



The Committee for the Evaluation of Statistics Study-Programs

Follow Up Report

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Chapter 1 - Background

In early 2010 a committee appointed by the Council for Higher Education (CHE) evaluated the study programs in the fields of statistics during the academic year 2009-2010. The committee consisted of:

- *Prof. Abba M. Krieger, Statistics Department, Wharton School, University of Pennsylvania – Committee Chair*
- *Prof. Robert Adler, Faculty of Industrial Engineering and Management and the Faculty of Electrical Engineering, the Technion*
- *Prof. Peter Bickel, Department of Statistics, University of California, Berkeley*
- *Prof. Onno Boxma, Department of Mathematics and Computer Science, Eindhoven University of Technology*

Ms. Noa Nof Steiner - Coordinator of the Committee on behalf of the Council for Higher Education.

The Committee evaluated statistics programs at the Hebrew University, Tel Aviv University, Haifa University, and Bar Ilan University, and completed its report in May 2010.

The report for Bar Ilan was quite different from the others because the situation of statistics at Bar-Ilan University was unique, and during 2012 an additional committee was formed to follow up on progress made by Bar-Ilan on the recommendations of the original committee.

The follow-up committee consisted of

- *Prof. Robert Adler, Faculty of Electrical Engineering, Technion, Chair.*
- *Prof. Yaakov Ritov, Department of Statistics, Hebrew University.*
- *Prof. Yoav Benjamini, Department of Statistics, University of Tel Aviv.*
- *Ms. Maya Alayoff /Tamar Maagan-Efrati - Coordinator of the Committee on behalf of the Council for Higher Education.*

This committee recommended that all degree granting statistics programs at Bar Ilan be frozen immediately, and that they not be reactivated without the approval of an ad hoc CHE committee of statisticians.

The current report therefore relates only to the other three institutions. It contains a separate evaluation for each institution, as well as an evaluation of the global situation of Statistics studies and research in Israel. Although this report was prepared by only one member of the original committee (Robert Adler) it was circulated to all the original members for their comments. **It should be emphasized that in informal e-mails every member of the original committee expressed strong disappointment that there had been no developments in terms of establishing a national center for Statistics education and research.** (For details see Chapter 6 below.) Responsibility for any errors in the report rests, naturally, with RA.

In each of the following sections a summary of each of the recommendations of the original committee will be followed by a summary of the department's response, and then an evaluation of the response.

Chapter 3: Evaluation of measures taken by the Hebrew University

1: Recommendation: The Department should move to the Faculty of Science

Response: at least at present, the cost of such move seems to be too big and the danger to the integrity of the department too serious.

In making this recommendation, the Committee realized that it would involve twisting many academic arms for the move to the Safra campus to occur. Nevertheless, it felt that, given the changing nature of Statistics, such a move held the promise of many long term benefits. In fact, this particular recommendation, along with that of the creation of an inter-university graduate program in Statistics (which also led nowhere, and which will be discussed in Chapter 6 below) were the two recommendations that the Committee felt might have some serious impact on Statistics in Israel and, from the point of view of the non-Israeli committee members, make their trip to Israel and the two weeks they invested worthwhile.

It is truly a shame that what seem to be primarily short term considerations prevented the implementation of an important long term project.

2: Recommendation: the Department should develop a long term development plan

Response: The department does not follow a long term development program since its recruitment is done via the faculty.

This is really passing the buck. Clearly, any planning that the Department might do is subject to over-riding by the Faculty. However, this does not mean that the Department should still not try to form a clear picture of where it wants to go. Furthermore, a Department that brings a plan to the Faculty often has a good chance of having it approved. A Department without such a plan will always be subject to the whims of other bodies.

While it is true that the views of some of the Committee members of the ability to plan were biased by their own positive experiences in the US, which provides a different environment to that in Israel, the Committee felt that, *compared to other*

departments in Israel, the Hebrew U department stood out in terms of lack of direction (despite its obvious quality).

Having said this, it should be noted that the overall tone of the responses from the Department did show that it has started thinking about the future in a more serious way than in the past, and so there was an improvement.

