External Evaluation of Research at the Banque de France

Patrick Bolton (*Columbia University*)

Stephen G Cecchetti (*Brandeis International Business School*)

Lucrezia Reichlin (*London Business School*)

September 2014

I.   Introduction

Every central bank and financial supervisory agency should strive to produce high-quality research. The staff of central banks and supervisors needs to include a group of people who push forward the frontier of knowledge on issues related to monetary, prudential and financial stability policy. There are a number of reasons for this. The first is that governments should be in the business of producing public goods. In this case, that means contributing to general knowledge that benefit society as a whole. Second, since the subject of the research itself is directly related to the policymakers' mandates, it helps them to make better policy. That is, the research itself provides new insights that make policy better both in the jurisdiction where the research is done and elsewhere. Third, every central banker, as well as every micro- and macro-prudential supervisor, needs good advisers to help them understand current theory and its application to policy practice. Who better to explain the state of the art in financial and economic research, than someone who is producing it? Fourth, having research capacity improves the credibility of policymakers and the policy they produce. A high-quality staff makes it easier to defend policy actions both publicly and privately. Put simply, central bankers and financial supervisors who are supported by research departments make better policy. Furthermore, successfully recruiting Ph.D. economists improves human capital throughout public institutions.

Beyond these general forces, the National Central Banks (NCBs) and national supervisors in Europe have additional motivations and justifications for engaging in research. With the creation of the Eurosystem and, more recently, the Single Supervisory Mechanism (SSM), NCBs have lost much of their traditional authority over policy in their countries. Both the NCBs and the national supervisors are now acting more as delegated agents carrying out decisions that are made either by the ECB's Governing Council or by the SSM. While the NCBs participate both in the entities that prepare decisions and on the committees making the final determinations themselves, they are now one of many (in the case of the Governing Council today, 1 of 24).

Individual members of groups play major and minor roles in decisions for a wide variety of reasons. Among them are the economic, financial and political importance of the entities they represent, as well as the strength of the arguments they make. For individuals to have sway in the context of decisions made in Europe is even more complex than is the case elsewhere. That said, as the role of the NCBs evolves, research is becoming increasingly important as the foundation for the influence of individuals in the group. This is both because NCB research can itself form the basis for high-quality group decisions and because if a member of a decision-making body is known to have high-quality researchers as advisers, their arguments will carry more weight in the discussion.

So, having a high-quality research team is essential if central bankers and financial supervisors are to meet the objectives given to them by their societies. But building and maintaining a research department inside a central bank and supervisory agency is a difficult and time-consuming task. Success requires a set of elements that include: (1) support from the top management in the organization, including the person at the head; (2) recruitment and retention of highly trained professionals, taking care to have a self-sustaining distribution of skills and experience; (3) a system that holds researchers accountable for the time and resources they are given to do their work; (4) a mechanism to ensure that researchers and top management interact so topics are chosen in a manner that reflects both top-down and bottom-up evaluations of importance, interest and tractability; and, (5) a fertile community in which the work can be done.

The remainder of this report is divided into six sections. In the first, we survey the changes in research at the Banque de France over the past six years. These accomplishments are significant and include a dramatic increase in staffing, a significant rise in the quantity and quality of output, and a resulting jump in the ranking of the Banque de France based on standard metrics.

We next turn to a discussion of the challenges created by the diversity of the research staff. We comment on: i) the diversity of training, background and nationality; ii) issues associated with the management of competency-based career paths for researchers along with responsibility-based career paths for managers; iii) the importance of consolidating, maintaining, and further improving the research reputation of the Banque de France; and, iv) the differences in the allocation of time between policy-related work and research across the institution.

In Section IV we discuss internal processes. Here our focus is on the general issue of integrating policy work and research. Our primary point concerns communication within the institution: that top management be conscious of staff research work, and, in turn, that researchers be aware of the important policy questions of the day. We discuss the need to further enhance the mechanisms for two-way vertical communication that runs from the lowest-level researcher to the high-level policymakers.

We then proceed to an assessment of data sharing and integration across the Banque de France. As is the case in most central banks, the Banque de France has unique data that are only available to internal researchers, or to those outsiders collaborating with Banque de France staff. We discuss the importance of insuring coordination, cooperation, and integration of these data to ensure that they are developed and used to their fullest possible extent.

In Section VI we discuss forecasting in the Banque de France. Here, our focus is on the role of research in ensuring the continuous improvement of the tools used for routine policy work.

In the final section we provide our conclusions in the form of 10 recommendations.

Our evaluation is based on a wide variety of data and extensive interviews. The latter took place primarily over a three-day period in mid-May 2014 and included interviews with the Governor and the two Deputy Governors, as well as staff from six Directorates: Directorate General Economics and International (DGEI), Directorate General Operations (DGO), Directorate General Statistics (DGS), Directorate General Cash Management and Branch Network Activities (DGAFP), the Secretariat General of the Prudential Supervision and Resolution Authority (SGACPR), and the Directorate General Human Resources. In addition to meetings with Director Generals and Directors, we met with groups of junior and more seasoned researchers.[1] Overall, we spoke with nearly 40 individuals, all of whom we assured would not be identified in this report.

Our work was supported in particular by Guy Levy-Rueff, Giulia Sestieri and Richard Forestier.

---

[1] One of us (Cecchetti) also conducted preliminary interviews in Paris during October 2013 and February 2014. In addition, we spoke with some of the people involved in setting these changes into motion. These included then-Deputy Governor Jean-Pierre Landau and Director General Pierre Jaillet.

II.   The dramatic accomplishments of the past 6 years

Breaking with its traditional recruitment method, which relied almost exclusively on the *concours* (open competitive exam), the Banque de France made important changes in 2007. This new initiative was aimed at increasing the size of the research staff and diversifying its recruitment approach. This approach has focused on hiring new researchers on the international PhD economics and finance job market to supplement those arriving through the *concours*.

