

BANCO DE ESPAÑA EVALUATION PROGRAMME

EXTERNAL EVALUATION OF BANCO DE ESPAÑA  
RESEARCH ACTIVITIES

Banco de España



EXTERNAL EVALUATION OF BANCO DE ESPAÑA RESEARCH  
ACTIVITIES

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## 1 Executive Summary

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The Banco de España (BdE from here on) has improved its research function markedly since the last report in 2012. Part of this improvement can be explained by restructuring aimed at greater integration between policy and research at all levels. The collegial culture from the current leadership has further improved the integration between research and policy. This process of improvement is ongoing. The leadership of the BdE continues to work on some of the issues that we highlight in our report. We provide a brief summary in bullet points here, with further elaboration in the main body of the document.

- The BdE excels at maintaining several key micro-level databases that have proved fertile ground for top level research and have generated important policy insights. This effort should be more decisively supported (in terms of Information Technology (IT from here on) and research support). They are the internationally recognized “crown jewels” of the institution.
- The BdE has been hiring in the international job market and attracting talent. However, the BdE quickly risks becoming uncompetitive. The tenure system is hampered by bureaucratic labor laws; salary scales and regulatory constraints make it difficult to hire topflight talent; lack of a more widely available research/policy track is resulting in valuable experienced talent leaving the institution at peak productivity.
- Incentives are not aligned with producing research published at top international journals. Given the size of the institution and the quality of its staff, too much of the research output is ending in second tier journals. This, of course, affects citation counts which are a natural measure of international influence. That said, some of the top publications are well cited and influential.
- The BdE is communicating more effectively and more frequently than in the past. This is very positive and is visible in its influence in public discourse. But the current architecture of communication would benefit from a dedicated professional team of speech writers integrated with the communications team that can be more strategic, and unburden economists from time-consuming tasks for which they are not well trained.
- The influence and visibility of the BdE in the Eurosystem and internationally is very good, judging from interviews and rankings. In no small part, this is due to the current leadership and the ability to channel the BdE’s research into the public square. However, the BdE would be well advised to set up the appropriate infrastructure and culture so that the interaction between policy and research continues after subsequent changes in leadership.
- Given existing imbalances in the share of newly minted Doctor of Philosophy (PhD from here on) economists, the BdE has been very successful at achieving diversity and creating a supportive climate. However, diversity quickly fades away at the middle and top management ranks. In part, this could reflect that the new crop of hires has not reached full maturity. In part, this reflects work-balance issues that put particular strains on new managers, reduce morale, and create disincentives to join the management scale.

## 2 Introduction

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Under the leadership of Governor Pablo Hernández de Cos, the BdE issued a 5-year Strategic Plan for 2020-2024.<sup>1</sup> To further the strategic objectives of this plan, the three authors of this report were commissioned to evaluate the research function of the BdE. Although this is not the first evaluation of research at the BdE (the last one dates to 2012), it is the first in what is meant to be a regular, ongoing process.<sup>2</sup>

Research in a central bank exists to further its mission and mandate. As stated in its 2020-2024 Strategic Plan:

*The mission of the Banco de España is to support stable economic growth. To this end, it pursues both price and financial system stability and, through its analysis, contributes towards other economic policy-making.*

*Plan Estratégico 2024*

Central banks play a central role in society. The BdE faces a changing economic, social and technological environment. The Global Financial Crisis, the recent COVID pandemic, climate change, demographic shifts, and geopolitical risks are all examples showcasing the need for the BdE to be a nimble, dynamic institution if it is to serve the Spanish society well. What role does research play in this environment?

The BdE is one of many national central banks with a voice in the Eurosystem. The BdE's influence on decisions made at the European Central Bank (ECB from here on) is directly related to its ability to bring cutting-edge analysis of evolving economic conditions into discussions on monetary policy and financial stability. The influence of the BdE can be directly measured by the strength of the arguments presented, which in turn depends on how research informs the best course of action.

Monitoring and ensuring financial stability is challenging. The financial system is the most dynamic and rapidly evolving system in most economies. The introduction of new financial instruments, digital coins, and risks posed by geopolitical developments, demography, climate change and biodiversity loss, to name a few, require constant research to best understand vulnerabilities that may arise, and how best to counteract them without harming the economy's growth potential.

A natural question is why must the BdE have its own in-house research rather than relying on academic research? We view the role of research done in academic institutions and at the BdE as complementary rather than exclusionary. Researchers at the BdE must respond in real-time to the needs of the institution. Moreover, research is tailored to the demands of the problems at hand. Institutional research translates and produces the latest research into best practices. Academic research provides a necessary, general-purpose backbone that, however, evolves at a much slower time scale and not always in a way that directly addresses the needs of the BdE. The challenges faced by the BdE often stimulate academic research down the line in a manner that enhances this symbiotic relationship.

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<sup>1</sup> For further details, see the [Strategic Plan 2024](#) on the BdE website.

<sup>2</sup> For further details, see the [Assessment of the Banco de España's activities](#) website.

Research needs time and space to develop whereas the demands of the policy cycle are more immediate. Thus, researchers at the BdE both need clear and frequent communication about policy developments from management as well as the freedom to pursue topics that may not be of immediate policy relevance but may turn out to be critical down the line. This tension requires the appropriate institutional architecture. The report will make several recommendations in this regard.

The terms of reference for the evaluation spelled out the following specific objectives:

- a Evaluate the results of research: its scientific quality and value added, and its impact and visibility outside the institution.
- b Evaluate the governance of the research function within the BdE, including the support provided and the incentives to do research.
- c Evaluate the relevance of research for the mission and duties of the BdE: its impact within the institution, its impact on its analysis of economic policies, and its communication strategy.
- d Evaluate the impact of research activities in the Eurosystem and other institutions of which the BdE is a member.

The evaluation is meant to review progress since the last evaluation in 2012.

In evaluating research, we use generally accepted academic standards based primarily on: (i) scientific publication in leading international refereed journals; (ii) citations of published articles in the literature; and (iii) influence of the research on other policy-making institutions.

A well-trained staff that is permitted to flourish in a supportive environment is critical to further the research function. In order to conduct the review, the BdE arranged a series of interviews with economists, and lower, middle, and upper management. In addition, the BdE had conducted internal surveys, the results of which were shared with us. Further, we assessed the internal organization of the BdE and how the research function is integrated with other functions of the BdE.

The BdE has a normative responsibility to analyze national economic policy writ large. This is not a role that many central banks fulfil. We do not assess whether this is an adequate responsibility for the BdE, rather we take it as a given. Thus, as the country's premier de facto financial and economic think tank, it must bring the latest research to evaluate economic policy in a credible and appropriate manner. We assess this role in conjunction with its communications strategy.

Communication is a critical aspect for central banks. Independence from direct supervision—though not of oversight—by the government requires that the public be well informed about the activities of the central bank. As a public institution, it has a duty to communicate the basis for its decisions on policy, supervision, and financial stability. Moreover, it has a duty to explain the basis on which its evaluation of economic

policies is made. In addition, given the concentration of talent, it is well positioned to improve the financial literacy of the public. These are natural outreach functions found in most central banks.