3: Recommendation: It is crucial that the size of the Department does not fall below its current size, and highly desirable that a few positions be added.

Response: We concur with this recommendation, but at the same time we note that it may take some time to implement it. (Letter of Vice Rector.)

Both the Department and the Administration are aware of this problem and seem to be doing all that they can to correct it, given global budget restraints and the serious lack of young academic statisticians on the Israeli market.

4: Recommendation: The Department should take measures to handle the strong heterogeneity in quality of students

There was no direct response to this recommendation, but, reading between the lines, it is clear that the Department is aware of this problem (in fact, the Committee learned about it from the Department) and is doing what it can to handle an intrinsically difficult problem.

5: Recommendation: The Statistics Department should make an effort to have a stronger involvement of its faculty members in service courses

Response: Some progress was made in (sic) this front last year.

As above, not an easy problem and the Department is doing what it can.

6: Recommendation: All efforts should be made to increase the number of PhD students interested in academic careers

Response: The department does its best to attract top PhD students.

Again, not an easy problem, although the Department is having some limited success in solving it. The Committee believed that the establishment of a national center for statistical education would go a long way towards solving this problem for all Statistics Departments in Israel. More on this in Chapter 6.

7: Recommendation: The University should provide seed money to reinforce the statistical laboratory.

Response: The university administration accepted our criteria for an adjunct teacher at half slot who will teach and practice statistical consulting.

This is a good start, but it is not enough. More support on this front from the Administration in this area is crucial to the health of a modern Statistics department.

Chapter 4: Evaluation of measures taken by Tel Aviv University

Below is a summary of the main recommendations of the Committee and the Department's response. In all cases bar two the responses of the Department and the University administration are suitable.

The two exceptions are Item 5, regarding the tenure of departmental heads and Item 8, regarding an Israel wide educational program for graduate studies.

The problems regarding support of departmental heads at TAU seems to be university wide, and so out of the terms of reference of this report. Nevertheless, the fact that the Department is apparently currently operating in a leadership vacuum is extremely worrying.

The issue of the Israel wide graduate program will be treated in Chapter 6.

1: Recommendation: It is crucial that the size of the Department does not fall below its current size, and highly desirable that another position or two be added

Response: The department grew to 13 faculty members this year...The University will strive to increase the department's size to 15 faculty members.

2: Recommendation: the Department, it should develop a long term development plan..... We do not believe that dropping applied probability is the right decision,

Response: ... strategic planning is much more difficult in Israel than in the US or Europe ... We are looking for new hires who can strengthen our existing groups and would welcome a strong new faculty member in Applied Probability.

3: Recommendation: The Department should receive the appropriate resources and recognition for its service courses, and it should make an effort to have a stronger involvement of its faculty members in those courses

Response: The School chair is currently looking at the entire program of service courses in both statistics and mathematics and intends to reach clear agreements regarding the funding for these courses.

4: *Recommendation: All efforts should be made to increase the number of PhD students interested in academic careers*

Response: We advocated in the action plan of that more funding for post doctoral fellowships is needed. ... (there are) now more than 20 Ph.D students in the department, with 16 new students beginning their doctoral studies in the last 3 years.

5: *Recommendation: Departmental (and School) chairs should be encouraged to serve double terms, for a four year total,*

Response: (due to university wide policies) such an encouragement is not possible. The department chair resigned from his position last fall in protest over lack of support for the department. This has left a leadership vacuum that has not been filled.

6: *Recommendation: The University should provide seed money to restore the statistical laboratory to its former glory.*

Response: The University agreed to provide seed money

7: *Recommendation: The Department should do a better job of maintaining contact with its alumni, and try to involve them more in its activities.*

Response: Progress on the alumni club has been slow.

8: *Recommendation: In order to improve the education of research MSc and of PhD students in statistics throughout Israel, the Committee is proposing the establishment of a country wide series of advanced courses.*

Response: Students are able to take courses offered at another university. However, the number of students who are taking advantage of this option is small.

Chapter 5: Evaluation of measures taken by Haifa University

1: Recommendation: in hiring new faculty members, the Department should first and foremost aim for excellence.