Our overall assessment is that this six-year enhancement effort has paid off far beyond any reasonable initial expectations. Not only has the Banque de France been able to substantially increase the size of its research staff, but it has significantly expanded its diversity by attracting researchers from all over Europe and from the leading graduate schools in economics around the world. While there were only 26 researchers in DGEI in 2006, today there are over 90 distributed across the main departments. The highest concentration is in the largest department, DGEI, with 63 researchers. In addition, there are currently 10 researchers in DGO, 8 in DGS, 5 in ACPR, and 5 in DGAFP. And, this group is well supported by 50 research assistants spread proportionally through the Bank. (See Chart 1.)[2]

Chart 1: Size and distribution of researchers and research assistants
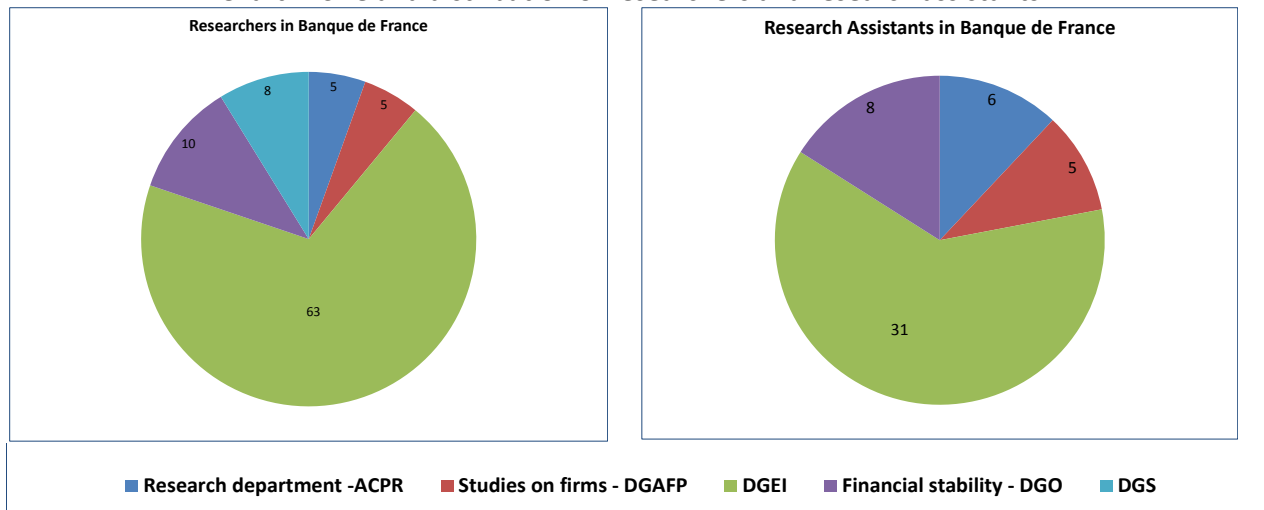
All researchers divide their time between academic research activities and policy work. The academic research is highly complementary to the policy work and researchers are recruited based on their areas of specialization in monetary policy, macroeconomics and forecasting, international finance, banking and finance, prudential regulation, etc. As a result of this substantial expansion in research staff there has been an explosion in research produced by the Banque de France. Against only 11 publications in 2006, the totals for 2012 and 2013 were respectively 57 and 69. The quality of Banque de France research is also high, with nearly three-quarters of total publications during the past eight years appearing in international peer reviewed publications. (See Table 1.)

---

[2] Researchers can also draw on the extensive network of 95 economists and doctoral students, as well as the 263 statisticians in the DG Statistics.

| Table 1: Research Publications by Banque de France Staff				
Year	All Refereed Journals	International Peer Reviewed	Working Papers	Google Scholar Citations*
2006	11	8		
2007	25	19		
2008	35	19	33	772
2009	35	21	39	463
2010	46	28	40	510
2011	51	39	46	413
2012	57	32	55	792
2013	69	56	64	581
Total	329	222	277	3768
*Years refer to the dates of journal or working paper publication, not the date of the citation.				

This unprecedented effort to ramp up research has significantly enhanced the reputation of the Banque de France in the Eurosystem and international policy forums, as well as in the French and international academic research communities. And the growing number of citations reveals that Banque de France research is increasingly attracting the attention of scholars, policymakers and commentators. Furthermore, from our interviews we have learned that as researchers bring their up-to-date knowledge of the international research frontier to the policy process, the quality of Banque de France policy briefs has improved substantially. As a result, original research findings combined with the use of the researchers themselves has increased the influence of the Banque de France in international policy forums.

Possibly as a consequence of the fact that most researchers have been recruited relatively recently and are still quite young, overall accomplishment remains fairly highly concentrated. (See Chart 2.) Looking at a distribution of lifetime citations, we note that the top 6 mostly highly cited DGEI researchers account for nearly 10,000 of the 18,827 citations total; or, about two-thirds of all citations. As the group matures, we would expect the skewness in this distribution to slowly fall.

We also found a vibrant environment for the discussion and exchange of ideas. This is reflected both in the numerous activities and conferences arising from the research partnerships with the Toulouse School of Economics, Paris School of Economics, Sciences-Po Paris, and CREST-HEC; and in the Banque de France internal research seminar series. In 2013 there were 116 research seminar presentations at the Banque de France, of which 90 were by outside academics. This represents an average of one seminar every other working day. In addition, during the year, nine conferences were organized in cooperation with the research partnerships. These conferences play a complementary role in both showcasing the research done at the Banque de France and in attracting high-profile outside researchers. From this we conclude that researchers have an opportunity both to present their own work and to learn what others are doing.

In our interviews we also learned that, among young scholars and on the international PhD job market, the Banque de France has a reputation for providing an especially dynamic research environment. A number of the newer recruits spoke enthusiastically about the inspiring mix of policy work and more fundamental research. This is borne out by the experience in hiring. Looking at 2013 and 2014 combined, we see that DGEI made a total of 30 offers, of which 17 were accepted. This yield of greater than 50% strikes us as quite high. Furthermore, we observed that several recent hires turned down attractive offers from other leading European central banks and research institutes to join the Banque de France because of its reputation for its research environment. And, a number of those that went elsewhere accepted positions at top level universities, central banks and international organizations.

