

## **Measuring Research Performance at IFN: 2000–2009**

High research productivity is crucial for IFN's success. With few exceptions, all IFN research is first published in the IFN Working Paper Series. Yet the true quality of a specific research paper cannot be determined until it has been suitably published (in a journal, collective volume, or as a research monograph). Eventually, an unpublished Working Paper is usually of little value.

But judging research is not easy. There are many different types of publishing channels that have to be weighed against each other. Ideally, IFN research is published in the highest-ranked peer-reviewed journals of economics possible. This requires a great degree of originality, craft, and accuracy, but also the presentation of articles at leading international conferences and seminars to make one's research known among the foremost researchers in the field.

How should research output be measured? Citations are most frequently used, but is it necessarily true that the most (least) cited research is also the best (worst) research? Can we assume that all important research results are published in refereed journals or should we also include monographs, book chapters, and textbooks? Is it sufficient to evaluate research based on which journal an article is published in or how many citations it gets? How do we handle the fact that many more articles are published in some sub disciplines and hence get more citations? How do we assess a researcher who has published one short article in a top-ranked journal relative to a researcher with several frequently cited articles in field journals of relatively low rank? How do we handle problems arising from changes in journal rankings and overall competition? Should we give weight to impact outside academia, such as on policymaking or the policy debate?

The measures chosen signal what type of research is valued. The shortcomings and caveats of a particular measure may be discussed and due caution requested, but in practice such provisos tend to be largely overlooked. In the end, the raw number remains. Researchers are becoming increasingly aware of what is measured—in turn, a strong tendency to do what is measured has arisen (Holmström and Milgrom 1991). Several dimensions are involved: the choice of topic, method, preferred publication outlet, etc. Hence, the very choice of measure may inadvertently become an important determinant of what research is done, and these effects are unlikely to be transitory. This tendency is reinforced if universities, departments, and research councils use a certain metric when making decisions about hiring, promotion, and the allocation of funds (Holcombe 2004, Oswald 2007).

### **Research Output at IFN 2000–2009**

IFN's research output has greatly increased during the last four years. This remains true regardless of whether we measure the number of Working Papers, journal articles, or book chapters published internationally or in Swedish.

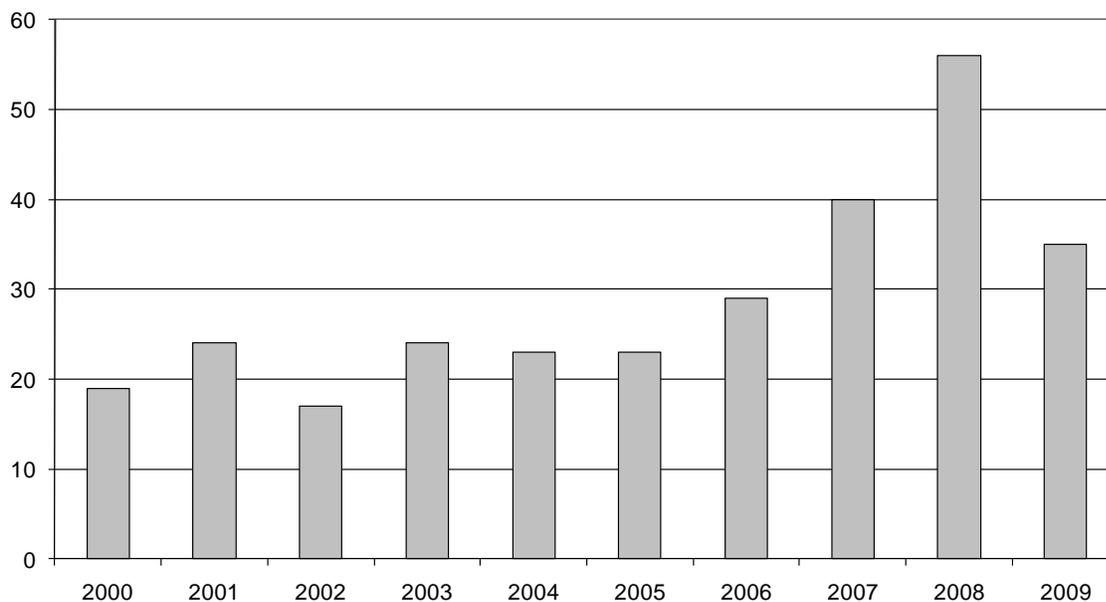
Increased productivity without increased quality has however limited value. Therefore, we evaluate the quality of research as well. An important measure becomes then how often we are published in the high-quality journals that have the greatest academic impact.

