	Europe
48	Cyprus	Europe	68	San Marino	Europe
49	Czech Republic	Europe	69	Serbia	Europe
50	Denmark	Europe	70	Slovakia	Europe
51	Estonia	Europe	71	Slovenia	Europe
52	Finland	Europe	72	Spain	Europe
53	France	Europe	73	Sweden	Europe
54	Georgia	Europe	74	Switzerland	Europe
55	Germany	Europe	75	Ukraine	Europe
56	Greece	Europe	76	United Kingdom	Europe
57	Hungary	Europe	77	Bahrain	Middle East
58	Iceland	Europe	78	Israel	Middle East
59	Ireland	Europe	79	Kuwait	Middle East
60	Italy	Europe	80	Lebanon	Middle East
61	Latvia	Europe	81	Saudi Arabia	Middle East
62	Luxembourg	Europe	82	Turkey	Middle East

Annex 2 – Financial supervisory architecture in the European Union

The post-crisis changes in the EU's financial architecture were initiated following the de Larosière Report.[42] To further strengthen the supervisory structure in the EU, three European Supervisory Authorities (ESAs) were set up and started their operations in January 2011: the European Banking Authority (EBA); the European Securities and Markets Authority (ESMA) and the European Insurance and Occupational Pensions Authority (EIOPA). In addition, the European Systemic Risk Board (ESRB) was established to monitor and assess potential threats to financial stability that arise from macroeconomic developments and changes in the financial system.[43] The ESAs, the national or Eurosystem competent/supervisory authorities of each Member State (NCAs), the Joint Committee of the ESAs (JC) and the ESRB constitute the European System of Financial Supervision.[44]

The main objectives of the ESAs are to safeguard the stability of the European Union's financial system and promote closer cooperation and better exchange of information among national supervisors. Overall, the ESAs should facilitate the adoption of EU resolutions to cross-border problems and support a coherent interpretation and application of European rules.[45] All three ESAs monitor and identify financial sector trends in their own jurisdictions, as well as potential risks and vulnerabilities at the microprudential level, including those in other countries and sectors. The formal setup of the joint committee of ESAs helps to ensure cross-sectoral consistency in six regulatory areas: financial conglomerates; accounting and auditing; microprudential analyses of cross-sectoral developments including risks and vulnerabilities for financial stability; retail investment products; measures for combating money laundering; and information exchange with the ESRB and developing the relationship between the ESRB and the ESAs.[46]

ESAs are expected to further develop a single rule book applicable to all 28 EU Member States and thus contribute to the functioning of the Single Market. The EBA is specifically working towards compiling the European Single Rulebook in banking, ie to provide a single set of harmonised prudential rules for financial institutions throughout the European Union, and supports the convergence of supervisory practices. The ESMA is also working towards completing a single rulebook and it promotes supervisory convergence. In addition, the ESMA directly supervises credit rating agencies and trade repositories. The EIOPA's core responsibilities are to support the stability of the financial system, transparency of markets and financial products, as well as the protection of policyholders, pension scheme members and beneficiaries. The development of a single rule book for insurance and pensions in the European Union is one of the EIOPA's main tasks.

One of the ESAs' main tasks is contributing to consumer protection across the European Union. The ESA Regulations require each of the ESAs to take a leading role in promoting transparency, simplicity and fairness in the market for consumer financial products or services across the internal market, including by (i) collecting, analysing and reporting on consumer trends; (ii) reviewing and coordinating financial literacy and education initiatives by competent authorities; (iii) developing training standards for the industry; and (iv) contributing to the development of common disclosure rules. In addition, the JC aims to ensure the necessary degree of cross-sectoral consistency amongst the ESAs in relation to matters

[42] European Commission (2009).

[43] European Commission (2012).

[44] European Commission (2014).

[45] De Haan et al (2015).