Chart 2: Lifetime citations for researcher in DGEI
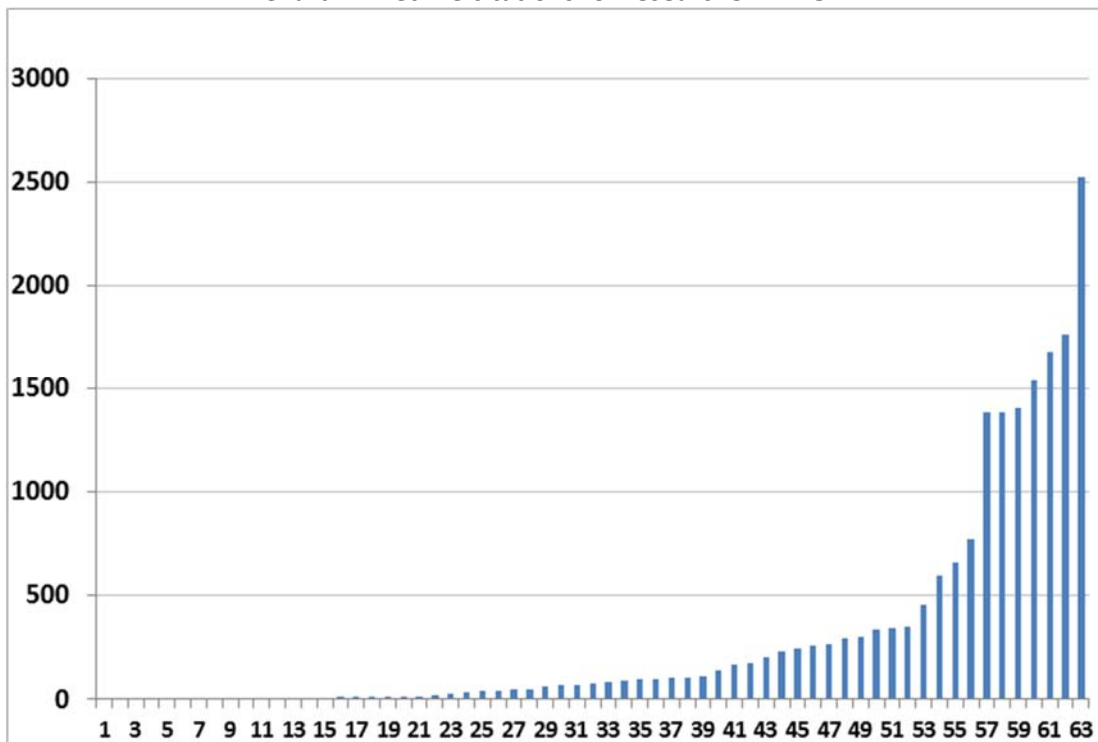
Source: Google Scholar and RePEc.

We also note the exceptionally large improvement in the ranking of the Banque de France research among central banks both in the Eurosystem and more broadly. Table 2 below reports information on the evolution of the rating of the Banque de France as computed by Research Papers in Economics (RePEc). The rows show the rating among top French economic and research institutions (excluding the OECD), the Eurosystem, and in the world. This ranking, based on the number and quality of publications, as well as citations, has risen dramatically over the past six years. Looking at the comparison with the Eurosystem, we note that the relative ranking has risen from 7th to 3rd. By this measure, today the Banque de France is behind only the ECB and the Banca d'Italia in Europe. Furthermore, while this is not reported in the table, it is worth noting that today the Banque de France ranks 10th among all central

banks in the world; behind only the IMF, the Federal Reserve Board, 5 Regional Federal Reserve Banks, and the two European institutions just mentioned.[3]

Table 2: Evolution of the ranking of the Banque de France							
	2008	2009	2010	2011	2012	2013	2014
France	13	11	9	8	8	6	6
Eurosystem	7	6	4	4	4	3	3
World			218	194	159	141	114
Source: RePEc website. Data are for December of each year; except for 2014, which is for April. Prior to 2010, the Banque de France was not among the top 25% of institutions in the world, so it was not rated and the entry is blank.							

Consequently, our assessment is that the Banque de France initiative to increase research capacity and to enhance its research reputation has largely paid off. Having significantly increased and diversified its research staff, its research has become much more visible and its influence has significantly grown. In our view, the goal of establishing a world class research group and further enhancing the Banque de France reputation is now within reach. An especially welcome development is the effect that the drive to diversify recruitment has had in the culture of the Bank; bringing more openness, a variety of perspectives on policy work, and fostering productive collaboration among researchers and policymakers.

III.   Challenges created by the rapid build-up of a diverse research staff

The first phase in the build-up of a world class research environment has been extraordinarily successful. This success itself poses a series of new challenges that the Banque de France will confront as it works to consolidate and build on these gains.

Whether intentional or not, the approach taken in this initial phase has had a quality of "letting a hundred flowers blossom." This laissez faire approach to managing research and researchers has had both benefits and costs. Among the concerns is that policy work has not always been well integrated into the research agendas of individual research staff members. Thus, the first challenge for the coming years will be to better harness the research talent and resources the Banque de France has built to gain greater effectiveness in its core mission: policy work.

A second challenge arises for the culture of research and the expectations of researchers. As is the case in the vast majority of organizations, the Banque de France has a system that is primarily designed to reward managerial ability. Since the value of researchers to an organization is often not in their skills as managers, there is a challenge of offering them career paths. A related challenge the Banque de France is likely to face in the coming years is the integration of the career paths of officials recruited through the *concours* and those recruited on the international PhD job market. Their profiles, expertise and age

---

[3] A more detailed breakdown of the ranking information is in the appendix.

when they join the bank are different and require a revision of the classical professional progression up the managerial ladder.