Finally, in order to evaluate the impact of the BdE's research activities within the Eurosystem and other institutions, we interviewed several well-positioned individuals outside the BdE working at international institutions.

There have been a number of significant changes in the organization of research within the BdE in the past few years, as we will explain below. Moreover, there are several initiatives in train, some of which have not yet been implemented, but are in their planning stages. In writing this report, some of suggestions that we will make will not be entirely new to the leadership of the BdE. Nevertheless, we felt it was worth reiterating them to reinforce their importance. In addition, we highlight several of the constraints under which the BdE operates over which it has no control. The hope is that the appropriate authorities will gain a better understanding of the needs of the BdE for improved functioning.

In preparing this report, we are grateful to all those that agreed to speak with us for their candor. We are thankful to Eva Ortega and Rodolfo Campos for providing us with the preparatory materials, and several data requests not always easy to fulfill. We are especially grateful to María Gutiérrez de Ojesto for her assistance in coordinating all aspects of our visit and review.

### 3 Organizational background and overview

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Starting in 2015/6 there was a dedicated effort to integrate research into each functional department or Dirección General (DG) with further reorganization in 2018. Moving away from a model in which research and policy are separate is a very positive development. The experience at other central banks validates this organizational shift. Variants of this model are followed, for example, by the ECB and, by and large, the Federal Reserve System as a whole. Both institutions generate topflight research and have greatly improved policy discussions and decisions.

The BdE began hiring fresh PhD economists in the international job market for economists in 2005. Since then, the BdE has hired about 52 new economists in the job market. This is standard practice at places like the ECB and the Federal Reserve System. The organization and tradition of the job market for economists has allowed the BdE to identify the best research talent that can be attracted to work at the BdE. Nevertheless, the BdE faces considerable bureaucratic barriers (not of its making) that will hamper its ability to remain competitive in years to come. We will comment on this issue in more detail below.

These two major organizational shifts—integrating research and policy and hiring economists in the international job market—have had very visible and positive effects though they hinge critically on the current leadership of the bank. As we explain below, we view as a major recommendation the need to erect the appropriate organizational scaffolding to imprint in the culture of the BdE the interaction between research and policy. It is important to ensure that the current model carries over subsequent changes in leadership.

The organizational transformation that began in 2015/6 and further in 2018 has had visible and very positive effects and externalities, specifically: (i) researchers now feel that they contribute to the main operational

mission of the BdE giving them a sense of ‘purpose’; (ii) there is a very good climate of collaborative research across units. Recent cohorts of job market economists bring a strong culture of cutting-edge research from their Ph D institutions; (iii) research now provides stronger arguments and support of policy thereby improving the external influence of the BdE; (iv) analysis of economic policy enjoys the highest research standards, making the BdE a credible voice in the public conversation on these issues.

The BdE has recognized in the past few years the importance of collecting and maintaining several micro-level databases that over time have resulted in a wealth of outstanding research and critical policy insights. We wholeheartedly applaud this effort. The BdE stands out in this regard among many central banks in the Eurosystem. In continuing with this laudable tradition, the BdE faces some resource constraints and some barriers to expanding this effort. In particular, the BdE is facing resistance to integrating existing databases curated by the BdE with databases curated by other government institutions. We will comment on these issues at greater length.

Like any shift in paradigm and despite the many positives, there are visible teething problems. Integration of research and policy requires good bi-directional communication between researchers and bank leadership. The job of the research staff is to ensure that the latest research is tailored to current policy debates in an accessible manner that the principals can effortlessly communicate at high level policy meetings with other policymakers. Going the other way, principals need to communicate with the research staff what are the burning policy questions discussed at high level policy meetings so that the conversation can be pushed forward.

This bi-directional communication depends critically on the management structure, specially at the upper level. Managers need to identify the important policy issues that require answers and need to identify how best to distribute the load across economists. Although much has been done to reduce and even eliminate silos, we observed considerable differences across departments about how policy responsibilities are administered.

Moreover, we observed considerable heterogeneity of management loads at different levels that are resulting in unsustainable work-life imbalances. These imbalances are creating severe disincentives to pursue a management career. Importantly, they are one source of gender imbalances in the managerial scale. The strong decline in the proportion of female economists at upper and middle levels of management is a point of concern which we examine in more detail in what follows.

Of course, not every economist can or will aspire to achieve the highest management ranks within the organization. Considering the time and effort that it takes for fresh PhD’s to acquire policy skills that are not taught in graduate school, it makes sense to provide economists opportunities for growth outside the management track. In this regard, we found that this option needs further development, as we explain further down.

## 4 What changed since the last report?

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The 2012 report identified the following main problems (quoting from the report):

- Limited integration of the Research Division in DG-Economics, leading to a perception of relative isolation of researchers there with respect to the policy process.



- Need for a change in the organizational model in DG-International where research is squeezed by policy work, and largely ignored if not directly related to the most pressing issues of the day.
- Good model of integration between research and policy in DG-Regulation. Here a potential problem is the lack of collaboration with other DGs, in particular in the area of monetary policy and financial stability.

Relatedly, the report identified 3 challenges:

- 1 Integration of research into the life of the institution without jeopardizing research standards.
- 2 Overcoming “Chinese walls” between DGs and between departments and divisions within DGs.
- 3 Career development.

The BdE has made considerable progress in sorting the main problems highlighted in the 2012 report. As we will discuss in more detail, there is much greater integration of research into policy, in general. This is due in part to a reorganization of the BdE itself. This is also partly due to the culture brought by the current leadership of the bank. There is no longer an isolated Research Division. Rather, research is directly integrated into each DG. Greater involvement of policymakers and management in research discussions, policy meeting debriefings, and other mechanisms for greater interaction are welcome developments. This greater push with integration came with more consistent hiring of economists in the international job market. This has led to maintaining and, in many cases, improving, research standards.

We also appreciated progress in how policy and research loads are managed, though this is an area where further progress is needed. Some DGs and some departments within DGs, have very heavy policy loads relative to others. A more equitable distribution will improve fairness but also resilience. Most “Chinese walls” have come down though we think greater progress is needed.

Finally, the area where perhaps the least amount of progress has been made is in developing adequate career paths for individuals with different skill sets and desires. We return to this topic in making our recommendations.

## 5 What are others saying?

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One of the objectives spelled out in the terms of reference is to:

Evaluate the impact of research activities in the Eurosystem and other institutions of which the BdE is a member.

To that effect, we interviewed three individuals outside the BdE who are well positioned to speak directly about its influence abroad.

