

# Bank of Finland Research Evaluation Report 2009

Anil Kashyap  
University of Chicago, Booth School of Business

Matti Pohjola  
Helsinki School of Economics

Volker Wieland  
Goethe University of Frankfurt

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## **Executive summary**

The Bank of Finland aims to have a high-quality research function, because it is perceived as an essential input to the Bank's objectives as member of the European System of Central Banks. The Bank's research is expected to be judged using international standards and aspires to a quality level similar or better than at other Eurosystem member banks. Research at the Bank of Finland is organized into three programmes: (i) modelling of monetary policy, (ii) efficiency and stability of financial and payments systems, and (iii) knowledge of transition economies and their economic policies. Research is carried out in two units within the Monetary Policy and Research Department. The Research Unit runs the first two programmes and BOFIT – the Bank of Finland Institute for Economies in Transition is responsible for the third.

The permanent research staff is very small and visitors from the other units of the Bank and from outside account for most of the resources. We estimate that the total research staff is 18 people measured in full time equivalent person years. This is 3.9 per cent of the staff of the Bank (460). Using budget information, we calculated that the Bank spends about 2.7 per cent of its budget on research.

Recruitment at the Bank is aimed primarily at doctoral-level economists. At present, there are 29 staff members in the Bank who have PhD degrees. About 12-13 of them are active in research, while the others specialize in operational activities.

Our evaluation of the quantity, quality and scientific impact of the research output in the period 2004–2009 revealed a sharp improvement relative to the statistics reported in the previous external review conducted in 2004. The number of publications in scientific journals with a referee process has increased by about 30 per cent. The quality - measured in terms of journal impact factors - has improved even more as the number of quality adjusted publications has doubled.

Given that the improvement of the quantity and quality of peer reviewed research was one of the key recommendations from the last review, this outcome is one of the many indicators of the value of these types of research evaluations. We see research as a central part of quality control in central banking and, consequently, regard its evaluation as a practice that the other banks of the Eurosystem should adopt as well.

In spite of the apparent success of the Bank's research strategy over the evaluation period, some concerns still remain. First, only about half of the discussion papers end up in refereed journals. Second, the internal visitor programme accounts for about half of the resources of the Research Unit but produces only a fairly small number of refereed publications. Almost all of the higher quality papers are written by the permanent staff members and the external visitors. Third, BOFIT's research output does not reach the level achieved by the other two programmes. Finally, the citation data suggest that there have been few papers that have attracted major attention. Consequently, there is still scope for improvement, and we make a number of recommendations how to re-organize the research function.

Regarding the relevance of the research activities, we conclude the following. First, the emphasis on the modelling of monetary policy seems to be quite successful and should be continued. This is a core issue for central banks and the Bank of Finland can rightly claim to be one of central banks providing frontier thought leadership on these issues. Early on, Bank staff developed a modern New-Keynesian dynamic general equilibrium model of the Finnish economy (Aino) and implemented it for use in practical policy analysis. The staff has also succeeded in publishing innovative articles on monetary policy in good international peer-reviewed journals. Unfortunately, none of these publications used the Aino model so that the Bank's chance to document its early leadership in this area was missed. As Bank researchers continue to develop novel extensions of the model for practical policy analysis, it is important to invest sufficient time for documenting these advances in publishable papers.

Second, the Bank should be commended for having identified financial stability as a point of emphasis over five years ago. Recognizing the importance of financial stability was prescient and is only more important now that the role of financial stability concerns in the conduct of monetary policy has become a major source of debate for central banks around the world. This point of emphasis should obviously be continued. It is difficult for us to tell where to draw the line on possible extensions of the work on financial stability to other financial system issues. We encourage the Bank to focus on finance-related topics where the staff has enough depth of expertise to make contributions that help advance the frontier of research.

Third, the work of the BOFIT team on the Chinese and Russian economies has garnered much praise. This seems to be an outstanding example of how a national central bank can fill a valuable niche in the Eurosystem and serve a much broader audience than just the Bank's own management. We favor continuing the focus on emerging economies but suggest in the report some fine-tuning on the way resources associated with these efforts are deployed.

The question then is how to re-organize the research function at the Bank of Finland so as to achieve the goals set by the Board taking into account the findings of our review. We make the following recommendations:

- 1) The Bank of Finland review process constitutes best practice among central banks and should be continued.
- 2) The Bank of Finland's priority research areas are still appropriate but may be fine-tuned in the ways elaborated in the report.
- 3) The internal rotation system into the research department should end.
- 4) The research function should be organized into a new model that creates more synergies between staff work and pure research.
- 5) Shift the hiring norm to recruit researchers from the international market.
- 6) An overhaul of the marketing of the research department
- 7) The visitors program could be restructured.
- 8) Optimize the allocation of time and responsibilities of BOFIT staff and harmonize their incentives to match the ones proposed for the research department.

## **1. Evaluation process**

We were very pleased to accept the invitation to review the research activities of the Bank of Finland. By organizing regular evaluations, the Bank signals its commitment to research that supports policy making. We see research as a central part of quality control in central banking and, consequently, regard its evaluation as a practice that the other banks of the Eurosystem should adopt as well. The previous external evaluations of the Bank of Finland have taken place in 1999 and 2004. They are available online at [www.bof.fi/en/tutkimus/esittely/evaluaatio/index.htm](http://www.bof.fi/en/tutkimus/esittely/evaluaatio/index.htm).