We summarize below the quantitative and qualitative results of our research during 2009 and compare these to previous years. We also describe how we conduct the evaluation.

### *Publication in English*

Normally, research is presented in the form of articles written in English. After an article has undergone a first quality check, it is published in IFN's Working Papers series. The series can also include articles that guest researchers have mainly written during their time at IFN. Figure 1 illustrates the number of Working Papers published during the years 2000–2009. The number varied between 19 and 24 per year up to 2005. However, in 2006, the number of published Working Papers increased to 29; this increase continued through 2007, when 40 Working Papers were published. In 2008, 58 Working Papers were published, making it the largest number published in a single year since the Working Papers series began in 1976. In 2009, 35 Working Papers were published, which, after the 2008 peak, we deem to be near the long-term annual average we expect.

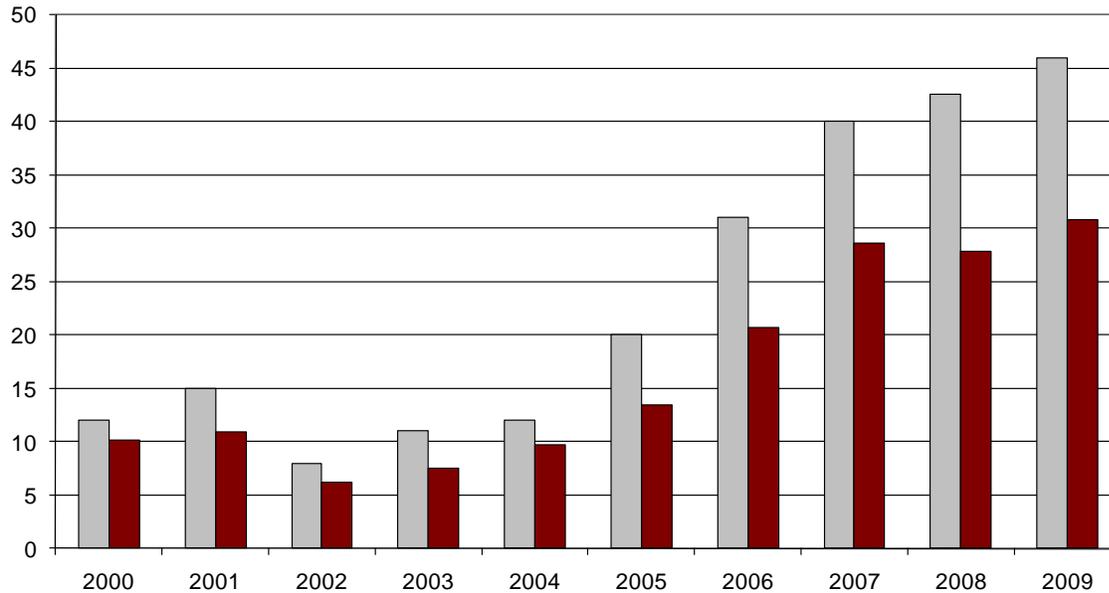
*Figure 1* Number of IFN Working Papers, 2000–2009.



Because publications can take varying forms, an unequivocal method to measure the number of published studies does not exist; research can be written alone, or in collaboration with colleagues outside of IFN, for example. Yet a first rough measure can be made by simply summing the number of journal articles and book chapters published in the institute's digital reprint series. Figure 2 gives these figures for 2000–2009. The figure also shows a revised

number adjusting for whether one or several of the authors do not work at IFN. About eleven studies per year were published internationally up to 2004, but this number has increased greatly the last three years – 46 studies were published in the year 2009 (31 adjusted for external co-authors).