As one of many members in the Eurosystem and given its size, the suggestion was made that the BdE cannot specialize in all fields but rather, it must strategically focus on its current areas of strength. Three areas where the BdE has a comparative advantage were mentioned in our discussions:

- 1 **Applied micro/labor markets research:** Olympia Bover has developed a well-regarded team of applied micro researchers that have fully taken advantage of the unique micro-level dataset that the BdE has curated over the years. This is seen as a visible area of strength that can help the Eurosystem better understand labor market dynamics, among other phenomena. The publication record in this area, along with outside collaborators has been very impressive. It is important to note the positive research externalities that this database has generated. Several external researchers, in collaboration with BdE staff economists, have published related outstanding research. We highlight this point as, in general, we strongly recommend the BdE should continue to seek such involvement with leading outside researchers.
- 2 **Financial stability research:** this is another well-recognized area of strength that also pivots around the credit registry data collected by the BdE. The data contain balance sheet positions of banks and borrowers. Along with outside collaborators, the BdE has generated a very influential publication record, with publications in top academic journals with leading academic economists. It has been an important input in the analytical thinking necessary to design and implement micro and macroprudential policies. Macroprudential authorities are new institutions in the euro area with the mandate of safeguarding systemic stability. The availability of top-notch relevant research on this issue is paramount. Moreover, given the experience from the 2008 financial crisis and the 2023 turbulence in the U.S. and Swiss banking systems, for example, the potential for spillovers makes this research ever more prescient.
- 3 **Macroeconomics:** over time, collaboration between the financial stability and macroeconomics group has increased to great effect—a necessary development to better understand how to set up and evaluate macroprudential policy. Moreover, the BdE currently has several internationally recognized macroeconomists with stellar publication records. The BdE fosters very fruitful collaborations with leading academics and it regularly organizes top level research conferences such as the annual European Summer Symposium in Macroeconomics (ESSIM) jointly with the Centre for Economic Policy Research. Such fora provide feedback on ongoing research at the BdE and give a useful snapshot of cutting-edge research in macroeconomics and international finance.

Of course, taking advantage of strength in these areas does not mean abandoning all others. Rather, it means that the BdE can build from these core areas out into other related fields by taking advantage of natural synergies (data, methods, research strategies, etc.). For example, there are natural connections between climate economics and financial stability, between applied micro and macroeconomics into public finance, and so on.

Great research in these areas is a necessary but not sufficient condition for the BdE to be influential internationally. In this regard, there was unanimous admiration for the ability of the current governor to

channel his staff's research into fruitful policy discussions. That said, the recommendation was made for the governor to more directly channel the research of junior economists in his speeches. This is viewed as a great way to incent junior staff and enhance their sense of purpose.

To achieve this level of influence among the international institutions the BdE is a part of, it will be important to set the institutional infrastructure for fluid communication between the leadership of the bank and its research staff. One cannot guarantee that the next governor will be similarly successful. But one can guarantee that the institution is appropriately setup to help the next governors be similarly influential.

Generally speaking, the BdE is seen as a reliable partner within the Eurosystem. Researchers from the BdE regularly participate in several Eurosystem initiatives and research networks. For example, the Eurosystem has cluster workshops coorganized with the BdE that consist of seminars and conferences for young researchers involving in the order of 200 economists. Such research activities foster greater collaboration of researchers across National Central Banks (NCBs) and the ECB.

## 6 Challenges and recommendations

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The following list elaborates further on the main topics discussed in the overview and provides recommendations. Many of the issues that we raise, to some extent, are known and policies are being already designed to address them. Other issues are new and need attention. And there are many other issues that we are not bringing up because we view the BdE as being successful in dealing with them.

We have organized these challenges and recommendations into ten key areas.

### 6.1 Communication

**Issue:** the collegial approach of the leadership of the BdE has resulted in a marked improvement in bi-directional communication with the staff. To a great extent, this is a recent change from history and idiosyncratic to the current leadership team. Moreover, the leadership of the BdE is unusually active in the public discourse, with numerous speeches on various issues related to monetary policy, financial stability, but also analysis of current economic policy.

**Consequences:** increased workload of selected individuals in the preparation of speeches.

**Recommendation:**

- Hire a team of speechwriters, preferably with media experience to (i) lighten the load from economists who are not trained in communication and writing; and (ii) to bolster the communications team whose role is to craft the communications strategy alongside with the leadership of the bank.
- Other central banks routinely hire business press reporters to craft speeches in an accessible manner. Moreover, they also have professional and dedicated copy editors, not just for

speech writing, but for many other communication formats. Moreover, these copy editors and communication specialists create standardized chart formats that can be used and updated by research assistants. Research assistants can also help fact check speeches.

- Setting up a professional communications team and infrastructure will liberate research economists' time to focus on the content of the speeches rather than on writing, copy editing and fact checking, tasks on which they are not generally trained in. Moreover, having a professional communications team will allow for an even more coherent communications strategy.

## 6.2 Management

**Issue:** almost universally, economists at BdE have a strong negative perception of being 'promoted' to unit head—the first level of management. They cite the heavy workload relative to the meager increase in pay, and low potential for career advancement. Moreover, on several interviews with female managers (but also some male managers) it was felt that promotion to management generates strong work-life imbalances.

There was considerable heterogeneity on this front. Some managers feel that the heavy loads of their new position relate to the following factors: (i) almost universal agreement that Human Resources (HR from here on) (and to a degree, IT) imposes substantial bureaucratic burdens on their job; (ii) we detected that some managers have heavy policy loads while others had much lighter loads. Some of this is related to speech writing, preparation of the quarterly and annual reports and other policy work; (iii) mentoring younger colleagues and providing career advice they themselves are unclear about.

**Consequences:** newly promoted managers have, as a group (there are exceptions), relatively low morale. In fact, we are aware of more than one case in which a manager has resigned and preferred to step down from their duties. We recognize that part of this low morale could be because a management position carries more duties that impinge with research time and that there is a period of adjustment.

Work-life imbalances tend to affect female economists disproportionately. It was clear that as one moves up the management hierarchy, female representation quickly declines (see Chart 1 below, and Table A.1 in the appendix). This lack of female representation creates a lack of 'role models' that female economists can reach out for advice in their careers. We highlight this further below.

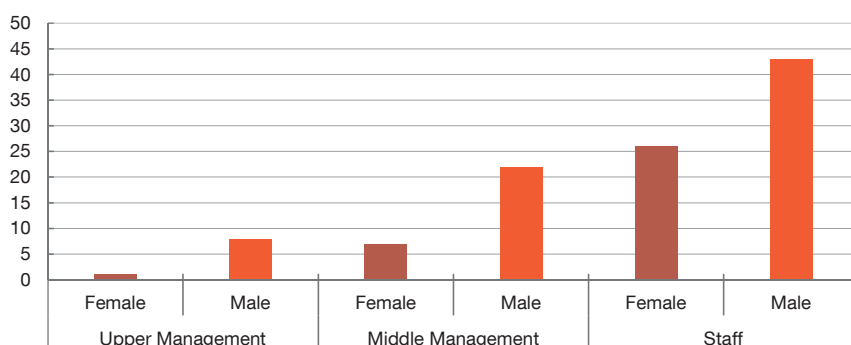
To be clear, we detected that female economists felt that the institution does a good job to promote a diverse culture and that their male colleagues treat them with respect. However, we are not aware of explicit diversity training aimed at eliminating subconscious biases at the management scale.