As with credibility, good reputations take time to build but are quick to lose. This gives rise to a third challenge: consolidating and maintaining the reputation the Banque de France has gained for its highly professional and discerning recruitment efforts and for creating a stimulating environment that brings together policy work and academic research.

Finally, there is the fact that the burden of policy work varies across areas of the Banque. This is inevitable, but it creates a challenge for the maintenance of a high-quality research staff who have the knowledge and ability to integrate research into all of the policy areas that can benefit.

We now turn to a more detailed discussion of each of these four challenges.

a. Integrating research resources into policy work

A fundamental difficulty in integrating research and policy work is that the timetables of policy agendas are not naturally synchronized with those for research. The research cycle is much longer and more specialized. Any researcher pursuing answers to ambitious questions and aiming for top publications will be engaged in individual projects that can require one to three years of sustained work on a very narrow topic. Economic research focuses on more fundamental questions, where progress is slow and where the agenda does not change quickly. In contrast, policy work follows a much shorter and less predictable cycle. While policy meeting schedules at the European Central Bank, the BIS, the Financial Stability Board, the Basel Committee on Banking Supervision, the IMF and the G20, are predictable, the topics to be discussed are not.

Unfortunately, it is a virtual certainty that the future will not bring a reduction in the number of international meetings. If anything, the number will rise. This imposes enormous time constraints on senior management, who are forced to rely heavily on a highly responsive staff to help shape up-to-date, thoughtful positions for the Banque de France on an increasingly complex set of monetary, microprudential and macroprudential policy issues. These time constraints make it difficult for senior management to be broadly informed on the latest research output of the nearly 100 researchers of the Banque de France. As a result the Governor and Deputy Governors, and even the Directors General, cannot always tap into the most relevant research expertise at the bank on the policy question of the moment that is scheduled to be discussed in their next meeting.

The challenge is to ensure that, as they contribute to policy work, researchers have time to pursue their projects. The biggest difficulty is that the day-to-day work of developing positions and preparing briefings can easily crowd out research. Importantly, successful research requires continuity of time. Interruptions are distracting, frustrating and ultimately destructive of the process required to produce high-quality research output. That said, we expect that each researcher and every research project will differ in how it is best pursued. In the end, the solution to the integration of policy and research has to be done at the level of the individual managers. There may be projects and people that benefit from long uninterrupted periods of time. But others pursuing different types of projects might be successful with a few hours each day. Our suggestion is that managers ultimately be held responsible for the combination of policy and research work that it done by their staff. Let them work it out inside their

units, and then use performance evaluation tools to hold managers accountable for the balance, quantity and quality, of policy work and research that is produced by their staff.

We will have more to say about this topic shortly.

b. Managing researchers career paths

In our conversations, we sensed a clear frustration among researchers with the current system. Some felt that the only way to advance in the organization is to move into a managerial capacity. Others suggested that if they wanted to continue with their research career, they would have to leave and go elsewhere. Long-run job satisfaction, which assures both high job performance and retention of the most valuable staff members, requires that researchers be optimistic about their future at the Banque de France.

Most organizations have career paths that are based on responsibilities. The more responsibility, the higher the rank. The Banque de France has a very detailed hierarchy that includes 7 pay grades with specific titles from the lowest level research economist to the Director General. In the internal terminology of the Banque de France, these are Director General, Director, DA1, DA2, AD1, AD2, AD3 or equivalent. These grades often, but not always, coincide with managerial responsibility (e.g. Director, Division Head, and the like). And, in general, only managerial responsibility is mentioned on business cards or titles in listing authorship on research papers. In addition, in practice, pay levels are highly correlated with managerial responsibilities. The challenge is managing the careers of people who are researchers and who may not have the aptitude for, or interest in, management.

Institutions with research staff have handled this challenge in a variety of ways. For example, in the Federal Reserve System, there is a career path for researchers rising all the way to the level immediately below the Director of Research. An entering research economist sees a career ladder with 6 steps: Economist, Senior Economist, Research Officer, Assistant Vice President, Vice President and Senior Vice President. And, there are examples of people at each one of these ranks who have no explicit managerial responsibility. Importantly, looking at people with higher titles, a newly hired researcher would see people who combine significant research accomplishment and external reputations with an ability to contribute significantly to the internal policy work of the institutions.

Important components of any research career path include title differentiation, compensation differentials and some clear sense of exclusivity. The latter means that a research-based career track should have a pyramid structure analogous to the managerial track. So, as one gets to higher titles, there will be fewer people; significantly fewer.

In our view, the creation of competency-based job titles and ranks, that can, for example, be used on business cards and when attributing authorship of papers, and that are correlated with pay, is an important tool for consolidating the research gains that are currently accruing to the Banque de France. At the same time, the creation of this parallel research ladder provides a mechanism for coordinating and integrating the Ph.D. research economists with the *concours* managers. Furthermore, it helps ensure that all staff members feel they are valuable to the organization. Top researchers and top managers can both progress and both contribute without a sense of competition that would then require one group or the other to compromise in performing their job. And, importantly, individuals

would be able to move back and forth between the two tracks, researchers taking time as managers and vice versa.[4]

Given the risks inherent in the creation of a parallel track, we would expect that only a limited number of very successful researchers would have access to the higher levels. Furthermore, as researchers become more senior, they would be increasingly integrated into the policy process. That is, they would become broader in their knowledge of the work of the institution, being more capable of bridging the gap that may exist between research and policy. Put differently, we envision senior researchers as increasingly general in their skills, not as more and more expert. In order to ensure success as research staff gain experience, this requires that they spend periods of secondment in areas with policy responsibility in order to gain the appropriate experience to excel at the task of bringing research and policy analysis together. And, as is the case for managers, there would be a clear understanding of the number of people who can progress to higher levels on the research track.