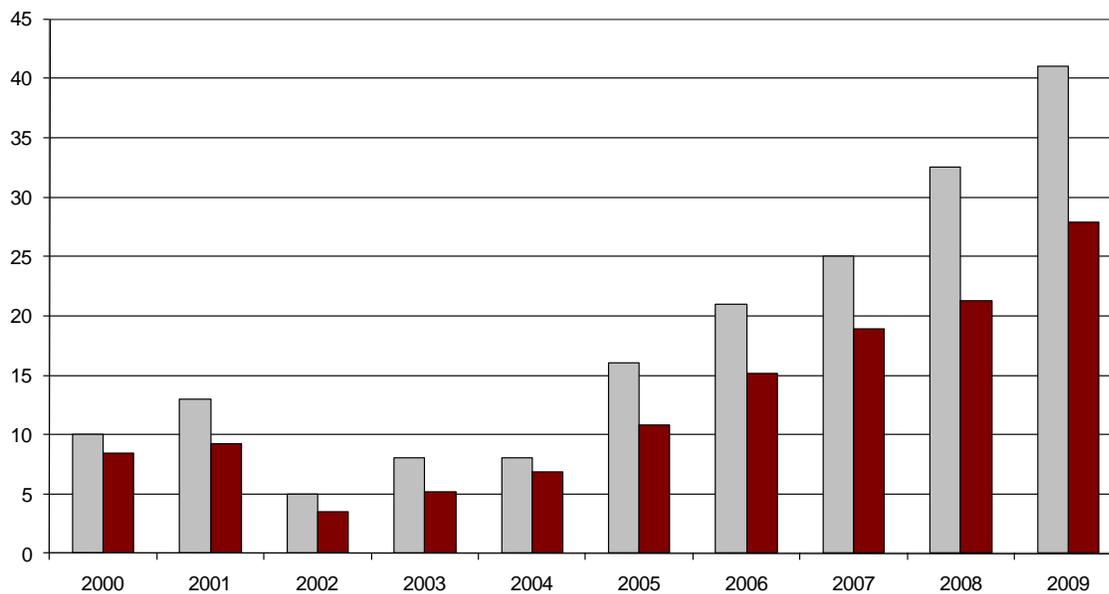
*Figure 2* Number of Journal Articles and Book Chapters in English, 2000–2009.



*Note:* The right column gives the number of publications adjusted for external co-authors. An article with one external co-author is counted as 0.71, with two external co-authors as 0.58, and so forth (according to the formula  $1/\sqrt{1 + \# \text{ of external co-authors}}$ ). Comments, Notes and Replies are counted as half an article.

Figure 3 presents the number of articles published in refereed journals with and without adjustment for non-IFN co-authors. We see a large increase here as well. In 2009, IFN researchers published a total of 41 journal articles (28 with adjustment for external co-authors), three- to four-fold increase over the first years of the period, when this number stood at an average of ten (barely eight with co-author adjustment). Because a considerable delay occurs between the time an article is accepted for publication and when it is actually published, the number of articles accepted during a given year may be a better measure of contemporaneous research productivity. Starting in 2006, this information has been gathered and continuously published on IFN's homepage. In 2009, 43 articles (up from 33 in 2008) were accepted for publication, indicating that a high level of publication will be sustained throughout 2010–2011.

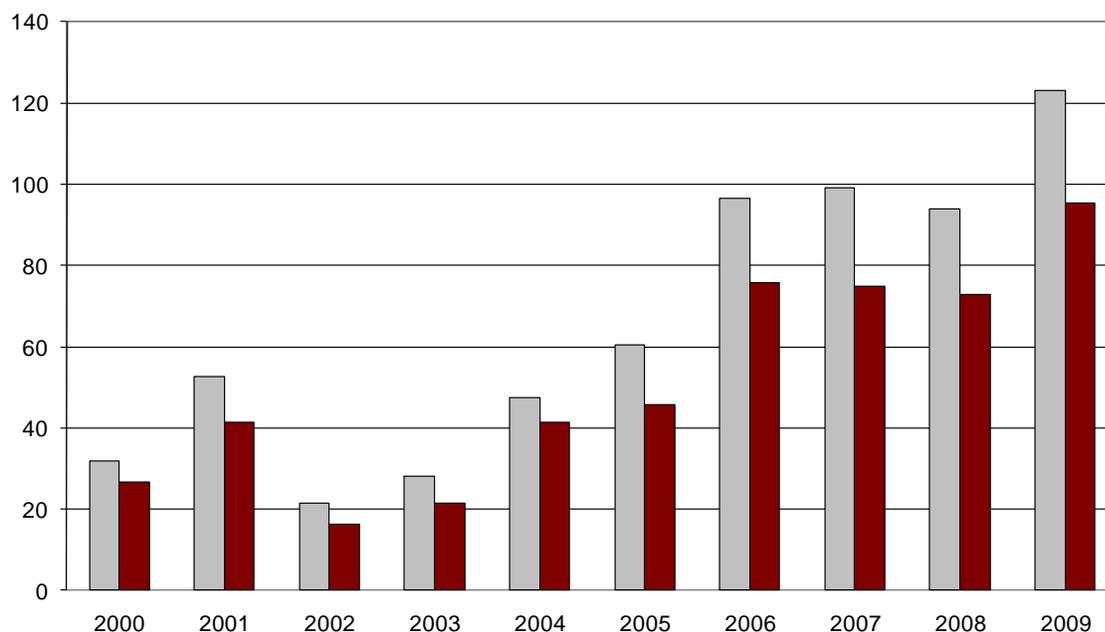
Figure 3 Number of Articles in Refereed Journals, 2000–2009.