According to its strategy, the Bank of Finland aims to be an active and constructive member of the European System of Central Banks. Developing a high-quality research function is seen as essential for achieving this objective. The Bank's research is expected to be judged using international standards and aspires to a quality level similar or better than at other Eurosystem member banks. In particular, the Bank aims at possessing cutting-edge skills meeting international standards in the focal areas of (i) monetary policy analysis, (ii) financial market research and (iii) in the knowledge of emerging markets important to the country, especially the Russian and Chinese economies. In addition to meeting the requirement of policy relevance in these areas, the Bank's research aims at producing research reports that will ultimately be published in refereed international academic journals. Active participation in scientific meetings and close cooperation with the academic community are also seen as important objectives of research.

To facilitate the achievement of these strategic goals and to provide an objective basis for developing the research function further we were asked to assess

- 1) the relevance of the research activities from the point of view of the strategic goals of the Bank and
- 2) the scientific quality of the Bank's research output as a whole.

The terms of reference of the evaluation are given in Appendix I.

This evaluation is based on the evidence we assembled, the interviews we conducted and on our own consideration of the relevance, quantity, quality and scientific impact of the research output. We visited the Bank on 15-17 June and 17 September and discussed at length with the Governor, all the other Members of the Board, two Heads of Department, 21 other staff members as well as with three representatives of the Financial Supervisory Authority (FIN-FSA). Appendix II lists the people consulted.

## **2. Findings**

### **2.1 Research organization and resources**

Research at the Bank of Finland is carried out in two units within the Monetary Policy and Research Department. These are the Research Unit and BOFIT – the Bank of Finland Institute for Economies in Transition.

Within the Research Unit, research is organized into two programmes: macroeconomics and financial markets. The former focuses on monetary policy modelling aiming at fostering and strengthening the Bank's expertise in the methods of dynamic macroeconomic theory. The development of the dynamic stochastic general equilibrium (DSGE) model Aino is in the core of this research. The latter programme concentrates on issues relating to the integration, efficiency and stability of financial markets. Research on the vulnerability of the financial markets and on the impacts of payment and settlements systems are regarded as the key areas.

BOFIT runs the third programme by conducting research on transition economics and by monitoring economic developments in Russia and in China. The research focuses on issues related to macroeconomic performance and financial markets in transition economies.

The three research programmes account for approximately the same amount of research resources when measured in full time equivalent person years, 5–6 years each. This estimate is obtained in the following way.

The Research Unit has a very small permanent staff: the head and three research supervisors. 25 per cent of the head's time and 70 per cent of each research supervisor's time is allocated for research. The unit's own resources thus add up to 2.4 person years. Visitors from the other units of the Bank and other central banks or universities account for most of the resources. They can apply for a six month to one year assignment to work on a research project belonging to either of the two research programmes. At present, 7 person years (4 for the macroeconomics and 3 for the financial markets programme) are allocated for the internal and 3 years for the external visitors. Consequently, the Research Unit's total resources add up to 12.4 person years.

BOFIT has 14 staff members, but only 3.5 person years are allocated for research activities. The budget for visitors amounts to two person years, meaning that BOFIT's total research resources consist of 5.5 person years.

The Bank of Finland's research staff is consequently 18 people measured in full time equivalent person years. This is 3.9 per cent of its total staff (460). It is a small unit by international standards but a large one in Finland, about the same size as the economics departments at the University of Helsinki and at the Helsinki School of Economics.

Recruitment at the Bank is aimed primarily at doctoral-level economists. At present, there are 29 staff members in the Bank who have PhD degrees. About 12-13 of them are active in research, while the others specialize in operational activities. Not all staff visiting the Research Unit from within the Bank have PhD degrees at the time of their visit. About one in five persons still visit the Research Unit for training purposes and to work on a dissertation.

The research resources can also be estimated by using budget information. In 2008, the Research Unit's budget was 2.2 per cent and BOFIT's budget 1.7 per cent of the Bank's

total administrative budget. But, as explained above, less than one third of BOFIT's resources are used for research activities. Adjusting for this, it can be concluded that the Bank spends about 2.7 per cent of its budget on research.

Interestingly, this share is about the same at the World Bank, 2.5 per cent. The World Bank's research budget was regarded as too low by the panel that recently evaluated its research activities.<sup>1</sup> Of course, the tasks and responsibilities of the two banks are not directly comparable. But research-based analysis is at least as important for a central banks as for the World Bank.

## 2.2 Quantity and quality of research

To assess the quantity, scientific quality and impact of the research we measured the number of publications and adjusted them for quality, read selected papers, reviewed where and when the research was presented at conferences and seminars, and collected information on citations.

Table 1 shows the Bank's publications from 1999 to 2009. The statistics reported in the previous external review have here been recalculated and are presented as the average numbers for the years 1999–2003. Comparing this average to the period 2004–2009 reveals that the number of papers published in scientific journals with a referee process has increased by about 30 per cent from 16.8 to 22 papers per year. The quality has improved even more. The number of articles that appeared in journals included in the Journal Citation Reports (JCR) has almost doubled from 6.8 to 11.6 per year. This comparison measures quality by ignoring non-JCR journals which tend to be less widely read.

A more refined way to measure quality is to apply the journal impact factors as weights when calculating the total number of publications. The results reported in Table 1 use the 2008 impact factors to assess the BOF papers published between 1999–2009.<sup>2</sup> So, for example, articles published in the American Economic Review, Journal of Banking & Finance and the Scandinavian Journal of Economics receive the weights 2.3, 1.0 and 0.7, respectively. It is seen that the number of quality adjusted publications has more than doubled rising from 4.9 in 1999–2003 to 11.6 in 2004–2009. This reflects both the increase in the number of refereed papers and the improvement in the quality of the journals used as publication outlets. The average impact factor has risen from 0.7 (= 4.9/6.8) to 1.0 over the period considered.