Before continuing, we should be clear that in proposing the creation of a parallel career track we are not suggesting that researchers should be precluded from switching to a managerial career. Quite the opposite. Given the limited number of senior research positions that we envision, our view is that this is a natural avenue for advancement that would be open to researchers as they age. To this end it is important to manage expectations of researchers from the outset, using secondment and rotation to expose them to policy work so as to prepare them for a possible transition

c. Consolidating, maintaining and further improving the research reputation of the Banque de France

In order to consolidate the significant gains of the past six years, and further improve the research of the Banque de France, it is essential that the incentives that have brought success be retained. Researchers must continue to have a strong incentive to publish in recognized, peer-reviewed journals. They must have the opportunity to travel to conferences to present their work. They must have access to academic visitors both in the form of seminars and conferences, including being able to interact with world-class scholars visiting the Bank. And, they must be exposed to data and policy work so that their research can take advantage of the unique environment of the Bank.

Our observation is that the vast majority of the pieces necessary to move research at the Banque de France to the next level are in place. What is required is strong backing throughout the organization to go to the next step. This means a clear statement by top management that they support research. Every researcher should believe that the entire organization, from the very top down, supports their work. (Maybe not each individual project or person, but research overall.)

Most importantly, as the organization matures, it is essential that a system of mentoring researchers develops. Older, more experienced and more accomplished researchers should be expected to take the new recruits under their wing. They can help with choice of projects, decisions about approaches and

---

[4] At the New York Fed there is only one set of titles, so managers can have lower titles than researchers in their units. This may seem extreme, but it makes clear that both managerial and research skills are both valued and have their place in the organization.

methods, submissions to journals and revisions, and the like. As with a university faculty, there must be senior and junior researchers, with the former helping the latter learn how to do the work. Put another way, senior researchers (with higher titles!) act as informal managers of research. It is this intergenerational guidance that is one critical element needed to ensure the research group at the Banque de France both improves and becomes self-sustaining. We simply note that during the transition period while the Banque de France is still developing its research staff, mentoring can come from academic consultants and from the faculty of the institutions with which it has ongoing partnerships.

d. Managing the heterogeneity in the balance between research and policy work

As we collected information on both time allocation (inputs) and research publications (outputs), we noted significant divergences across the Directorates in the Bank. At one end, we found that the Monetary and Financial Analysis Directorate in DGEI provides staff members at least two-thirds of their time for research. At the other, we observed that staff in the Financial Stability Directorate (DGO), in the Business Conditions and Macroeconomic Forecasting Directorate (DGEI) and in the DG Statistics (DGS) have very little if any time to pursue individual research projects. The others that we spoke with – ACPR, other DGEI directorates, DGAFP – are somewhere in between. These differences manifest themselves in the distribution of working paper output shown in Table 3.

Our interviews elicited examples of each of these issues. We see the solution to this heterogeneity as three-fold. First, to the extent possible researchers throughout the Bank should have equal research opportunities, even if at any one time and across all divisions there may be substantial differences in the time allocation towards research to make room for policy priorities. A central bank is not a university or a research institute. This means that all staff members have a responsibility to contribute to the core mission of the institution.

Second, we noted substantial differences in the policy work that is done in the different Directorates. Work in some Directorates, for example the Financial Stability Directorate (DGO) and Economics and International and European Relations Directorate (DGEI), as well as that in the Directorate for Research of the ACPR, involves substantial interaction in international forums such as the Basel Committee on Banking Supervision (BCBS), the Financial Stability Board (FSB), the International Association of Insurance Supervisors (IAIS) and the Committee on the Global Financial System (CGFS). Staff in these units prepare international meetings and participate in working groups that support these meetings. Others, such as the Business Conditions and Macroeconomic Forecasting Directorate (DGEI), are involved in day-to-day forecasting and current analysis. It is our view that all researchers could benefit from experiences in these (and other) policy-focused areas.

Table 3: Working paper output by year and area					
Directorate	**2011**	**2012**	**2013**	**Total**	**Average per researcher***
<u>**Economics and International Relations**</u>	**43**	**49**	**49**	**141**	0.69
- Business Conditions and Forecasting	*4.5*	*9*	*4*	***17.5***	0.63
- Monetary and Financial Analysis	*11*	*15*	*16.5*	***42.5***	0.71
- Microeconomic and Structural Analysis	*13*	*12.5*	*16*	***41.5***	0.69
- International and European Analysis and Relations	*13*	*9.5*	*11*	***33.5***	0.70
- Directorate General advisers	*1.5*	*3*	*1.5*	***6***	0.67
<u>**Operations**</u>	**2**	**5**	**3**	**10**	
<u>**Statistics**</u>	**0**	**1**	**0**	**1**	
<u>**Prudential Supervision and Resolution Authority**</u>	**1**	**0**	**11**	**12**	
<u>**Cash Management and Branch Network Activities**</u>	**0**	**0**	**1**	**1**	
Total	**46**	**55**	**64**	**165**	
Average per researcher per year is computed by dividing, for the three years from 2011 to 2013, the average number of working papers by the average number of researchers in each area.					

Importantly, though, for a high-quality, accomplished researcher to agree to move to an operational policy area, the person must have some assurance that she will be able to return to the unit she came from. This logic immediately leads us to propose the creation of an internal secondment program. That is, a system whereby researchers can move from their "home" directorates to another directorate for a period of 12 to 24 months with a guarantee of the ability to return. We note that this could create an imbalance in staffing levels relative to nominal targets, so the guarantee of the ability to return may have to be provided by the Directors General or even the Deputy Governors.

Third, we believe that the use of academic consultants can help (here as well as elsewhere). Interaction of Banque de France researchers with high-profile academics helps provide impetus for research projects in those units and on those topics where it may otherwise be difficult to keep them going. What this means is that the areas where staff researchers themselves are likely to have less time, there is a need for more external advisers at the margin. Looking at the list of external advisers, we see imbalances that could easily be rectified. That is, we would expect that those areas where research and researchers are contributing most to the core mission of the Bank, and those areas where the Bank has

a distinct comparative advantage created by data and the like (see the discussion below), would benefit the most from collaborations with academic consultants. So, we believe that efforts should be made to redress the current imbalances in the allocation.