### **Recommendations:**

- We understand that the figure of "Coordinador de Funciones Cooperativas" was created in 2021 in each DG. The main functions are related to HR (e.g. to level-set performance evaluation procedures, promotion, awards, and other employee policies; identify training

Chart 1

## Breakdown of economist with an active profile on the research portal, by gender and rank



**SOURCE:** Banco de España.

**NOTE:** Upper management: includes all directors. Middle management: heads of division, heads of section, and advisors. Staff: economists and senior economists. Data from: <https://www.bde.es/bde/en/areas/analisis-economi/contenidos/investigadores/investigadores--por-departamento--ce245eca7c17d71.html> collected as of April 15, 2023. Any active employee of the BdE is eligible to be listed at the research portal as an active researcher, if he/she has published at least one BdE WP within the last 3 years or one article in a peer reviewed scientific journal within the last 5 years. Exceptions to this rule can be made for recently hired employees with a research profile, in particular, econ job market hires. Employees that are on temporary leave can maintain their profiles at the portal for up to 3 years, provided they continue to fulfill the above requirements. Researchers that are permanently on leave from BdE are removed from the portal upon departure. The research portal administrators routinely review profiles, and remove those that do not fulfill the requirements any longer, according to the information available within their profiles.

needs; and so on); IT (coordination of IT requests); budgeting; and other tasks. It will be important to ensure that this new position unburdens managers rather than creating new bureaucratic frictions for managers in the pursuit of standardization and fairness. Managers' time is best spent distributing policy work among the staff, keeping track of the staff's progress on research, advising on career progress (e.g., what conferences to send working papers to, what journals to target, networking, potential collaboration across units, and general policy and research work).

- Consider creating a wider bench when it comes to policy tasks, such as speech writing, so that these duties can be shared more widely and there is more resilience. To be clear, this does not mean that everyone should read speeches and provide comments. On the contrary. Consider setting up rotations of small teams. This will require upper management to have a more holistic approach to the distribution of policy tasks. The BdE already has a research coordinator that seems to work well. It would be a good idea to have better coordination across DG's and more sharing of policy responsibilities, regardless of the general label assigned to a DG.
- There needs to be more clarity about the requirements for career advancement. This was an almost universal complaint. The BdE needs to construct different career paths for advancement, mostly a management path and a research path. To be clear, a research path does not mean no policy contributions. On the contrary, we expect that as economists become more experienced, they will have a better sense of how research can be integrated into policy. A "senior researcher/policy path" seems to be currently missing.

### 6.3 Research output and research quality

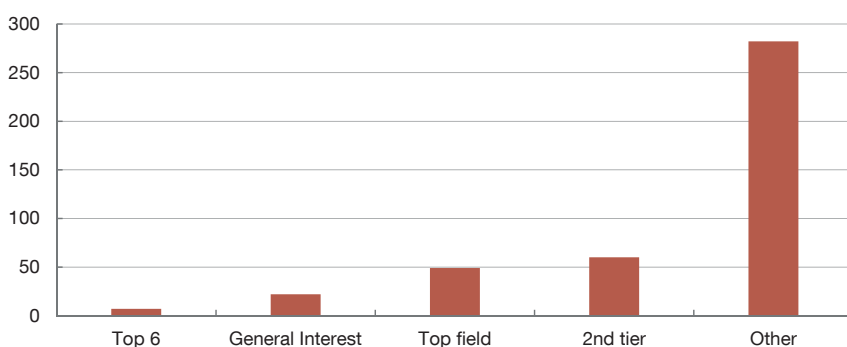
**Issue:** although there are some truly excellent research publications, which are extremely well-regarded and achieve a high level of citations, there is a large proportion of the overall research output that is published in low quality outlets with low impact and a low number of citations. Chart 2 shows that nearly two thirds of the research publications over the period 2010 to 2021 have appeared in outlets that are below, what we have labelled, 2nd tier. Ranking journals is fraught with potential error; however, the overall pattern is clear and in producing these rankings we have erred on the generous side in allocating journals to each group.

The 2nd tier list does include some very solid journals with wide readership. For example, it includes the *Journal of the Spanish Economics Association* which we understand will be a natural home for many of the research papers produced at BdE. Nonetheless, our reading of the papers in the 2nd tier, and some of those in the ‘Other’ group, is that with more time and effort a good chunk of these papers could and should be raised to a level publishable in top field or top general interest journals. Data on research productivity and several measures of citation counts and impact are provided in Tables A.2–A.5 in the appendix.

**Consequences:** despite the high quality of much of the research, too many outputs are not taken to a sufficiently high level. They are then submitted to lower quality outlets with lower citations and lower eventual impact.

Chart 2

Publications by rank: 2010-2021



**SOURCE:** REPEC.

NOTE: Buckets loosely chosen by REPEC ranking and field. Some publications in non-economic journals may have ended in the “other” category. Not all journals listed had publications. Some omitted journals had 0 publications. **Top 6:** *Econometrica*, *American Economic Review*, *Quarterly Journal of Economics*, *Journal of Political Economy*, *Review of Economic Studies*, *Journal of Finance*. **General interest:** *Journal of the European Economic Association*, *Review of Economics and Statistics*, *Economic Journal*, *European Economic Review*, *Journal of Economic Perspectives*, *Brookings Papers on Economic Activity*, *Economic Policy*, *Annual Review of Economics*, *International Economic Review*. **Top field journals:** *Journal of Economic Growth*, *Journal of Financial Economics*, *Review of Financial Studies*, *Journal of Monetary Economics*, *Journal of Labor Economics*, *AEJ: Macro*, *RAND*, *AEJ: Applied Economics*, *Journal of Econometrics*, *Journal of Applied Econometrics*, *Journal of International Economics*, *Journal of Public Economics*, *Journal of Business and Economic Statistics*, *AEJ: Economic Policy*, *Journal of Development Economics*, *Journal of Human Resources*, *Review of Economic Dynamics*, *International Journal of Central Banking*, *IMF Economic Review*, *Journal of Economic Theory*, *Oxford Bulletin of Economics and Statistics*, *Journal of Economic Dynamics and Control*, *Econometric Theory*. **2nd tier publications:** *Journal of Money, Credit and Banking*, *Journal of Banking and Finance*, *Econometrics Journal*, *Energy Economics*, *Mathematical Finance*, *Journal of Financial and Quantitative Analysis*, *Journal of International Money and Finance*, *Journal of Economic Geography*, *Journal of Health Economics*, *Journal of Financial Markets*, *Review of Environmental Economics and Policy*, *Journal of Empirical Finance*, *Annual Review of Financial Economics*, *SERIES Journal of the Spanish Economic Association*, *Journal of Financial Econometrics*, *Scandinavian Journal of Economics*.

## Recommendations:

- Invest more time and effort into fewer papers with an aim of shifting the balance towards the general interest and top field journals.
- Allow senior researchers in each team sufficient time to help focus research effort by junior researchers on fewer and higher quality projects. Also advising juniors on journal submission strategy.
- Aiming higher will reduce the overall number of publications but should improve impact and levels citations. Chart A.1. in the appendix shows the average citation pattern by years since publication. It shows that there are some well cited publications that reach their peak impact 8-10 years after publication.
- Try to make policy work and other services more predictable to schedule blocks of research time around these obligations.