Table 2 classifies the refereed publications according to the research programmes. The financial markets programme has produced the greatest number of publications in all the

<sup>1</sup> The report is available online at: <http://siteresources.worldbank.org/DEC/Resources/84797-1109362238001/726454-1164121166494/RESEARCH-EVALUATION-2006-Main-Report.pdf>

<sup>2</sup> The impact factor is a measure of the frequency with which the average article in a journal has been cited in a particular year. The horizon over which citations are counted can vary across studies, but most calculations of this sort broadly agree on which journals are the most influential and which ones are the most obscure. For the calculations that we report and the conclusions which we draw, this broad pattern is all that matters.

three categories, but the macroeconomics programme is not far behind. BOFIT's output is, however, only 30–50 per cent of what the other two have achieved, depending on the measure. The number of published papers is smaller and the journal quality lower. The quality aspect can be partly explained by the fact that research on transition economies may be hard to publish in widely-read journals.

Table 1. Bank of Finland Research Publications, 1999–2009

	Average 1999–2003	2004	2005	2006	2007	2008	2009*	Average 2004–2009*
Articles in refereed journals	16.8	24	11	18	30	25	13	22.0
Of these, in JCR journals**	6.8	8	6	10	15	17	8	11.6
Articles weighted by journal impact factors***	4.9	8.2	3.5	13.2	12.9	18.6	7.5	11.6
BOF and BOFIT discussion papers	41.8	53	47	50	55	61	18	51.6
Scientific monographs	2.2	3	2	6	1	0	2	2.5

Notes:

\* The first half of 2009 only

\*\* Journals included in the Journal Citation Reports (JCR) published by Thomson Reuters

\*\*\* The weighted number of JCR articles, weights being the 2008 impact factors of the journals

Sources: The Bank of Finland website [www.bof.fi/en/julkaisut/tutkimukset/index.htm](http://www.bof.fi/en/julkaisut/tutkimukset/index.htm) and the Journal Citation Reports

Table 2. Refereed Publications by Programmes, Annual averages for 2004–2009\*

	Macro-economics	Financial markets	BOFIT	Total
Articles in refereed journals	7.6	10.4	4.0	22.0
Of these, in JCR journals	4.5	5.1	2.0	11.6
Articles weighted by journal impact factors	4.6	5.5	1.5	11.6

Note: \* The first half of 2009 only

Finally, we also reviewed data on citations that was provided through June 2009. While there are many well-known problems with using citations to gauge research quality, we still believe that this measure has the advantage of being objective and easily comparable across institutions. Furthermore, this measure could reveal articles published in lesser known journals or books that nevertheless received wider attention. There were a total of

twelve working papers, journal articles and manuscripts that had more than ten citations on Google scholar. The most cited works had 174 and 89 citations respectively.

On the basis of this simple analysis it can be concluded that, relative to the statistics reported in the previous external review, the percentage and quality of peer reviewed papers has risen sharply. Given that one of the key recommendations of the previous evaluation was to focus on improving the quality of the Bank's research output, this outcome is one of the many indicators of the value of such evaluations. We view the Bank's track record of having done external reviews every five years as admirable and one of the ways in which it is a research leader in the Eurosystem; indeed, it is remarkable to us that this best practice has yet to be adopted by any of the other Eurosystem countries.

In spite of the apparent success of the Bank's research strategy over the evaluation period, some concerns still remain. First, as was also pointed out in the previous evaluation, only about half of the discussion papers end up in refereed journals (see Table 1). This "rejection rate" is quite substantial. Second, the internal visitor programme accounts for about half of the resources of the Research Unit but produces only a fairly small number of refereed publications. Almost all of the higher quality papers are written by the permanent staff members and the external visitors. The benefit-cost ratio of the internal visitor programme is not the best possible. Third, as already mentioned above, BOFIT's research output does not reach the level achieved by the other two programmes. Finally, the citation data suggest that there have been few papers that have attracted major attention.

With the help of the staff we identified the most noteworthy papers in each of the three main research areas and read those papers carefully.

Papers in monetary and macroeconomics were published in good field journals. Examples are the *Journal of Money, Credit and Banking*, *Review of Economic Dynamics* or *Macroeconomic Dynamics*. We also read recent working papers that have been submitted to journals but are still awaiting editorial decisions. Generally, the papers we reviewed address questions that are clearly of relevance for monetary policy making. The authors often use very sophisticated modelling techniques in a creative manner. The findings are novel and interesting. Several of the most interesting publications were co-authored by BOF staff economists and external visitors. So far, no papers have been published in the economics profession's leading general-interest journals such as the *American Economic Review*, *Journal of Political Economy* or the *Quarterly Journal of Economics* nor in a top macroeconomic journal such as the *Journal of Monetary Economics*. Also, so far the impact in terms of citations has been limited. Building on the improvement in research output in recent years, it would be appropriate to aim even higher in terms of innovation and in terms of submitting papers to leading macroeconomic journals. Of course, such a strategy is risky for the individual researcher and needs be supported by the central bank's commitment to research quality.

The papers we reviewed in finance appeared in second tier finance journals (rather than the three top finance journals, *Journal of Finance*, *Journal of Financial Economics*, and *Review of Financial Studies*). These papers were well executed by the standards of the literatures to which they contribute. But none of them seemed likely to have substantial impact. Looking ahead it would be admirable if the quality and impact of the publications could continue to improve. Given the fierce competition to find top talent in finance this will not be easy, but it should be the goal.

The papers we read in the field of transition economics reveal broad knowledge of the relevant literature, expertise in the problems of emerging economies as well as good skills in doing empirical research. All of these papers have been written in collaboration with researchers affiliated with research institutes or universities located in Western Europe or in the United States. This shows that the BOFIT researchers are well connected to the international research community, but also reveals that, for whatever reason, they have not established cooperation with researchers working in institutes located in emerging or transition countries. The published papers have appeared in journals which are well-known to the experts in the field (e.g., *Journal of Comparative Economics* and *Economics of Transition*). However, the impact of the research could be improved by publishing in more general journals whose readership is wider (such as *Economic Policy* and *Journal of Economic Perspectives*).