IV.   Improving internal communication

We now turn to what may be the most important aspect of research in a central bank: integration of policy work and research. As we discussed at the outset, the purpose of a research team is to improve the quality of policy both by creating state-of-the-art knowledge and by bringing the best thinking to bear on a question of current importance. Success requires that there be processes in place so that both the researchers and the policymakers have some knowledge of what each other is doing. This means having clear and efficient vertical communication.

Starting with policy, harnessing research synergies requires somewhat greater "top-down" guidance of research priorities. This means that researchers must have as clear a view as possible of the issues that the Governor and Deputy Governors are likely to face over the next one to two years. Our sense is that there is substantial loss of information in the communications cascade through the hierarchy. If researchers are to bring their considerable expertise to bear on the policy questions of the day, they must know what those questions are. And, to the extent possible, they must have some forward guidance: some sense of what broad issues of importance are likely to be on the agenda in the 12 or 18 months ahead. Then, and only then, will policy fully benefit from the original research that the Banque de France is clearly capable of delivering.

There are a variety of ways to provide for vertical communication on relevant research and policy questions. One possibility, and the one we favor, is that each year the top management agree on a set of 3 to 5 big issues on which research should focus. Research projects need not, and should not, all fit into one of these groups. But the discussion and the agreement would provide valuable information to researchers.

Beyond the setting of priorities is the importance of feedback from the policymakers on the quality of the briefing material they receive. As we have noted, one of the reasons to have research in a central bank is it provides policymakers with access to researchers who then improve the quality of the policy decisions themselves. For this to work, it is important that people find out if their work is being used and by whom. We suggest that tools for feedback be developed, and that economists who participate in the preparation of briefing materials be acknowledged by name.

Furthermore, to the extent that briefing materials and top management speeches use research as an input, this too should be acknowledged in the form of footnotes or a bibliography. The development of this custom, which is common elsewhere, has a number of benefits. First, researchers will see the tangible policy impact of their labors. This provides positive feedback at the same time that it improves reputations internally and externally. Second, when the Governor mentions research at the Banque de France in a speech this helps bring attention to the work that is done inside of the institution. And finally, the information can be used for performance evaluation.

The responsibility for vertical communication runs in both directions: up as well as down. Researchers, and their managers, have a responsibility to inform the Governor and Deputy Governor of the work that is going on in their units in a structured way; and, to do it in a way that is accessible. That is, research output needs to be summarized and presented to the top management using language and methods

that they find effective. We see two possible mechanisms for this. First, as a part of this annual process to set research priorities, we foresee both ex ante and ex post reporting. That is, the top management would have access to periodic reports providing a relatively short summary of the research projects proposed and of those completed by category related to the big questions currently agreed. And second, researchers should be expected to provide user-friendly summaries, written for a general audience, and presentations again aimed at a non-specialist. We note that an ability to write in a straightforward and simple style, as well to be able to present complex material in simple language, are skills that benefit researchers and policy advisers alike.

V.   The need to improve data sharing and integration

In our view, the research of the Banque de France should be focused in two areas. First, there should be work that is directed at furthering the pursuit of the core mission. This includes research on topics including monetary policy, global and national financial stability policy, prudential regulation, maintenance of an efficient and secure payments system, reserve management, market operations, and statistics. And, there is substantial research going on in these areas. But in addition, research should focus on areas of comparative advantage. There are topics where researchers in a central bank are in a unique position to examine questions that are of general interest. This uniqueness arises for the access to data and policymakers themselves. It is our view that the staff of the Banque de France could do more in this area.

Having already discussed the benefits of communication between researchers and policymakers, we now turn to a brief discussion of the data we believe could yield important research results. With this in mind, we note four unique data sets in various parts of the Banque de France. These are:

1. Supervisory data at the ACPR
2. Companies data balance sheets at the DGAFP
3. Monetary operations data at the DGO
4. MFI and balance of payments data at the DGS

Each of these offers a singular opportunity for researchers. Not only that, but if the data sets are appropriately merged – the ACPR data on the banks' balance sheets with the DGO data on monetary operations and the DGAFP data on borrower characteristics – we would expect that the result would be a set of papers not only of use to policymakers in their making of monetary and financial stability policy decisions, but publishable in the very top tier of economics journals. This would start with papers that replicated other studies on French data and move on to new work.

We will simply note the importance and broad impact of the work done by researchers at the Banco de España in collaboration with academic economists on the impact of monetary and prudential policy on the riskiness of loans. Their series of papers that were based on the detailed and comprehensive data on Spanish bank and company balance sheets has appeared in the most prestigious international economics journals, such as *Econometrica,* the *Quarterly Journal of Economics* or the *Journal of Political Economy*. There is every reason to believe that a research team with access to the equivalent, if not more detailed, data in the Banque de France should be able to produce work at this level.

In our discussions with Banque de France staff we sensed several obstacles to taking advantage of the obvious synergies that would come from the merging of these data sets. First, the work that we are suggesting will take significant resources. This includes both IT resources, which are usually easy to find; and staff resources, which are not. We note with approval the project underway in which the suppliers of these data are cooperating in creating a system so that these data sets are all available on a common IT platform. We encourage the Governor and Deputy Governors to make it a priority that once this technical project is complete, all researchers in the Banque de France, together with their external collaborators, have access to these combined data sets.[5]

But beyond the data sets themselves, it is important that there be researchers in place who can exploit what we see as a truly unique resource. This means that the staff needs to be big enough, sufficiently highly skilled, and amply supported. Support will come both in the form of support staff – research assistants, statisticians, and IT personnel – and in the form of strategic backing from the entire management structure. Specifically, we are referring here to the work in ACPR on micro-prudential issues, DGAFP on questions that can only be answered using panel data on firm balance sheets, and DGS on questions that can be addressed using detailed MFI information.