[46] Regulations (EU) No 1093/2010, 1094/2010, and 1095/2010 of the European Parliament and of the Council of 24 November 2010.

pertaining to consumer protection and financial innovation, including (i) promoting transparency, simplicity and fairness for cross-sectoral consumer financial products or services across the internal market; and (ii) monitoring new and existing cross-sectoral activities with a view to promoting the safety and soundness of markets and support the convergence of regulatory practice.[47]

The ESRB is responsible for macroprudential oversight of the financial system in the European Union and the prevention and mitigation of systemic risk.[48] The European macroprudential policy framework comprises national authorities with a macroprudential mandate; the ECB with specific macroprudential competences at the banking union level; and the ESRB with a broad mandate at EU level, although without binding powers. The ESRB has a broad remit, covering banks, insurers, asset managers, shadow banks, financial market infrastructures and other markets. The ESRB monitors and assesses systemic risks and issues warnings and recommendations where the individual parties addressed are obliged to respond under the principle of "comply or explain". The European banking legislation mandates the ESRB with specific tasks to coordinate member states' macroprudential policies.[49] The macroprudential tools are primarily in the hands of European Union's national authorities.

The key elements of the banking union, as established in response to the 2010 euro area crisis, are the Single Supervisory Mechanism (SSM), the Single Resolution Mechanism (SRM) and a single deposit insurance scheme. In contrast to the SSM and the SRM, established in 2014 and 2015 respectively, the deposit insurance scheme is still organised at a national level. As a result, the banking union is still incomplete.

The SSM comprises the European Central Bank (ECB) and the NCAs of euro area member states. Since November 2014, the ECB has been the licensing authority for all banks. It is responsible for the effective and consistent functioning of the SSM and exercises oversight of the banking system. The ECB is directly responsible for the supervision of "significant" banks and indirectly responsible for the supervision of "less significant" banks, the latter being supervised on a day-to-day basis by the NCAs.

The SRM complements the SSM by ensuring an orderly resolution of failing banks and banking groups. The SRM comprises the Single Resolution Board (SRB) and National Resolution Authorities (NRAs) of the participating member states. In addition, the SRB also manages the Single Resolution Fund (SRF), which is designed to finance the stabilisation of the financial system in situations where the effective application of the available resolution tools requires financial support. The SRB is a centralised and independent decision-making body. The role of the SRB and the NRAs is not limited to crisis situations, but is focused primarily on planning and preparatory measures, such as drawing up resolution plans, setting appropriate levels of Minimum Requirements for own funds and Eligible Liabilities (MREL), and addressing impediments to resolvability.[50] The SRB and the NRAs closely cooperate with the SSM, especially in reviewing the resolution plans. Mirroring the SSM structure, the SRB is the resolution authority for "significant" banks and other cross-border groups.[51] NRAs are responsible for all other banks based on the consistent application of resolution standards established by the SRB.

47 Regulations (EU) No 1093/2010, 1094/2010, and 1095/2010 of the European Parliament and of the Council of 24 November 2010.

48 EU Parliament, the EU macroprudential policy framework, May 2017.

49 For instance, the ESRB has been tasked with ensuring that the countercyclical capital buffer (CCB) is applied consistently across the EU by providing guidance to national authorities on setting CCB rates.

50 Single Resolution Board (2016).

51 Cross-border banking groups where both the parent and at least one subsidiary bank are established in two different participating member states of the banking union.

Annex 3 – Financial supervisory architecture in the United States

In the United States, the supervisory structure has been strengthened after the GFC by focusing on financial stability and consumer protection. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 ("Dodd-Frank Act") forms the basis for the creation of the inter-agency Financial Stability Oversight Council (FSOC) and the Consumer Financial Protection Bureau (CFPB). Both arrangements for financial oversight have a nationwide responsibility.

Microprudential supervision of banks and insurance firms is shared among a number of regulators with different mandates. The supervisors for banks are the Federal Reserve System (Fed), the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Corporation (FDIC), the National Credit Union Administration (NCUA) and the individual regulators in the states. The Fed regulates state member banks (that is, members of the Federal Reserve System,) and bank holding companies in the United States; the OCC regulates national banks; and the FDIC regulates non-member state banks. There is some overlap between the state bank regulators and the Fed/FDIC. The NCUA regulates credit unions. An example of an individual state regulator is the New York State Department of Financial Services. For insurance, the states are the primary regulators, and are members of the National Association of Insurance Commissioners (NAIC), a standard-setting and regulatory support organisation. Moreover, state regulation is divided into prudential regulation and marketplace regulation. In addition, Dodd-Frank established the Federal Insurance Office (FIO) within the US Treasury to undertake a broad monitoring role of the insurance sector and its regulation, as well as a lead role in international aspects of insurance regulation and specific responsibilities in relation to systemic risk in the insurance sector.[52]