*Note:* The right column gives the number of publications adjusted for external co-authors. An article with one external co-author is counted as 0.71, with two external co-authors as 0.58, and so forth (according to the formula  $1/\sqrt{1 + \# \text{ of external co-authors}}$ ). Comments, Notes and Replies are counted as half an article.

The measurements above capture different aspects of the quantity of IFN's research. But they capture aspects of quality to only a limited extent. While journals differ greatly in quality, IFN researchers have the goal of publishing their work in as highly ranked journals or book series as possible. To this end, we have developed an internal grading system, which is shown in the appendix below. This scorecard aims at striking an appropriate balance between the different tradeoffs discussed in the introduction. It has been developed with IFN's objective in mind; it is likely that other institutions, given their stated missions, would benefit from having a different scoreboard.

Figure 4 Number of publication points based on IFN's scoreboard, 2000–2009.



Note: The right column gives the number of publications adjusted for external co-authors. An article with one external co-author is counted as 0.71, with two external co-authors as 0.58, and so forth (according to the formula  $1/\sqrt{1 + \# \text{ of external co-authors}}$ ). Comments, Notes and Replies are counted as half a point.

Figure 4 shows the number of publication points adjusted for quality and external co-authors. We see a pronounced increase in this aspect of research during the last crucial years in comparison to the beginning of the period compared. Publication points in 2009 adjusted for authors came to 95 – an increase of 20 points compared to the three previous years. 2006 was an especially good year, as IFN researchers (co-)authored three articles published in "top 4" journals. Despite this, nearly the same level of publication was reached in 2007 and 2008.

The high score is obtained first and foremost through the publication of several articles in leading journals within our core areas, in line with our objective to ensure high quality research within exactly these areas.

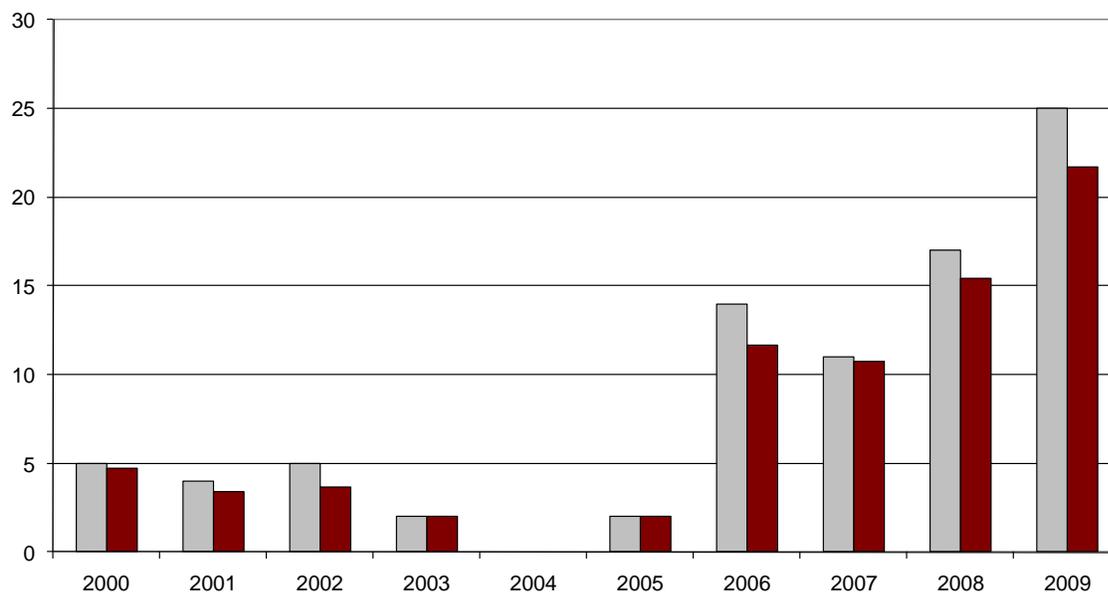
It is also worth mentioning that during 2009, two international volumes edited by IFN researchers were published by leading academic publishing houses. Yves Zenou published the research monograph *Urban Labor Economics* (Cambridge University Press). The book, which is the result of five year's research effort by the authors, provides a unique blend of research insights from urban and labor economics. Two doctoral dissertations were also published.