VI.   The role of forecasting in the Banque de France

We now turn to a brief discussion of the role of forecasting in the Banque de France. Our task is not to evaluate the forecasts or the forecasting models themselves. We leave that to others. Instead, we focus on the relationship between forecasting and research.

In many ways, forecasting is at the core of monetary and financial stability policy. Every policymaker, regardless of their mandate or ultimate objective, requires forecasts of one form or another. These come in two basic forms. There are forecasts of future economic events and there are counterfactual policy simulations. Both require models. And the most credible, most useful forecasts and simulation results come from state-of-the-art models. These are the tools used routinely in the policy process and are the foundation of good policymaking.

Building and maintaining forecasting models is a difficult and time-consuming task. Models must be constantly refined to reflect both improvements in methodology and changes in the economic and financial system. But, since the technology of forecasting and the tools used in economic research are often somewhat different, there is a challenge in bringing the two together. Having said that, other organizations have found ways to overcome what may seem natural barriers to integration. The primary mechanism that we have seen is one that creates a flow of researchers moving in and out of the forecasting unit. That is, just as researchers are expected to provide policy advice by analyzing questions of immediate policy importance, they can be expected to spend time contributing to the forecasting and policy simulation process. This means that a group of researchers should be familiar with state-of-the-art methods and contribute to the continuous improvement of the forecasting process. Our view is that this is best done using the internal secondment program we described earlier.

---

[5] We note that other government institutions have found ways to provide confidential data to researchers at the same time that they maintain the integrity of their agreements with the original data providers.

It is worth making one more point before we move to our conclusions and recommendations. In our discussions with the staff and management of the Banque de France we detected frustration with the state of the models available for forecasting and policy simulation. This dissatisfaction was focused on the work that is in the Business Conditions and Macroeconomic Forecasting Directorate of DGEI, but extends to the some of the work done in the Economics and International and European Relations Directorate as well. These two Directorates have different responsibilities, and hence are responsible for different types of forecasts and policy evaluations. This leads them to use different models.

We sense two important issues. First, there is the challenge that naturally arises from the fact that forecasting is being done in two places. We accept the division of labor as a natural consequence of the differing responsibilities, but note that there is a clear need for coordination and cooperation among the staff that are doing the forecasting in the two areas. Second, although we have not been able to examine either the models themselves or the production processes that produce the briefing material for the Governor and Deputy Governors, we have the distinct impression that some of the models currently in use are not at the frontier.

Our conclusion is that the Banque de France would benefit from engaging a small team to review and assist in further improving these models, including providing advice on the production processes in place for forecasting and policy simulation, and mechanisms that can be put in place to ensure that the technology is always up-to-date.

VII.   Conclusions and Recommendations

We now turn to our specific recommendations.

Recommendation 1:

Ensure consistency, predictability and clarity of the research priorities in the Banque de France.

We recommend that on an annual basis, the Governor and Deputy Governors discuss and approve a set of research priorities that reflect the Bank's strategic objectives, as well as themes and debates they anticipate being confronted with in the coming meetings over the next 12 to 24 months.

The list should comprise at most half a dozen topics agreed in coordination with the various DGs. There should be an understanding that the list will not be changed between annual meetings.

Recommendation 2:

We recommend further improvement in staff evaluation to ensure transparency of the trade-offs between policy work and research.

We recommend a yearly activity report for each staff member, detailing research accomplishments and listing policy work, including contributions to the Governor's speeches. This will include the number of briefs written along with a quality assessment of the brief's questionnaire (see below).

As a part of this, we recommend that you give serious consideration to the adoption of a point system such as the one introduced by the ECB for both overall assessment and for transparency of the relative value of the various types of work.

Recommendation 3:

We recommend that research and researchers be acknowledged in preparation of top management speeches and policy briefings, and we recommend the creation and use of a short questionnaire to provide feedback to researchers on their policy work.

To improve incentives and feedback, and in line with mechanisms now in place elsewhere, we recommend that speeches and policy briefs include two things. First, they should acknowledge by name those who helped with the preparation. And second, wherever possible they should cite research results in either footnotes or a reference section.

To improve vertical communication, we recommend the creation of a simple "client satisfaction" survey for policy briefings. Such a questionnaire can be completed by the ultimate user of each briefing, including but not limited to the Governor, Deputy Governors and Directors General. The results of the questionnaire will be communicated to those who did the work and used in the annual performance evaluation process.

A sample questionnaire might be limited to the following four questions:

1. Was brief clear and well written?
2. As far as you can tell, did this brief include original Banque de France research?
3. Was this brief useful for the purpose intended?
4. Overall, was this brief deficient/adequate/excellent?

Recommendation 4:

We recommend further improvements in internal communication. We have three specific recommendations:

a. *The initiation of monthly or bi-monthly meetings.*

   We recommend enhancement and further development of monthly or bi-monthly meetings for the Governor and Deputy Governors in which a set of three or four researchers present either the major findings from their own work or a summary of recent developments of particular interest. Presentations would be no more than 10 minutes, followed by discussion.

b. *The creation of a research summary series written for a general audience.*

   To broaden the reach of research output, we recommend the enhancement and further development of a series of summaries of recent research results. These policy briefs should be at the level of an article in the *Economist* magazine, and might be written in collaboration with a free-lance journalist. To ensure the broadest audience possible, these should be in both French and English.

c. *Work to further enhance information researchers receive on the outcomes of meetings and the concerns of top management.*

   To ensure that all researchers are aware of the policy work that is taking place, it is essential that they know of the outcome of meetings that are attended by top management. We recommend that the Banque de France examine how best to ensure that this information is both broadly available and read by those who could benefit.

Recommendation 5:

Create career paths for researchers with titles and ranks parallel to those for managers.

We recommend the creation of a parallel expert track with titles, grades, pay, and expectations for accomplishment, performance and breadth of knowledge. To be truly parallel, this path would have at least 5 grades, starting from the current economist and reaching an equivalent to the management rank of Director. In practice, it is important to have limits on the number of people at the higher grades. And, these limits would be communicated clearly to the staff. As a possible rule of thumb, we suggest that at every management level, there should be at most one expert for every two to three managers.