Financial markets in the United States are mainly regulated by the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC). The SEC's core responsibilities include protecting investors; maintaining fair, orderly, and efficient markets; and facilitating capital formation. The CFTC supervises the markets for commodity futures and options on futures. Both the SEC and CFTC were mandated by Dodd-Frank to enact new rules including the Volcker rule.[53] In addition, a number of self-regulatory organisations help to regulate and oversee certain parts of the financial sector, including the Financial Industry Regulatory Authority, the Municipal Securities Rulemaking Board, and the National Futures Association. In addition, the Federal Housing Finance Agency (FHFA), established in 2008, is the responsible supervisor for the government-sponsored enterprises Fannie Mae, Freddie Mac, and the Federal Home Loan Bank System.

A key aspect of the post-crisis supervisory changes has been the strengthening of consumer/investor protection. Before the GFC, the responsibility for consumer protection was divided among several agencies. Dodd-Frank centralised and introduced a national perspective by establishing the Consumer Financial Protection Bureau (CFPB) in 2012. The Fed also supervises state member banks for compliance with consumer and community-oriented laws. The Fed also identifies and investigates possible

[52] However, the FIO is not a regulatory authority in the narrow sense and its main objective is to monitor developments in the insurance sector as well as to provide expertise and advice to the US Treasury and other supervisors. The FIO monitors all aspects of the insurance sector including the extent to which traditionally underserved communities and consumers have access to affordable non-health insurance products. The FIO also represents the United States on prudential aspects of international insurance matters, including at the International Association of Insurance Supervisors. In addition, FIO serves as an advisory member of the FSOC, assists the Secretary with administration of the Terrorism Risk Insurance Program, and advises the Secretary on important national and international insurance matters.

[53] In particular, the SEC was mandated to implement a variety of rules related to registration of certain private funds (hedge funds and private equity funds); the Volcker rule; security-based swaps; clearing agencies, municipal securities advisors; executive compensation; proxy voting; asset-backed securitisations; credit rating agencies; and specialised disclosures. In 2010, Dodd-Frank amended the Commodity Exchange Act to expand the CFTC's jurisdiction to include swaps and implement the Volcker rule.

violations of consumer protection laws through its consumer complaint and consumer inquiry programmes.[54] The FDIC and OCC also have consumer divisions to oversee bank activities within their sectors of responsibility. In insurance, the state regulators are in charge of marketplace regulation. This includes the business conduct of insurers, as well as their advertising, general issues of consumer protection and access to insurance.

Another important post-crisis supervisory change has been the focus on improving financial stability assessment. Dodd-Frank created with the FSOC a new macroprudential supervisory agency. The objective is to monitor and identify emerging risks to financial stability across the entire financial system; identify potential regulatory gaps; and coordinate the microprudential agencies' response to potential systemic risks. The FSOC is chaired by the US Treasury Secretary and comprises the heads of the Fed, OCC, FDIC, CFPB, SEC, CFTC, FHFA and NCUA plus an independent member with insurance expertise appointed by the President and confirmed by the Senate. Its members are advised by the Directors of the Office of Financial Research, the FIO, a state insurance commissioner designated by the state insurance commissioners, a state banking supervisor designated by the state banking supervisors and a state securities commissioner designated by the state securities commissioners.

An important new tool for the FSOC is the designation of non-bank financial institutions and financial market utilities as being systemically relevant. This would be the case if the assessment of a company's financial distress could pose a threat to US financial stability. These companies then will be subject to consolidated supervision by the Fed.

The role of the FDIC has been strengthened after the GFC to improve bank resolution in the United States. Dodd-Frank introduced the Orderly Liquidation Authority (OLA), known as Title II, which allows the FDIC to be appointed as the receiver for a failing systemically important financial institution. Under Title I, both the Fed and FDIC regularly review and assess the resolution plans of US firms. The Dodd-Frank's OLA gives a number of powers to the FDIC including the stabilisation of a failing institution with loans or guarantees; selling assets or entire operations; and transferring assets and liabilities to a bridge financial institution. In addition, Dodd-Frank permits the FDIC to take temporary funding for a resolution by borrowing from the government through the Orderly Liquidation Fund (OLF), subject to certain limits. Importantly, any borrowings from the Treasury must be repaid through incomes from the sale of assets or operations of the failed company.