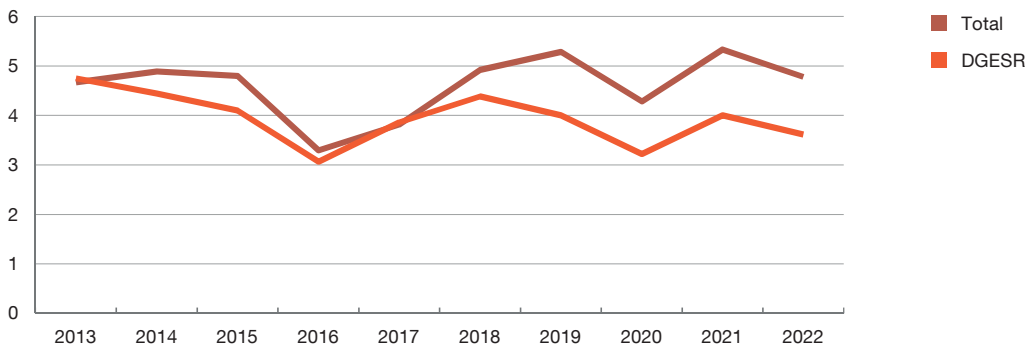
## 6.4 Research assistance

**Issue:** during our interviews we observed that one of the reasons managers and economists are overburdened is because they lack sufficient research assistant (RA) support. In fact, there are several routine jobs that could easily be outsourced to capable RAs, such as producing publication quality figures, updating forecasts from models, fact-checking speeches, keeping up databases, and so on. Moreover, well-trained RAs can help with initial data collection and coding in research related tasks. This is common at the Federal Reserve System, for example. Moreover, universities recognize the value of the training that RAs receive, which then helps getting admitted to prestigious graduate programs.

So why is there a dearth of RAs at the BdE? Labor laws limit the current contract model used to hire RAs to one year. This friction is quite unfortunate for both RAs and the BdE. One year is not enough time to train a new RA and to gain experience on the job. Moreover, because of the timing of the academic year, it largely eliminates any overlap between veteran and incoming RAs, an important way to transmit know-how across cohorts. Further, the application period to graduate programs means that just at the point where RAs have received training, they are preoccupied with filling up applications and pursuing their careers after their time at the BdE. This is very ineffective for the BdE and a great disincentive to hire RAs. Chart 3 below shows that the ratio of economists per research assistant has remained roughly constant at a rate that doubles that in, for example, many of the institutions in the Federal Reserve System.

**Consequences:** economists end up spending a big chunk of their time in routine tasks they are overqualified to do. At the other end, students are deprived from valuable experience that would set them up either for graduate school or for careers in finance or public policy.

Chart 3

**Ratio of Economists to research assistants**

**SOURCE:** Banco de España.

**NOTES:** DGESR refers to the Directorate General of Economics, Statistics and Research. Total in addition includes the DG of Financial Stability, Regulation and Resolution and the DG of Operations, Markets and Payment Systems, which had far fewer research economists earlier on, but have increased in the past few years.

**Recommendations:**

- While respecting current labor legislation, be more creative in finding a solution to the one-year contract limitation (perhaps with a scholarship program meant to train students aspiring to join a prestigious PhD program). Surely the temporary position of RA and the features of the job deserve special consideration and the design of a contract that favors both the RA and the BdE.
- The BdE also hires economists with less than a PhD degree that essentially function as de facto RAs, but whose talents appear to be underutilized. Consider giving these economists greater responsibilities. These might include but are not limited to: (i) supervision of RAs; (ii) data collection and processing for the various economic reports; (iii) drafting summaries of the outlook for the reports; and (iv) routine forecast updates, to name a few. Moreover, these career economists should be incentivized to pursue research, perhaps in collaboration with PhD economists for guidance. The Bank of England has been particularly successful in this regard. This would make career economists feel more fulfilled in their jobs. We got the impression that career economists find that their jobs get very routine, very fast. Some may even consider pursuing a PhD themselves and the BdE can perhaps support this effort. Again, this has been the case at the Bank of England.
- Introduce or enhance further collaborations with top-flight PhD programs, e.g. Centro de Estudios Monetarios y Financieros (CEMFI), Universidad Carlos III de Madrid (UC3M), Universitat Pompeu Fabra (UPF), etc., in order that selected PhD students can spend time at BdE completing studies for their PhD that provide synergies with research at BdE. This could



be particularly useful for developing aspects of empirical work and data analysis. Incentives of talented graduate students inclined to do empirical work using the datasets maintained by the BdE seem very well aligned with those of the BdE.

- At other institutions, collaboration between RAs (or career economists) with PhD economists can lead to outreach publications. These publications are read by media, academia, and the financial industry and can be another source of valuable experience for the RA/career economist, a valuable asset when applying to graduate schools, and a great source of belonging and fulfillment.

## 6.5 IT support

**Issue:** several economists found the IT support that they receive inadequate. The complaint was not about the IT department itself, which has to serve a very diverse constituency of employees at the bank, with very different computing needs, and is rightly concerned with IT security. Rather, the feeling was that the “one-size-fits-all” approach leaves economists scrambling for alternative solutions.

Economists generally use specialized computing software, handle large databases, often work with servers, and generally collaborate with outside researchers. They therefore need more capable machines, better management of computing software licenses and support, dedicated servers for big computing jobs, and the ability to be able to share non-confidential data with outside researchers.

In fact, many BdE economists, especially those recently hired, and which still enjoy access to computing resources from their alma maters, find it more useful to continue to work with personal computers rather than bank issued computers. Restrictions on use of Dropbox (or similar), Zoom, Overleaf, and other tools of collaboration are a considerable impediment.

All central banks struggle with the limitations that securing confidential data imposes on the setup of bank issued machines. However, in many cases, central banks have a dedicated IT for economists. This means different machines than the rest of the bank, management of servers for some of the large databases and analysis that economists conduct, and resources to support computing software.

### **Recommendations:**

- Consider setting up a section of the IT department that can specialize in the needs that economists have. There are more than enough economists (86 research economists as of 2022) to justify setting up an IT subsection focused on providing research computing support.
- Thinking ahead and with the increasing importance of “big data,” having the appropriate setup of research servers and computing software will allow economists to explore the latest advances in machine learning. Examples include text analysis to infer economic sentiment, real-time data on inflation, detection of financial network vulnerabilities, and so on.

## 6.6 Micro-data development and support

**Issue:** The development and analysis of micro-data sources at BdE is a highly valuable and unique aspect of BdE research. It has placed the BdE in a leading position to deal with the increasingly large range of micro issues that central banks are asked to consider and to contribute to the rapidly growing research agenda of macroeconomic models with heterogeneous agents. The analysis of micro-data also plays a major role in enabling the BdE to satisfy its remit for analyzing a broad policy agenda in relation to the Spanish economy and its remit of financial stability.