### **2.3 Participation in scientific meetings and cooperation with the academic community**

In addition to its publications, the Bank staff interacts with the broader research community through participating in international conferences, sponsoring conferences and hosting scholars who visit the Bank.

The Bank staff actively participates in external research meetings. During the period from January 2008 to June 2009, the staff presented their research at 131 seminars and conferences. These included several well-known events and involved participation by many different staff; importantly, the Bank is not simply represented by one or two people. Many Bank staff also served on the organizing or scientific committee of other conferences. Finally, the Bank allows its economists to sometimes attend meetings where the staff member is not making a presentation. This is important for building human capital and maintaining the reputation of the Bank. The Bank should be commended for not falling into the fallacy of viewing conference participation as only being valuable to the Bank and its staff if a staff member is making a presentation.

Between June 2004 and June 2009, the Research Department hosted an average of about 2 major conferences per year. In addition there were some smaller meetings that were primarily attended by the staff. The major conferences run by the Bank covered a variety of topics related to core issues in macroeconomics and finance. The choice of topics was excellent.

These conferences are also almost always organized jointly with another research organization or with the advice of a scholar from outside Finland. The external scholars that have helped organize these events are prominent, international experts. The primary partners have been the Centre for Economic Policy Research (CEPR) and The Société Universitaire Européenne de Recherches Financières (SUERF). The CEPR is the most successful economic research alliance in Europe and partnering with it should help the Bank's reputation. SUERF is a very well-connected semi-academic research network that also organizes some high profile conferences connecting researchers, policy makers and business people. There are a few other research centers and networks in Europe and elsewhere that could also be potential partners of interest.

Between BOFIT and the Research Department the Bank has hosted 76 visiting scholars; the visitor list is included as Appendix III. Many of these visitors are faculty at Finnish universities. Most central banks work hard to establish ties with local scholars, so this pattern is not surprising. However, the number of academics at Finnish universities who are actively publishing in international journals is necessarily quite limited. Thus, it is important to supplement the domestic visitors with a strong group of international visitors. A minimum standard should be that these visitors would be considered good hires for the research department if they were willing to apply. One important benefit of a strong visitors program is that visitors can collaborate with Bank staff on joint research. Several of the best staff publications are co-authored with visitors and if more joint work can be produced that would be desirable.

But the visiting program can and should serve other purposes too. The very best international economists often are training graduate students who might be candidates for employment. They are also in contact with other leading scholars around the world, so having them become familiar with the BoF can help both directly and indirectly in recruiting. While in residence, these visitors can provide the Bank staff with advice on work in progress. Over time they might decide to co-author some research once they get to know the staff, but this need not happen for the visits to be beneficial. Thus, reserving some resources for attracting superstar scholars would be likely to yield a number of important benefits.

## **2.4 Relevance of research**

It seems that some of the research was likely to be more influential than others. In very broad terms, the high quality of the Bank's work on monetary policy modelling shows up in many of its papers. The technical expertise is often very impressive. For example, Bank of Finland researchers were among the very first to extend and estimate modern DSGE models for use in central bank practice. A good number of projects have centered around the development of a DSGE model for the Finnish economy. This model named Aino is used for forecasting and the evaluation of monetary and fiscal policies. Nevertheless, no papers using the model have yet been published in international journals. The good publications that involve DSGE modelling typically use smaller models, most of them calibrated or estimated with U.S. data.

Our conversations with Bank economists and our own experience suggest the following reasons for this outcome: (i) it is generally very hard to publish research using large macroeconomic models in scientific journals because it is difficult for referees to evaluate these models; (ii) the emphasis may have been primarily on getting Aino ready for practical policy analysis and giving lower priority to publishing papers that use Aino in scientific journals. As a result, the Bank of Finland staff did not publish any peer-reviewed papers using Aino and hence missed a chance to document the Bank's early leadership in developing DSGE models that could be used in practical central bank work.

Going forward it would nevertheless be a real asset if an interesting application using the Aino model could be published in an international field journal, even if it is not a leading journal. Furthermore, as Bank researchers continue to develop innovative extensions of the model making it more useful for policy analysis, it would be important to invest right away sufficient time in writing publishable papers on these advances. It would be sensible to explore the implications of these innovations also in smaller DSGE models estimated on euro area or U.S. data, because such applications will be easier to publish internationally.

The finance related papers were slightly more uneven. There were fewer papers in the very best finance journals and some topics seem underexplored. For instance, there is a gap between the policy contributions that the Bank has made regarding payment systems modelling and the number of peer reviewed papers on this topic produced.

Finally, there was an asymmetry in the work on the emerging economies. There were many more first rate papers on Russia than on China. This is not surprising given the Bank's long commitment to studying Russia and the close ties between the Finnish and Russian economies that facilitate this study. But we describe some implications of this observation for the allocation of resources going forward.

Based on these observations we reached the following conclusions on the relevance of the research activities from the point of view of the strategic goals of the Bank. First, the emphasis on the modelling of monetary policy seems to be quite successful and should be continued. This is a core issue for central banks and the Bank of Finland can rightly claim to be one of central banks providing frontier thought leadership on these issues.

Second, the Bank should be commended for having identified financial stability as a point of emphasis over five years ago. Recognizing the importance of financial stability was prescient and is only more important now that the role of financial stability concerns in the conduct of monetary policy has become a major source of debate for central banks around the world. This point of emphasis should obviously be continued.