[54] The Fed has helped to ensure that consumer financial product markets are fair and transparent as well as serving as a catalyst in helping financial entities and community-oriented organisations to meet consumer needs. The Fed's policies and research takes into account consumer and community perspectives and takes corrective action to address consumer risks among the financial institutions it supervises.

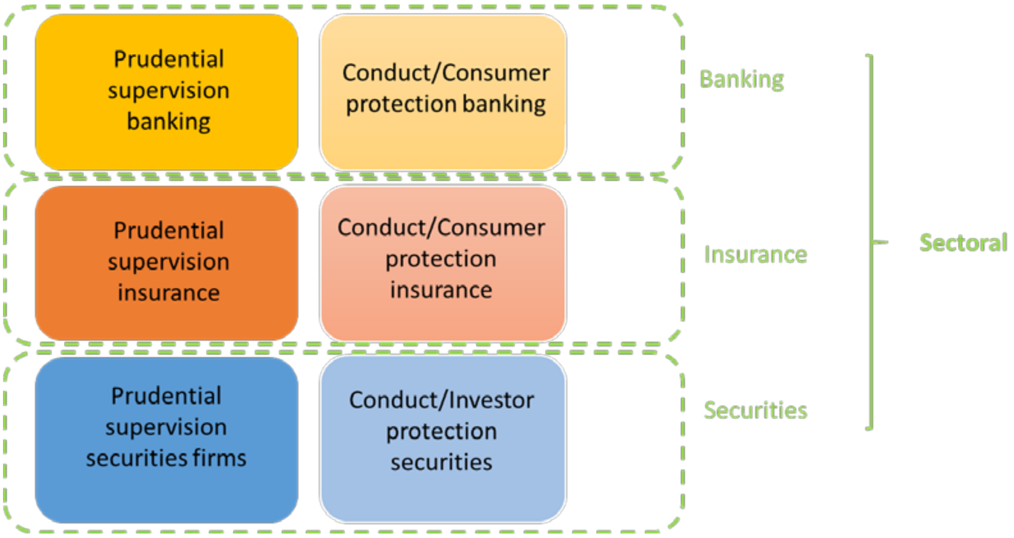
Annex 4 – Classification of supervisory models

This annex describes how existing supervisory models have been classified in the study. Financial supervisory arrangements around the world are not always easy to classify within one of our main supervisory models (*sectoral, integrated within a central bank or an SSA; Twin Peaks; and Two Agency*) without using some level of judgment. Some adjustments were therefore made, where needed, to fit country-specific financial sector arrangements into our supervisory models.

Sectoral model

- Jurisdictions where there are separate supervisory authorities for banking, insurance and securities business. In general, each authority has a microprudential role and a conduct of business responsibility in the sector they supervise.
- All financial sector supervisory arrangements that did not fit any of the other models were allocated to the *sectoral* model with three exceptions: one jurisdiction that indicated only one microprudential supervisor for banking and insurance; and two jurisdictions that indicated only a microprudential supervisor for banking. These jurisdictions were not included in any of the supervisory models within this study.