As Figures 3 and 4 illustrate, IFN researchers have altogether earned more than 70 publication points during 2006, 2007, and 2008 with their nearly 20 published articles (with adjustment for external co-authors). This is a great increase compared to the historical average, amounting to top-3 standing in Sweden.

## Publication in Swedish

As academia's "third objective"—communicating research to people outside of the research sphere—is now explicitly included in IFN's research program, publications in Swedish have also become important. In most cases, this occurs through the publication of articles written by researchers in Swedish language journals such as *Ekonomisk Debatt*, *Ekonomiska Samfundets Tidskrift* and *Arbetsmarknad & Arbetsliv*, though these efforts also include participation in anthologies, expert reports for inquiries, and books. This often involves the popularization of the research of both oneself and others, but also the analyses of questions of high policy relevance. These studies are published in the institute's Swedish reprint series. In 2009, 25 reprints were published in Swedish. This is a large increase over 2006–2008; and even more so compared to the 2000–2005 period.

Figure 5 Number of Works Published in IFN's Swedish Reprint Series, 2000–2009.



Note: The right column gives the number of reprints adjusted for external co-authors. An article with one external co-author is counted as 0.71, with two external co-authors as 0.58, and so forth (according to the formula  $1/\sqrt{1 + \# \text{ of external co-authors}}$ ).

To create a natural channel for articles written in Swedish or English that hold great relevance for topical issues related to commercial and industrial life, a new publication series called IFN Policy Papers was started in 2006. Seven studies were published in this series in 2009.

In spring 2007, another new series titled Research Surveys was launched. In this series, we collect reports, both short and long, written by IFN researchers that give an overview of the state of IFN research in its core areas. The shorter reports are first published in the IFN Newsletter (published three times p.a.). Other research surveys often result from individual researchers' collaboration with government bodies and other clients. In 2009, two long and two short research

surveys were published in Swedish in the series, in addition to two reports in English.

In order to further our efforts to communicate research to the general public, we have been pursuing the publication of popular science articles in journals and magazines like *Axess*, *Magasinet Neo*, and *Arena*. In 2009, IFN researchers published six such articles.

Finally, IFN researchers have participated in public debate to a considerable degree, especially in the form of newspaper Op-ed contributions. 23 such articles have been published in total, including seven in *Dagens Nyheter* and eight in *Dagens Industri*. In the two previous years ten and 19 op-ed articles, respectively, were published.

## Appendix: The IFN System for Quality Adjustment of Research Output

Outlet	Score
Top-5 journals in economics: <i>American Economic Review</i> , <i>Econometrica</i> , <i>Journal of Political Economy</i> , <i>Quarterly Journal of Economics</i> and <i>Review of Economic Studies</i> .	10
Top journals in economics just below top-5, including policy journals with a very high impact factor: <i>Journal of Economic Perspectives</i> , <i>Journal of Economic Literature</i> , <i>Brookings Papers on Economic Activity</i> , <i>Economic Policy</i> , <i>NBER Macroeconomics Annual</i> .	8
Top-ranked journals outside economics such as <i>Journal of Finance</i> , <i>American Journal of Political Science</i> , <i>Academy of Management Journal</i> and <i>American Journal of Sociology</i> .	
Other top journal in economics ranked 20th or higher according to the KMS-measure (Kalaitzidakis <i>et al.</i> 2003), the IF-measure, and the Kodrzycki & Yu (2006) impact per journal and per article. See Henrekson and Waldenström (2010) for further details.	6
Journals outside economics listed in the Social Sciences Citation Index, SSCI, having an Impact Factor (IF) > 2.	5
Economics journals ranked 21–40 according to KMS, Kodrzycki & Yu, and ranked 21–50 according to IF.	4
Other economics journals assigned a non-zero score in KMS or the IF-measure, and journals outside economics listed in the SSCI with an IF between 1 and 2.	3
Other refereed journals outside economics listed in the SSCI.	2
Other refereed journals.	1
Book chapters in high prestige series and/or contributions to collective volumes published by one of the leading publishers. In rare cases, such as contributions to Elsevier's <i>Handbook</i> series, the score can be as high as for contributions to top journals.	2–5
Other book chapters (the book should be registered in <i>EconLit</i> ).	1

For works written by affiliated researchers the score is halved. This also applies for works published by researchers who have left IFN, but where IFN is mentioned as one of the affiliations in the published version of the article. The IF-ranking from Journal Citation Reports pertains to the year before, i.e., the 2008 ranking is used for the 2009 score etc.

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