It is difficult for us to tell where to draw the line on possible extensions of the work on financial stability to other financial system issues. For example, the Bank is already a leader on some aspects of payment systems. If a high quality researcher interested in payment systems could be hired, ramping up research in that area would be appropriate. But finding such people is very difficult so we are not confident this can be done. Hence,

we are inclined to encourage the Bank to tackle only related finance topics where the staff has enough depth of expertise to make frontier contributions. We do think that by coordinating the choice in project selection the Bank may have a better chance of standing out and being recognized for excellence.

Third, the work of the BOFIT team on the Chinese and Russian economies has garnered much praise. This seems to be an outstanding example of how a national central bank can fill a valuable niche in the Eurosystem and serve a much broader audience than just the Bank's own management. That said the number of other analysts (at think tanks, universities and financial firms) now studying China is much higher than the number studying Russia. From a monitoring perspective it makes sense to us continue to concentrate on China. But whether this requires a substantial commitment to research efforts on China is less clear. In contrast, the work on Russia is much less duplicative than the research being done elsewhere. We favor continuing the focus on emerging economies but suggest below some fine-tuning on the way resources associated with these efforts are deployed.

Overall, given the number of full time staff devoted to research we are sceptical that trying to add a fourth area of expertise would be successful. The specific areas of concentration are central enough so that the researchers focusing on monetary policy transmission and financial stability can be consulted and used for other Bank work in macroeconomics and finance. Hence, we favour staying with these three topics as the focus of the Bank's efforts.

### **3. Recommendations**

Though the research output of the Bank of Finland has improved substantially over the last five years, there is still significant room for improvement to meet the high standard of the goals set by the Board. The question now is how to re-organize the research function at the Bank of Finland so as to achieve these goals taking into account the findings of our review. We make the following recommendations.

#### **1) The Bank of Finland review process constitutes best practice among central banks and should be continued.**

The Bank of Finland is a leader among central banks around the world with regard to the process of review of its research function. The Bank aspires to be second-to-none among European central banks in research in its areas of specialization. The regular five-year review by outside experts has been crucial in order to ensure progress towards this objective. The final report of the reviewers is made public along with the response of the Bank of Finland. The publication of the report creates transparency regarding the use of resources devoted to central bank research and renders the Bank accountable. The outside review is helpful in developing targets for the research function. It supports the change management necessary in light of new challenges for central bank research. Furthermore, the review helps to ensure that resources are allocated in the most cost-effective manner.

The previous report from 2004 has played a very useful role. Following its recommendations the Bank stepped up efforts to hire more Ph.D. economists and modified the assignments given to the research function. The focus on training and supervising pre-Docs during the dissertation writing stage was abandoned. Project researchers were given the target of writing papers that would be publishable in economic journals. Particular emphasis was given to publication in refereed journals. This target was well understood. It changed the pool of project researchers rotating into the research department. The target led to a significant increase in publications in refereed journals. Research supervisors devoted more time to supervision of publishable projects.

## **2) The Bank of Finland's priority research areas are still appropriate but may be fine-tuned.**

As explained above, the focus on macro modelling fits the Bank's mission and matches well with existing personnel. The reputation in this area is strong and it is likely that the Bank can continue to hire talented economists to work in this area. At the same time, the topic is broad that it spans enough ground that general purpose macroeconomists would still find the research area an attractive home and would not worry about their fit in the institution.

The continued focus on financial stability still seems appropriate. The challenge for expanding and improving this research will be very dependent on the ability to hire new financial economists and retain the existing staff. There would be synergies with other work going on at the bank to increase research on payment systems, but the success of this strategy would turn almost entirely on whether a specialist in this area could be brought in. (This is related to our suggestion below regarding altering the recruiting policies to consider more non-Finnish experts).

As a general rule we favour instead expanding based on the target areas of opportunity that present themselves based on which scholars the Bank can affiliate with. Put differently, there are many understudied issues related to financial stability that are important. Every central bank is expanding their efforts in this area. The Bank of Finland should fill those niches where its staff can make frontier contributions, rather than deciding on a set of topics that the Bank staff may or may not have comparative advantage.

One intermediate way to take advantage of the existing work in payments would be to collaborate on a recurring, high profile conference on payments. There are likely Federal Reserve district banks or other Euro-system members that would welcome this opportunity. This kind of conference would help bring more attention to the Bank's existing work and might eventually create a connection to other researchers who could be recruited to the Bank.

Setting the research agenda for BOFIT is more challenging. There is no doubt that the Bank's staff can do high quality research on Russia. The long term success of continuing to try to do research on China is much less clear. On the one hand, the number of

competing institutions doing this work is large and growing, so the competition to hire specialists is likely to increase, as is the quality standards in peer-reviewed journals. On the other hand, there is a synergy between monitoring an economy and doing research on that economy. If the Bank were to completely retreat from doing any research on China, the analysis would likely deteriorate over the longer term. But over the longer term the Bank is likely to scale back this effort as the general quality of analysis on China improves.

### **3) The internal rotation system into the research department should end.**

We see three different reasons why it now makes sense to stop having research resources consumed by staff without PhDs. First, this system has run its course. In the past many staff have benefited from this system, but the Bank can now hire people with advanced training so this is not necessary. Second and closely related, is that if the aspiration level (of being second to none in EU) is to be realistic, this program is extremely costly. The rotators will not be able to deliver on 1.5 paper per year target and even if they did get the papers published it is very unlikely that these papers would land in top journals or have high impact. Third, the effective use of the best researchers is particularly important if the staff size cannot be increased or can only be increased temporarily.

### **4) The research function should be organized into a new model that creates more synergies between staff work and pure research.**

Given the limited resources that are available and the high aspirations for the research group, it is critical to make sure that the incentives and constraints are compatible.