Researchers at the BdE have made important contributions both in the development and analysis of new surveys as well as the organization and analysis of administrative data. This has resulted in a wealth of outstanding research and critical policy insights. The quality and influence of this research is widely recognized across the EU and farther afield.

The BdE faces specific resource constraints and some barriers to expanding this effort. There are constraints on research assistance as well as resistance to integrating existing databases curated by the BdE with databases curated by other government institutions.

**Consequences:** The level and growth in this outstanding work at BdE is unnecessarily constrained.

### **Recommendations:**

- Micro-data development and analysis requires RA support at a high level. Here we see a particular role for external PhD's to be based at BdE to provide longer-term help and development of projects. There are benefits to both sides.
- Encourage a long-term commitment to the increasing interaction with micro-data sources, and researchers using them, from other government institutions and private banks.
- Encourage internships and exchanges of junior PhD researchers. Particularly with external research groups in Spain and abroad that are at the frontier of the development of new micro-data techniques. Collaborations with external experts is of particular value in this area.
- Ensure the IT department is fully supportive of the special needs for micro-data analysis.

## 6.7 Rigid labor laws and contracts, career tracks, and career advancement

**Issue:** rigid salary and promotion scales paired with rigid labor laws. Incentives matter. At present, it appears that promotions with positional authority are the only vehicles to improve take-home pay. However, not everyone is cut out for the managerial scale nor is it everyone's cup of tea. Researchers can make substantial contributions to policy and can be pillars of support for the research function of the bank without necessarily having positional authority.

There is also lack of clarity on what a successful career at the bank looks like. With some heterogeneity by section, there does not seem to be systematic regularly scheduled, one-on-one, manager-staff, evaluation

meetings except for newly hired economists, which seem to have regular feedback and mentoring support. Furthermore, there is uncertainty on the availability of “tenured” contract every single year, which leaves the junior hires in the dark regarding their long-term prospects.

### **Consequences:**

- Loss of topflight veteran researchers with stellar CVs and international experience to other policy institutions—a valuable asset to the bank—since the bank is unable to find appropriate positions outside of management. During our interviews we heard of about 6-7 economists that have left in recent times. In addition to the inherent unfairness of having great talent go unrecognized and unrewarded, it could generate considerable loss of morale among junior staff. Seasoned researchers are a great resource and bring important policy experience. Strong policy involvement does not always equal management. This is particularly relevant for researchers in fields not considered core to its policy function (e.g. those doing research in econometrics, education, immigration, climate, etc.).
- The ability to respond to outside offers is greatly constrained by rigid pay scales. As a result, the BdE is unable to compete with many sister European institutions. Over time, this will result in a brain drain.
- Having to hire fresh PhD’s at the same initial step constricts the financial offers that can be made to candidates from more competitive fields that require higher pay to attract them to the bank, for example, finance.
- Economists are unclear as to how each component of their job (policy, research, service) is valued and what is needed to advance their careers swiftly.
- Rigid scales and labor laws force tenure decisions at the 4-year mark, earlier than is common at other institutions, and too early to observe an established publication record. It reduces, or virtually eliminates the incentives to pursue top publications that may take more time in exchange for lower ranked outlets that turn around reviews more quickly.<sup>3</sup>
- Moreover, the tenure window cannot accommodate, at present, more than a one-year extension due to having more than one child. In many universities, there is an automatic one-year extension per child.

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<sup>3</sup> The current tenure track works as follows: “Researchers are hired in the job market and join the Banco de España typically around September, once they obtain their PhD. At the end of their 4th year they are evaluated by the Research Committee, with information from their research and policy work, their publications and from their managers. A full 5th year of contract is available for either the transition to permanent employee status at the BdE (in case of positive final evaluation) or to another job (in case of negative final evaluation). In case of maternity or paternity leave, the tenure period is extended one full year so that the final evaluation is done at the end of the 5th year, and the 6th year is devoted to the transition. Ley de Ciencia is the legal framework for these temporary contracts (just like in any other university or research center in Spain) which cannot last more than 6 years. Researchers hired in the job market also hold two additional intermediate interviews with the Research Committee at the end of the 2nd and 3rd years.”

## Recommendations:

- Establish a policy/research track that does not require management responsibilities or comes with limited management responsibilities. This should allow the BdE to retain talent that makes great contributions in research and policy. Experienced talent is a great resource for younger economists.
- Consider how to creatively work within current labor law to provide appropriate incentives to the more productive researchers. For example, paid leaves to other research institutions to establish research networks, bonuses, etc.
- Consider ways to extend the 4-year limit on new PhD contracts. We understand that some progress has been made on that front. Pushing this window to a norm of 6 years, as is common in most other institutions, would be welcome and it would give the BdE a better sense of a candidate's potential.
- Consider redefining salary scales for economists to make room for heterogeneity and promotion.
- Provide clearer guidance on policy, research, and service expectations.
- Establish a formal, structured, mandatory, one-on-one, year-end evaluation meeting between manager and research economist in addition to whatever meetings may happen during the year on an informal basis. This should be a good source of collecting information from the bottom up on issues that may affect the functionality of the bank. This is also a formal opportunity to provide feedback and career guidance and support.

## 6.8 Work-life balance

**Issue:** several economists (men as well, but mostly women) highlighted struggles with achieving work-life balance. Some of these issues arise from recent managerial promotions so they may fade as the economist acquires more experience. Some are the result of inefficient allocation of tasks. Some economists appear to be often involved in preparing speeches and going over language, skills and tasks that distract them from core functions for which they have less expertise.

## Consequences:

- Regular late and weekend hours dissuade staff from joining managerial rank, especially women.
- Low share of female managers, specially at middle and upper management levels. See Chart 1 provided in page 13.
- Lack of female upper management means there are no female role models for younger women to emulate and pursue successful careers at the bank.

**Recommendations:**

- Set meetings during the hours of 10am-4pm to avoid conflicts with staff that have young families.
- Consider reducing the number of meetings.
- Some tasks will likely require occasional work over the weekend, depending on circumstances (e.g., turbulence in the banking sector is likely to require all hands-on deck). This is normal in the upper echelons of the management rank but is less so for lower management and staff. Improve scheduling and organization of deliverables.
- Streamline the teams needed to accomplish certain tasks so there can be more of a rotation and you can build more resilience and expertise.

### 6.9 The hall of mirrors

**Issue:** in any institution, the staff, consciously or unconsciously, will prepare briefings that support the principal's views. This is appropriate at some level. However, it runs the risk of having dissenting voices not heard, especially if subsequent leaders do not exhibit the same level of collegiality and access that the current leadership promotes. Even from a basic risk-management perspective, it is healthy to make room for alternative views on a given subject.