Recommendation 6:

Create a program of internal secondment and rotation across directorates.

We recommend that, in order to improve the cooperation and coordination across units, the Banque de France create a program where researchers and policy analysts can move for anything from 6 to 24 months from one unit to another, with a guarantee that they can return. For example, a researcher may spend some time in a more operational unit with significant policy responsibility (e.g. short-term forecasting or financial stability) for the purpose of building human capital.

Recommendation 7:

We recommend that management work to ensure that all researchers in all Directorates have roughly equivalent allocation of time to research and policy work.

To ensure that synergies between research and policy work permeate all areas at the Banque de France, we believe it is important that there be more homogeneity of opportunity for research across Directorates. This requires ensuring that staffing levels match policy workloads so that all economists who are capable of producing research have on the average half of their time available for long-term projects. It also means making an effort to allocate academic advisers more equally across Directorates and to increase research resources in the core areas where currently policy work is disproportionately predominant.

Recommendation 8:

Ensure broad availability to researchers of datasets in the Banque de France.

We recommend the completion of the project to bring all Banque de France data onto the same IT platform and further recommend that the merged supervisory, firm, operations and MFI data be made available to all researchers and their collaborators in all parts of the Banque de France. To the extent that certain data may be confidential, we recommend the establishment of a committee to review research proposals and have authority to grant permission for the use of any and all datasets inside the Bank. Permission can be sought not only by full-time internal researcher staff, but by academic consultants as well. The presumption is that permission will be granted, so the Committee will need to explain a refusal. The Committee could be composed of Director Generals and chaired by one of the Deputy Governors.

Recommendation 9:

We recommend that the Banque de France engage external consultants to evaluate and bring up to date its forecasting models with a view to increasing the input of researchers and updating or even replacing those models that are deemed to be out-of-date.

To raise the quality of the models quickly, we recommend an external evaluation together with a commitment of resources sufficient to meet the challenge of moving to the frontier.

To ensure continuous improvement and refinement of the models, we recommend further enhancing the current process put in place to foster dialogue among modelers in the various Directorates. As a part of this, we recommend that, for every forecast cycle, there be an information session that includes a discussion of the deficiencies that have recently become evident.

Recommendation 10:

We recommend adjustments to the list and ranking of journals used in research performance evaluation.

Our view is that the current list could be improved to better reflect current external views across economics and finance. Specifically, we recommend that the *Journal of Financial Economics* and the *Review of Financial Studies* be moved up from the outstanding category to the top-eight category. These two journals are widely viewed as on par with the *Journal of Finance*. Second, the *American Economic Journals,* the *Journal of Law, Economics and Organization*, and the *IMF Economic Review* should be moved up from the first-class category to outstanding. Third, *Management Science* should be moved up from the International standards category to the outstanding category, and *Oxford Review of Economic Policy* should be moved up from the International standards category to the first-class category. Finally, the *B.E. Journal of Macroeconomics* (whether *frontiers* or *advances*) and the *European Economic Review*, should be moved down from the outstanding category to the international standards category, and the *Cambridge Journal of Economics* should be moved down from the first-class category to international standards.

Annex

The following tables are constructed using information from IDEAS, one of the RePEc services hosted by the Research Division of the Federal Reserve Bank of St. Louis. The ranking methods are described in detail in C. Zimmermann (2014), "Academic Rankings with RePEc", Econometrics, MDPI, Open Access Journal, vol. 1(3), pages 249-280, December.

Briefly, the average rank score of each institution is determined by taking a harmonic mean of the ranks across 33 methods. This ranking is based on 6534 institutions with 40370 registered authors. Authors with multiple affiliations are attributed to each according to the weights they have set to each in their profile, or by default according to a specific formula, unless they specified the weights themselves.

Publications catalogued in RePEc include journal articles as well as working papers and some book chapters. It is important to know that all of an author's publications catalogued in RePEc are allocated to her current institution irrespective of where she was when the piece was written and publication occurred. In addition, it is important to keep in mind that RePEc data do not necessarily capture all the researchers affiliated with an institution, but only those who choose to join the service.

Table A1: Top 10 non-U.S. Central Banks

Institution	Ranking	Number of affiliated researchers in RePEc
European Central Bank	1	153
Banca d'Italia	2	146
Banque de France	**3**	**127**
Bank of Canada	4	77
Banco de España	5	43
Sveriges Riksbank	6	38
De Nederlandsche Bank	7	47
Bank of England	8	57
Schweizerische Nationalbank (SNB)	9	56
Banco de la Republica de Colombia	10	90

(Source: RePEc website, as of April 2014)

Table A2: Top 10 Central Banks (including U.S.)

Institution	Ranking	Number of affiliated researchers in RePEc
International Monetary Fund	1	337
Federal Reserve Board (Board of Governors)	2	121
Federal Reserve Bank of New York	3	74
European Central Bank	4	153
Federal Reserve Bank of St. Louis	5	53
Federal Reserve Bank of Minneapolis	6	29
Federal Reserve Bank of San Francisco	7	36
Federal Reserve Bank of Chicago	8	34
Banca d'Italia	9	146
Banque de France	**10**	**127**

(Source: RePEc website, as of April 2014)

Table A3: Top 10 French economic and research institutions (excluding OECD)

Institution	Ranking	Number of affiliated researchers in RePEc
Paris School of Economics	1	214
Toulouse School of Economics	2	149
Sciences politiques, Sciences Po	3	81
Centre de recherche en Économie et Statistique (CREST)	4	73
Aix-Marseille School of Economics	5	79
Banque de France	**6**	**127**
Groupe EDHEC	7	21
Centre d'Économie de la Sorbonne, Université Paris 1	8	134
Département Sciences Sociales, Agriculture et Alimentation, Espace et Environnement (SAE2), Institut National de la Recherche Agronomique (INRA)	9	116
INSEAD	10	21

(Source: RePEc website, as of April 2014)