There are three principles that must be embraced if the research is to be second to none in the EU. First, the best scholars must be assigned to the senior research positions. These people have the best chance to consistently publish in top journals. It would be inefficient to use these people in non-research positions as long as they want to be active researchers.

Second, they must be given a high percentage of their time to do research. With the cessation of the rotation system the research supervisors would have relief from some existing responsibilities. If they are expected to produce more research, they must be given time.

Third, their goals, rewards and “punishments” should be aligned with the research goals. Publishing in the very best journals should be extremely highly compensated. Trying to do path-breaking work is almost by definition much riskier than focusing on small, incremental extensions of the state of the art. This risk must be reflected in appropriate compensation for the highest quality research, whether through bonuses or more time and discretion to do additional work.

At the same time, there must be consequences for failing to perform. Judging the potential of younger researchers is especially difficult. Universities solve this problem by

a probation period where these employees do not have job security. The Bank can approximate this by allowing newly hired PhDs stay in the research group for a fixed amount of time where they are given discretion to pursue their interests. After a certain point, a minimum of two years would be needed given the delays at journals, their performance should be reviewed. The people who have demonstrated the ability to publish should continue with a research career. The people who struggle should be redeployed to other areas. So there would be an up or out policy for the research staff. We believe that most young scholars will accept this bargain, especially if it is made clear that there are many good opportunities throughout the Bank where their expertise would be valued. This approach also requires that the more established staff are periodically reviewed to verify if they are continuing to perform.

In addition to these incentive issues regarding research productivity, it is important to recognize that the researchers work in a central bank and not a university. They do not teach and hence can reasonably be expected to contribute service to the institution. There are various tasks that the research staff can be asked to perform that exploits their skills to the benefit of the central bank. One example, already in use, is to ask the research staff to serve as consultants to the operating and policy units. This seems to happen routinely, although the boundaries of what deliverables are expected and how much time is expected does not seem to be uniform. It would be useful to standardize these expectations.

We also propose a new service activity that seems to have been only occasionally used. We imagine asking the research staff to play the role of “public intellectuals” who assist the Board and other senior staff. This would involve two sorts of briefings that would be routinely (say once a year per researcher) delivered.

One type of presentation would be a literature review that is conceived purely because of developments in the research community that the Bank’s senior leadership might not otherwise be exposed to. As an example, consider a briefing on the zero interest rate bound that might have been possible in the early part of this decade because of interest in what was happening in Japan. In these cases the research staff would be trying to identify medium term issues that they thought the Bank management should know about.

The other type of briefing would be topics that were assigned by the Board. These would be topics where current policy discussions could be informed by a summary of relevant research findings.

Importantly, either type of presentation need not necessarily reflect the research interests of the staff. Instead, it would be understood that the research staff were supposed to stay on top of policy relevant issues, use their skills to assess what other researchers are saying about these issues, and to provide high quality summaries of this material to the management of the Bank of Finland.

### **5) Shift the hiring norm to recruit researchers from the international market.**

The chances for success in achieving the goals just described for the researchers would be enhanced by expanding the set of candidates that are hired into the research department. There is a global market for economists and the Bank should shift its recruiting to advertising for new PhDs completing their dissertations throughout Europe and the United States.

For non-Finnish speakers we realize that the transition will require effort on their part. But our interviews suggest that it is possible to work effectively in the research department using English. The aforementioned up or out system would give new hires time to adjust to the Bank and to work on their language skills. The Bank can probably support this by subsidizing language training. We suspect that especially Nordic natives, Eastern Europeans and Russians could be attracted relatively easily to move to Helsinki and overcome the language hurdle.

Implementing this recommendation will require adjusting the current recruiting framework. Advertisements must be placed soon to notify candidates of openings. Seppo Honkapohja's presence on Board gives the Bank someone with extensive academic experience which includes familiarity with the workings of the job market for new Ph.D. economists and the international recruitment processes. Based on this experience and his sterling research reputation, he could be a major asset in the recruitment efforts. He will be well-known to potential candidates and should be actively involved in the recruitment process. The repeat long-term visitors can also be used to help identify candidates and to serve as an attraction to candidates.

Given that the financial crisis impacted the endowments and funding of many U.S. universities very negatively many of them will not be able hire any new staff this year, so the competition for new PhDs is going to unusually low. Hiring the first people under this regime will be the hardest task, so starting this process immediately when competition is temporarily low seems desirable.

### **6) An overhaul of the marketing of the research department**

An obvious complement to the recruiting effort would be to better advertise the research activities that are already happening. At a minimum this should include having an easy to find publication list and web site for the researchers. The goal of being "second-to-none in the EU" in the selected areas should be highlighted. The conferences should be organized to showcase the Bank's skills. This seems to happen for the macro related conferences, the others could follow this example.

### **7) The visitors program could be restructured.**

We recommend rethinking the purpose of the visitors program. We believe that it should have two objectives. First, it should help improve the quality of research environment at the Bank. The outside scholars should be bringing new ideas and perspectives to the staff.

This can involve participating in seminars and giving feedback on papers. Visitors who work for some time on joint projects with Bank researchers that have a chance to lead to publications in top journals are particularly valuable. Second, the visitors can be an asset in recruiting. Making their association with the Bank known should make job candidates excited about joining the staff. Likewise, they can help identify people who the department might want to hire. We doubt that research papers produced by non-staff without involving Bank researchers do much to improve the image of the department. So we put less weight on that than is done under the current regime.