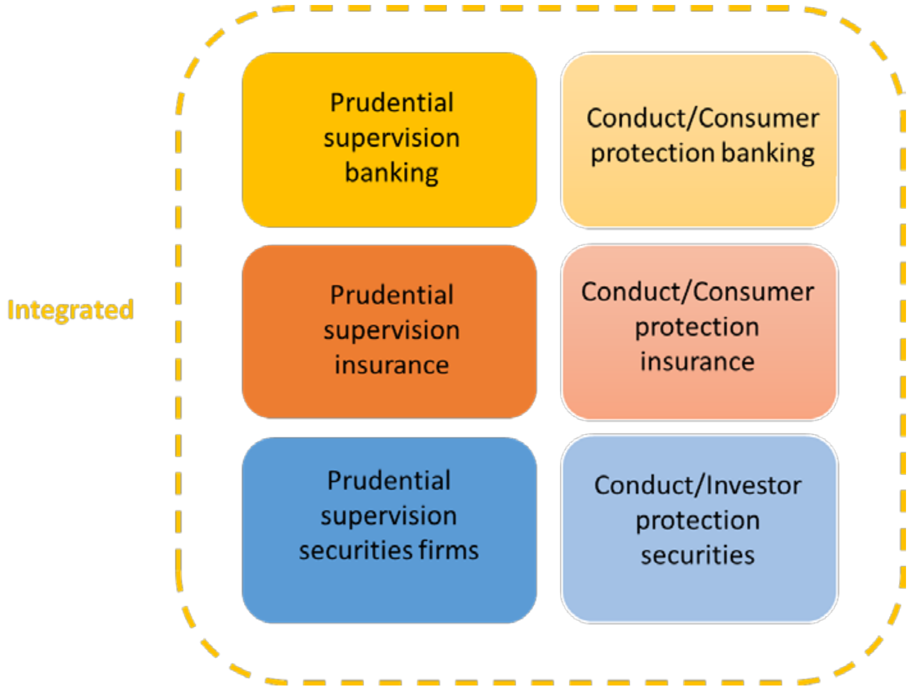
Figure 1. Sectoral model



Integrated model

- Jurisdictions where central banks or SSAs were (i) the primary authority for microprudential supervision for banking, insurance and securities business; and (ii) the same authority was also the conduct of business supervisor, either primary or with shared responsibilities for banking, insurance and securities firms and markets.
- Within this model, we included a jurisdiction in which there was a single microprudential supervisor for banking, insurance and securities business, and this was also the conduct supervisor for insurance products and securities but not for banking products.

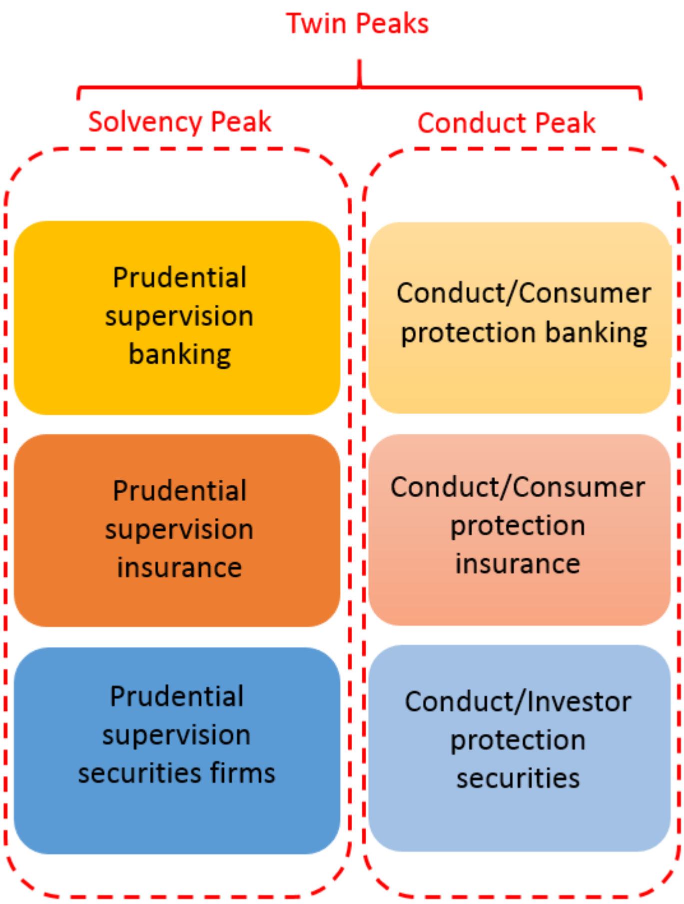
Figure 2. Integrated model



Twin Peaks model

- Jurisdictions with two different financial sector supervisory authorities, one for microprudential and another for business conduct matters, for all financial sectors.
- We also included here two variations of the "textbook" model mentioned above:
  - when the microprudential supervisor for banking and insurance is integrated and there is another supervisory authority for conduct of business for banking and insurance products, which is not necessarily responsible for the supervision of securities business (prudential and/or conduct).
  - when the microprudential supervisor of financial institutions is integrated but it does not have responsibility for conduct supervision, and there is a separate conduct authority, but it is not specialised in financial products.