**Consequences:** principals may be blindsided by issues that were not brought up in briefings.

**Recommendations:**

- Consider having an "alternative views" briefing to see what arguments may justify a different policy recommendation than the one currently favored. These may simply collect views from the literature, and they may not even represent the views of the briefer.
- Ensure that views that may differ from the principal's are supported and encouraged. The staff should not perceive it as a penalty to present arguments in support of different policy positions.
- Consider internal, say quarterly, mini-conferences where the staff can present current research to the principals and explain the policy relevance. For example, a study on immigration may not seem of direct policy relevance but immigration has direct consequences on labor supply, wages, and fiscal policy, all of which matter for policy.

### 6.10 Achieving long-term goals

**Issue:** many of the improvements achieved since the last review and, in particular, in the past few years, are the direct result of the strategic views and leadership of the current governor. However, governor mandates are term limited to six years. How can the institution make sure that the positive changes made in the past few years are sustained? In private corporations, it is the Board of Directors that curates the

long-term goals of the institution. The Board provides a natural overlap between CEOs and has a different incentive structure, better geared toward achieving long-term strategic goals.

**Consequences:** an incoming governor will not necessarily be fully attuned to the changes and improvements achieved over the years.

**Recommendations:**

- The research director<sup>4</sup> works in close collaboration with the governor on economic policy matters and is best positioned to provide detailed institutional knowledge to the new governor regarding the strategic views of previous administrations and the progress made so far.
- However, it is the Board of the BdE that has the natural responsibility to provide continuity, look after the cultural and organizational changes that have been implemented since the last report, and help ensure that the long-term strategic goals of the institution are met.

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<sup>4</sup> In BdE, the research director function is fulfilled by the director general of Economics, Statistics and Research, the deputy director general of Economics and Research, and the research coordinator, all of them in the Directorate General of Economics, Statistics and Research.

## Appendix

Table A.1

### Share of female economists with an active profile on the research portal, by rank and department

Department	Upper Management			Middle Management			Staff		
	M	F	SF	M	F	SF	M	F	SF
Directorate General – Economics and Research	1	0	–	0	1	1.00	–	–	–
Macro-financial Analysis and Monetary Policy Dept.	1	0	–	4	0	–	4	3	0.43
Economic Developments Dept.	1	0	–	4	2	0.33	8	4	0.33
Structural Analysis and Microeconomic Studies Dept.	0	1	1.00	4	2	0.33	8	5	0.38
International Economics and Euro Area Dept.	1	0	–	5	0	0.00	9	9	0.50
International and European Relations Dept.	–	–	–	1	0	0.00	0	1	1.00
Statistics Department	–	–	–	–	–	–	1	0	–
Directorate General - Financial Stability, Regulation and Resolution	1	0	–	–	–	–	–	–	–
Financial Stability and Macroprudential Policy Dept.	–	–	–	3	1	0.25	8	2	0.20
Regulation Department	–	–	–	–	–	–	1	0	–
Directorate General – Payments and Market Infrastructures	1	0	–	–	–	–	–	–	–
Financial Innovation and Market Infrastructures Dept.	1	0	–	0	1	1.00	3	0	–
Operations Dept.	1	0	–	1	0	–	1	2	0.67
<b>Total</b>	<b>8</b>	<b>1</b>	<b>0.11</b>	<b>22</b>	<b>7</b>	<b>0.24</b>	<b>43</b>	<b>26</b>	<b>0.38</b>

SOURCE: Banco de España.

NOTES: M = male; F = female; SF = share female. *Upper management*: includes all directors. *Middle management*: heads of division, heads of section and advisors. *Staff*: other economists and senior economists with an active profile on the research portal. Data from: <https://www.bde.es/wbe/en/areasactuacion/analisis-e-investigacion/investigadores/por-departamento/> collected as of May 9, 2023.

Table A.2

### Productivity measures

	2013-2017	2018-2022
Journal articles	32	49
Working Papers (WP)	36	47
Occasional Papers (OP)	8	34
WP+OP	44	81
Researchers	50	76
J. articles/researcher-year	0.64	0.64
WP / researcher-year	0.72	0.61
(WP+OP) / researcher-year	0.15	0.45

SOURCE: Banco de España.

Table A.3

**Web of Science comparison with other Central Banks**

RePEc Rank	Bank	Publications	Cited publications	% of cited publications	Citations	Citations/Cited publication	H-Index
2	European Central Bank	1,385	1,111	80.2	24,753	22.3	76
6	Banca d'Italia	861	646	75.0	7,741	12.0	39
10	Bank of England	511	382	74.8	7,262	19.0	39
11	Banco de España	440	350	79.5	5,443	15.6	36
13	Banque de France	501	389	77.6	4,890	12.6	33
17	Deutsche Bundesbank	610	456	74.8	6,550	14.4	39
<b>Total</b>		<b>4,308</b>	<b>3,334</b>	<b>77.4</b>	<b>56,639</b>	<b>17.0</b>	

**SOURCE:** Banco de España.

**NOTE:** WoS data on the main European central banks (2010-2021).

Table A.4

**Publications and citations (2010-2021)**

Publications and citations	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2010-21
Publications in the WoS	22	21	27	33	24	47	41	22	50	39	46	68	440
Cited publications	20	19	26	30	23	44	35	20	42	35	30	26	350
% of cited publications	91	90	96	91	96	94	85	91	84	90	65	38	80
Citations	463	410	960	950	660	560	376	297	360	249	109	49	5,443
Citations/Cited publication	23.2	21.6	36.9	31.7	28.7	12.7	10.7	14.9	8.6	7.1	3.6	1.9	15.6

**SOURCE:** Banco de España.



Table A.5

**Distribution of citations**

No of citations received	No of articles	% of articles	Total citations	Citations/Cited publication	% of citations
0	90	20.5			
1 to 5	169	38.4	410	2.4	7.5
6 to 10	56	12.7	425	7.6	7.8
11 to 20	57	13.0	835	14.6	15.3
21 to 50	45	10.2	1,324	29.4	24.3
51 to 100	16	3.6	1,113	69.6	20.4
101 to 200	4	0.9	506	126.5	9.3
201 to 300	2	0.5	493	246.5	9.1
301 to 400	1	0.2	337	337.0	6.2
<b>Total</b>	<b>440</b>	<b>100.0</b>	<b>5,443</b>	<b>15.6</b>	<b>100.0</b>
Average no of citations	12.4	15.6 (a)			
Median no of citations	3	6 (a)			

**SOURCE:** Banco de España.

**NOTE:** Average and median including only cited articles.

Table A.6

**REPEC rankings top 12.5% European Union**

Rank	Institution	Score	Authors
1	Paris School of Economics	2.18	217
2	ECB	2.24	252
3	Toulouse School of Economics	3.47	156
4	Barcelona School of Economics	4.18	166
5	U. Commerciale Luigi Bocconi	4.59	165
...	...	...	...
8	Banca d'Italia	9.81	304
...	...	...	...
10	OECD	15.20	249
...	...	...	...
<b>17</b>	<b>Banco de España</b>	<b>23.03</b>	<b>115</b>

**SOURCE:** REPEC.

**NOTE:** Top 12.5% institutions in European Union, all authors, all publications years. Data from: <https://ideas.repec.org/top/top.eu.html#authors>