With this perspective, it is clear the very senior established scholars can be especially valuable. They bring more name recognition, typically can interact with a wider range of staff and tend to train more students than younger faculty. One obvious benchmark to judge visitors against is whether they would obviously be someone that the Bank would want to hire. If they are not over that threshold, the likelihood that they help on our key dimensions is noticeably reduced. It is likely better to use the funding offered to visitors to bring in fewer high quality people rather than maximizing the overall number. Likewise, a targeted program of trying to have at least one very prominent visitor each year seems achievable if effort were devoted.<sup>3</sup>

#### **8) Optimize and harmonize BOFIT.**

One of the basic principles of economics is that people respond to incentives. It was therefore surprising to find out how differently the incentives are perceived among the BOFIT staff. Some of the persons we interviewed saw the opportunity of doing interesting research as the source of their inspiration, while others regarded the monitoring of transition and emerging economies as more interesting and also as more valuable to the Finnish society. It is also evident that there is not much cooperation between the Research Unit and BOFIT although they are located in the same premises.

Consequently, we propose that the incentives within BOFIT and the Research Unit be aligned. This can be done by applying the same principles to BOFIT as to other research activities described in our recommendation (4) above. Researchers should be provided clear research assignments and time allotments, and the assignments need to be better protected. Greater weight should be given to publishing in higher quality international economic journals.

BOFIT has a high international reputation among people doing research on Russia but it is not that well-known to economists outside this special field. To increase the visibility, we suggest that BOFIT organizes a top conference on Russia and aims at publishing selected papers and/or survey papers more regularly in journals which have wide readerships in the economics profession (*Economic Policy*, *Journal of Economic Papers*, *Brooking Papers on Economic Activity*, etc). To this end help may be needed from senior

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<sup>3</sup> With regard to very prominent visitors it might initially make sense to target co-authors to bring them together to the Bank to work together. This would provide some insurance for the visitors since they would be confident that they can get some research done, and makes virtually certain that they will report a favorable experience to others.

established researchers who have experience in organizing such activities. The visitor programme could be used for this purpose.

The pro's and con's of keeping research and monitoring together were already discussed above in section 2.4. We suggest that this issue be settled by following the same principles that apply to staff work and research in the other departments of the Bank (our recommendation (4) above).

Finally, given that the transition from centrally planned to market economies is more or less over, the name BOFIT could be changed by referring to emerging economies instead of transition economies.

## Appendix I

### External Evaluation of the research activities of the Bank of Finland in 2009: Terms of reference

#### 1. Purpose of the evaluation

The Bank of Finland aims to be an active and constructive member of the European System of Central Banks. Developing a high-quality research function is seen as essential for achieving this objective. Bank of Finland's research function should enable the bank to make a significant impact not only nationally, but also at the European and international level. Bank's expertise should cover the most important strategic aspects of central banking and monetary policy, focusing on certain key priorities.

In particular, the Bank aims at possessing cutting-edge skills meeting international standards in the focal areas of monetary policy analysis, financial market research and in the knowledge of emerging markets important to the country, especially the Russian and Chinese economies. In addition to meeting the requirement of policy relevance in these focal areas, the Bank's research should aim at producing research reports that will in the end be published in refereed international academic journals.

To facilitate the achievement of these strategic objectives, the Board of Management of the Bank of Finland has decided to ask for an external evaluation of the research activities of the Bank. The purpose of this evaluation is to provide an objective basis for developing the research function of the Bank further. In particular, the evaluation should yield an assessment of:

- The relevance of the research activities from the point of view of the strategic goals of the Bank
- The scientific quality of the Bank's research output as a whole

The evaluators shall conduct their work freely and objectively and shall render impartial judgment and make recommendations for improving the research performance of the Bank of Finland to the best of their professional abilities. Research evaluation should preferably be concluded and report submitted to the Bank by the beginning of November 2009.

#### 2. Evaluators

The bank has invited three experts Prof. Anil Kashyap (Booth School of Business, University of Chicago), Prof. Matti Pohjola (Helsinki School of Economics) and Prof. Volker Wieland (Goethe University of Frankfurt).

## Appendix II

People interviewed by the evaluation committee:

Raoul Berglund, Senior Actuary, FIN-FSA  
Efrem Castelnuovo, Project Researcher  
Hanna Freystätter, Project Researcher  
Zuzana Fungacova, Economist, BOFIT  
Pentti Hakkarainen, Member of the Board  
Seppo Honkapohja, Member of the Board  
Esa Jokivuolle, Research Supervisor  
Karlo Kauko, Economist  
Juha Kilponen, Research Supervisor  
Jarmo Kontulainen, Head of Forecasting  
Iikka Korhonen, Research Supervisor, BOFIT  
Erkki Liikanen, Governor  
Veli-Matti Mattila, Head of Monitoring  
Peter Palmroos, Banking Supervisor, FIN-FSA  
William Pyle, Economist, BOFIT  
Jouko Rautava, Economist, BOFIT  
Antti Ripatti, Economist  
Tuomas Saarenheimo, Advisor  
Sinikka Salo, Member of the Board  
Laura Solanko, Economist, BOFIT  
Antti Suvanto, Head of Monetary Policy and Research Department  
Tuomas Takalo, Research Supervisor  
Juha Tarkka, Advisor to the Board  
Juha Tervala, Project Researcher  
Jukka Topi, Economist  
Laura Vajanne, Project Researcher  
Juuso Vanhala, Economist  
Jukka Vesala, Deputy Director General, FIN-FSA  
Jouko Vilmunen, Head of Research Unit  
Kimmo Virolainen, Head of Financial Markets and Statistics  
Tuomas Välimäki, Advisor