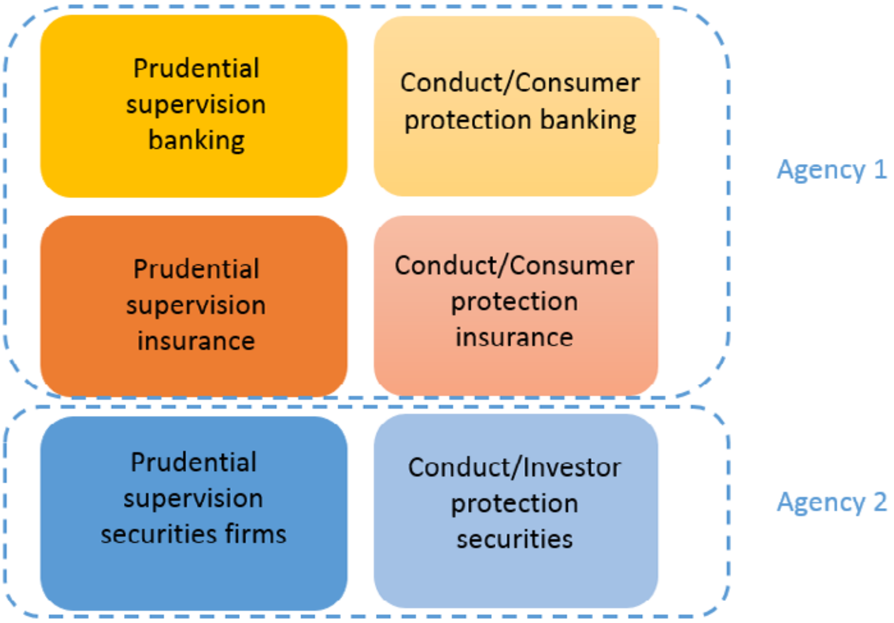
Figure 3. Twin Peaks model



Two Agency model

- Jurisdictions where there is one integrated supervisory authority for microprudential and conduct of business for banking and insurance and there is another authority for securities firms/business.
- We also included in this category those jurisdictions where there are two supervisors, one integrated for banking and insurance, and another for securities firms. The latter might share responsibilities with another authority in charge of conduct supervision.
- In addition, this category included one case in which there was an integrated supervisor for banking and insurance but there was no supervisory authority for conduct of business in this particular jurisdiction.

Figure 4. Two Agency model



In light of the above-mentioned methodological criteria for financial supervisory models, we classified jurisdictions for the purpose of this study, as depicted in Table 21.

Classification of supervisory models

Table 21

Sectoral	Integrated Central Bank	Integrated SSA	Twin Peaks	Two Agency	Not Classified
Albania	Bahrain	Austria	Australia	France	Cyprus
Angola	Czech Republic	Colombia	Belgium	Greece	Kyrgyz Republic
Argentina	Hungary	Denmark	Canada	Italy	Timor-Leste
Bahamas	Ireland	Estonia	Guatemala	Malaysia	
Bangladesh	Uruguay	Finland	Netherlands	Paraguay	
Belize	Russia	Germany	El Salvador	Peru	
Bosnia and Herzegovina	San Marino	Iceland	New Zealand	Trinidad and Tobago	
Botswana	Singapore	Japan	United Kingdom	Saudi Arabia	
Brazil	Slovakia	Korea		Serbia	
Bulgaria		Latvia			
Chile		Norway			
Dominican Republic		Poland			
Ecuador		Sweden			
Egypt		Switzerland			
Georgia					
Hong Kong SAR					
India					
Israel					
Kuwait					
Lebanon					
Luxembourg					
Macedonia					
Mauritius					
Mexico					
Morocco					
Pakistan					
Panama					
Philippines					
Portugal					
Slovenia					
South Africa					
Spain					
Thailand					
Tunisia					
Turkey					
Uganda					
Ukraine					
Vietnam					
Zambia					

Note: our methodological criteria did not allow us to classify three jurisdictions (Cyprus, Kyrgyz Republic and Timor-Leste) under our five supervisory models.