Table A.7

**REPEC rankings of the top 25% institutions in Central Bank**

Top 25% of Central Banks			Top 25% of Central Banks, 10 best authors, last 10 years		
Institution	Score	Authors	Institution	Score	Authors
IMF	1.2	501	BIS	1.7	92
ECB	2.6	252	ECB	3.3	235
Federal Reserve Board	2.9	213	IMF	4.0	419
BIS	4.9	95	FRB Minneapolis	5.0	34
FRB New York	5.0	88	Federal Reserve Board	5.3	202
Banca d'Italia	6.2	302	FRB New York	6.2	84
FRB Chicago	8.1	60	FRB Dallas	8.6	62
FRB St. Louis	9.3	59	Bank of England	9.0	185
Banco República de Colombia	10.1	122	FRB San Francisco	9.1	36
FRB Minneapolis	10.1	35	FRB St. Louis	11.3	57
Bank of England	10.2	206	Banque de France	12.7	170
<b>Banco de España</b>	<b>11.0</b>	<b>115</b>	Banca d'Italia	13.0	285
FRB Dallas	11.5	64	Banco República Colombia	13.6	105
FRB San Francisco	12.0	39	FRB Chicago	13.9	53
Banque de France	12.3	186	FRB Philadelphia	15.0	45
Bank of Canada	14.9	181	Deutsche Bundesbank	17.3	155
Deutsche Bundesbank	15.6	172	Bank of Canada	18.1	169
FRB Philadelphia	16.4	45	<b>Banco de España</b>	<b>18.9</b>	<b>105</b>
FRB Cleveland	17.6	78	FRB Cleveland	20.4	77
FRB Atlanta	19.7	30	FRB Richmond	20.5	30

**SOURCE:** REPEC.

**NOTE:** The table only includes rankings for the top 25% central banks. Data from <https://ideas.repec.org/top/top.central.html> as of June 5, 2023.

Table A.8

**REPEC rankings top 25% institutions in Spain**

Rank	Institution	Score	Authors
1	Barcelona School of Economics (BSE)	1.16	166
-	D. d'Economia i Empresa, U.Pompeu Fabra , BSE	2.81	97
<b>2</b>	<b>Banco de España</b>	<b>3.65</b>	<b>115</b>
3	CEMFI	4.15	26
4	Joint Research Center, European Commission	4.92	320
5	D. de Economía, U. Carlos III de Madrid	5.44	63
-	CREI, BSE	7.33	14
-	D. d'Economia i Història Econòmica, U. Autònoma de Barcelona, BSE	8.56	42

**SOURCE:** REPEC.

**NOTE:** Data only includes top 25% of institutions in Spain. Data from: <https://ideas.repec.org/top/top.spain.html#authors>

Table A.9

**REPEC rankings top 25% institutions in Spain, 10 best authors for each, 10 last years**

Rank	Institution	Score	Authors
1	Barcelona School of Economics (BSE)	1.36	146
-	D. d'Economia i Empresa, U.Pompeu Fabra , BSE	2.68	85
-	CREI, BSE	5.61	14
2	CEMFI	5.94	23
3	Joint Research Center, European Commission	6.09	310
4	D. de Economía, U. Carlos III de Madrid	6.86	54
5	Facultad de Economía y Empresa, Universidad de Zaragoza	7.07	72
<b>6</b>	<b>Banco de España</b>	<b>8.21</b>	<b>105</b>
-	D. d'Economia i Història Econòmica, U. Autònoma de Barcelona, BSE	8.81	33

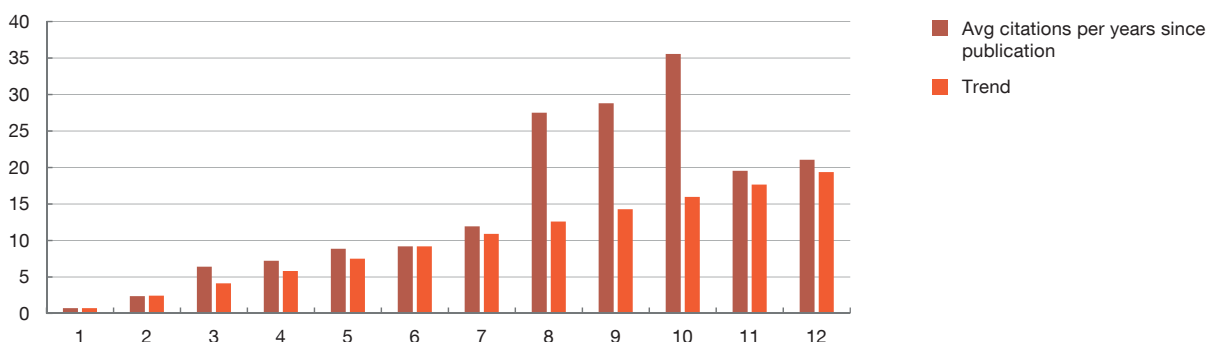
**SOURCE:** REPEC.

**NOTE:** Data from: <https://ideas.repec.org/top/top.spain.html#authors>

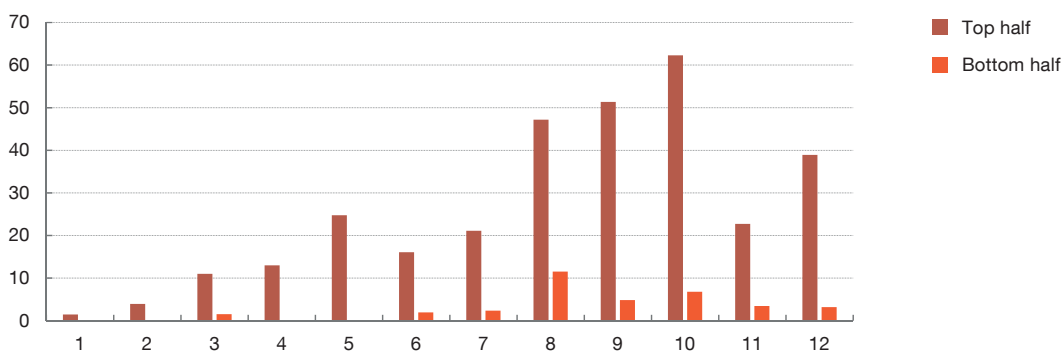
Chart A.1

**Impact: Average number of citations per year since publication**

A.1.a Citations (years since publication)



A.1.b Top half vs bottom half most cited articles



**SOURCES:** Web of Science citations provided by Bank of Spain staff. Authors' calculations.

**NOTE:** Panel (a) calculated as the average citations of all published articles in a given year using publications from 2010-2021. On average, 10 years after publication, the typical publication will gather about 16 citations. Outliers in years 8, 9, 10 reflect unusually well cited articles that pushed the averages for those years above trend. Panel (b) repeats the exercise in panel (a) by splitting the averages into the top and bottom most cited articles in a given year. The bottom half of articles gather very few citations even several years after publication. At the 10 year mark, the typical publication in the top half of cited articles will gather about 30 citations whereas for the bottom half it will gather just above 5.