### Appendix III

#### LIST OF VISITORS TO THE RESEARCH UNIT 2005- (Alphabetical order)

1. Ville Aalto-Setälä (UHelsinki)
2. Mikael Bask (Hanken)
3. Tom Berglund (Hanken)
4. Martin Bohl (Westfälische Willhelms University Münster)
5. Efrem Castelnuovo (UPadua)
6. Patrick Crowley (Texas A&M)
7. Essi Eerola (VATT)
8. Martin Ellison (UOxford)
9. Eran Guse (West Virginia University)
10. Iftekhar Hasan (Rensselaer/Lally School of Management and Technology)
11. Helena Holopainen (UHelsinki)
12. Bob Hunt (Philadelphia Fed)
13. Petr Jakubik (Czech Central Bank)
14. Mikael Juselius (Hanken)
15. Jokipii Terhi (SNB)
16. Anichul Kahn (UHelsinki)
17. Panu Kalmi (HSE)
18. Michal Kempa (Hanken)
19. Ilkka Kiema (UHelsinki)
20. Moshe Kim (Pompeu Fabra)
21. Timo Korkeamäki (Hanken)
22. Yrjö Koskinen (Boston University)
23. Kai Leitemo (BI, Oslo)
24. Wenli Li (Philadelphia Fed)
25. Ian Marsh (Cass School)
26. Alistair Milne (Cass School)
27. Jozsef Molnar (UK Competition Authority)
28. Diego Moreno (Universidad Carlos III de Madrid)
29. Ville Mälkönen (VATT)
30. Niku Määttänen (ETLA/HSE)
31. Juha-Pekka Niinimäki (HSE)
32. Toni Norlund (UHelsinki)
33. Matti Pohjola (HSE)
34. Mikko Puhakka (UOulu)
35. Pentti Saikkonen (UHelsinki)

36. Juha Seppälä (Barclays Capital, Emerging Markets Research)
37. Pierre Siklos (Wilfrid Laurier University)
38. Ulf Söderström (Riksbank)
39. Jan Toporowski (University of London)
40. Mika Vaihekoski (TSE)
41. Timo Vesala (Tapiola Bank)
42. Juha Virrankoski (UHelsinki)
43. Tommi Vuorenmaa (Helsinki)
44. Paolo Zagaglia (UStockholm)
45. Geoffrey Wood (Cass School)

LIST OF VISITORS TO THE BOFIT 2005-  
(Alphabetical order)

1. Sheraz Ahmed, Hanken, Swedish School of Economics and Business Administration, Finland
2. Stanislav Anatolyev, New Economic School, Moscow, Russia
3. Jan Babecký, Czech National Bank, Economic Research and Financial Stability Department, Prague
4. Nauro Campos, Brunel University, London
5. Sophie Claeys, Ghent University, Belgium
6. Xiaoqiang Cheng, K.U.Leuven, Belgium
7. Alexei Deviatov, New Economic School, Moscow, Russia
8. Balázs Égert, The Oesterreichische Nationalbank, Austria
9. Jin Feng, Fudan University, Shanghai, China
10. Jarko Fidrmuc, The Oesterreichische Nationalbank, Austria
11. K.C. Fung, University of California, Santa Cruz, USA
12. Zuzana Fungacova, CERGE-EI, Czech Republic
13. Michael Funke, Hamburg University, Germany
14. Sándor Gardó, Oesterreichische Nationalbank, Foreign Research Division, Austria
15. Alicia Garcia-Herrero, Bank for International Settlements, Hong Kong, China
16. Konstantin Gluschenko, Institute of Economics and Industrial Engineering, SB RAS, Novosibirsk, Russia
17. Christophe J. Godlewski, University of Strasbourg - LaRGE & EM Strasbourg Business School
18. Rajeev K. Goel, Illinois State University, USA
19. Chun-Yu Ho, Georgia Institute of Technology, Atlanta, USA
20. Vladimir Ivanenko, University of Western Ontario, Canada
21. Katerina Kalcheva, Ludwig Maximilian University, Germany
22. Alexei Karas, Ghent University, Belgium
23. Luboš Komárek, Czech National Bank, Monetary Analyses and Transmission Mechanism Unit, Prague
24. Tomasz Kozluk, European University Institute, Italy
25. Svetlana Ledyeva, University of Joensuu, Finland

26. Nannan Lundin, Örebro University & FIEF, Stockholm, Sweden
27. William Pyle, Middlebury College, USA
28. José R. Sánchez-Fung, Kingston University, London, UK
29. Andrei Shumilov, CEFIR and New Economic School, Moscow, Russia
30. Laurent Weill, Université de Strasbourg, France
31. Yuqing Xing, International University of Japan, Japan

VISITORS IN THE RESEARCH SEMINAR 2007 -  
(Chronological order)

1. Seppo Honkapohja (BoF) 09/2007
2. Juuso Välimäki (HSE) 10/2007
3. Alina Barnett (BoE) 11/2007
4. Erkki Koskela (UHelsinki) 1/2008
5. Paolo Zagaglia (UStockholm) 2/2008
6. Giacomo Garboni (ECB) 3/2008
7. Silvia Marchesi (UMilano Bicocca) 4/2008
8. Charles Kahn (Uillinois) 5/2008
9. Antonella Trigari (UBocconi) 9/2008
10. Lóránt Gyöngyi (UCambridge) 10/2008
11. Matti Suominen (HSE) 11/2008
12. Christian Haefke (Institute for Advanced Studies) 12/2008
13. Yrjö Koskinen (UBoston) 1/2009
14. Jean-Charles Rochet (UToulouse) 2/2009
15. Klaus Adam (UMannheim) 3/2009
16. Matti Keloharju (HSE) 4/2009
17. Kai Leitemo (BI, Oslo) 5/2009
18. Viral Acharya (Stern School of Business) 6/2009
19. Tiago Cavalcanti (UCambridge) 9/2009
20. Alfred Guender (UCantenbury) 9/2009
21. Kjell Nyborg (NHH, Oslo) 11/2009