Response: ... we have hired Dr. Yair Goldberg

An excellent start.

2: Recommendation: If no person is hired who is able to lead the quality studies program after the retirement of the present program leader, then one should consider the option of discontinuing that program

Response: Prof. Halevi agreed to lead the program for at least one year after his retirement. We are presently looking to hire an applied statistician to lead the program. However, if we are unable ... we will probably discontinue the program.

Appropriate response.

3: Recommendation: The Department should take additional measures to handle the strong heterogeneity in background knowledge and quality of students, in both the BA and Masters programs. In the BA programs, we recommend to have honors classes for excellent students. In the Masters programs, good students could be paid to tutor student who are weak or lack background

Response: We continually increase the quality level of our candidates We will continue with this course of action in the future.

Quality of students was perhaps the most serious issue the Committee felt was facing the Haifa Department. There is serious national competition in Israel for graduate students in Statistics, as well local competition from Computer Science, and the Haifa department has not fared well in the past. The moves taken so far are in the right direction, but the gains have been small. Nevertheless, it is hard to see what else can be done.

4: Recommendation: The Department of Statistics should seek a bigger involvement in service courses for other departments;

Response: Right now we do not have enough teachers to teach more service courses. Other departments in the Faculty of Social Sciences such as Psychology,

Sociology, etc. prefer teachers from their own programs to teach the statistics courses.

There is a “chicken and egg” issue here, in that it may be necessary to volunteer and devote scarce resources to teaching some service oriented courses in order to generate demand that will impress on other disciplines the advantages of having statisticians teach Statistics, which would later lead to more slots. This is something the Department should reconsider.

5: Recommendation: All efforts should be made to increase the number of PhD students interested in academic careers.

Response: We have now (a total of) 8 PhD students.

More would be better. All agree. Nevertheless, the Department is doing what it can here.

6: Recommendation: In order to improve the education of research MSc and of PhD students in statistics throughout Israel, the committee is proposing the establishment of a country wide series of advanced courses

Response: Thus it seems that in the near future establishing such center is not realistic. However, we might consider such a center in the future.

As the saying goes, the future is now. See the comments in Chapter 6.

7: Recommendation: To increase the mathematical level of the Department's students arrangements should be made to help them take courses in the Mathematics Department when they desire to do so.

Response: The mathematics courses are given ... mathematics PhD students ... there are not enough teachers at their department. We suggest 2 solutions to solve this situation...

The solutions that the Department is pursuing are sensible. Unfortunately, they depend on the support of other departments and the Faculty, and therefore may be hard to implement. Therefore this was, and remains, a problem.

Chapter 6: Evaluation of the current situation in Statistics teaching and research in Israel in view of the original report and follow-up actions by individual departments.

1: Recommendation: Initiate a graduate network for statistics, that provides high-level courses on a national basis.

Given the relatively small size of Israeli statistics departments, it is difficult for them to cover all the areas of expertise required for a first class graduate education. ... We propose setting up a central body for the teaching of upper level masters and Ph.D level courses in statistics, to which selected students from all universities would be able to come for part of their graduate education ... We further recommend that this program be open to students from all universities in Israel and not just the four which were the subject of this evaluation

In addition to this easily implementable and low cost program, we also recommend the establishment of a national research center similar to the Eurandom Institute in the Netherlands, and the Statistics and Applied Mathematics Institute in the US

Without doubt, this was the key recommendation of the entire original report. When the committee members met for the last time, there was a unanimity of feeling that “if this recommendation leads to something, the entire effort will be justified”.

As noted in the original report, the Committee felt that Israel contained some excellent departments of Statistics, and some truly superb academic statisticians. However, there was not a single department that had the requisite size, and so academic breadth, to give an education in Statistics at the graduate level comparable with the leading Statistics departments in the US. This lack is probably part of the reason that Statistics departments are having trouble attracting academically oriented students, a problem which propagates to a shortage of young statisticians on the academic job market in Israel.

Something must be done to correct this situation.

Each Department, in its own report, gave reasons why nothing has come of the idea of a national center. Most reasons were similar:

(i) Each department wants to keep its specialty.

(ii) The public transportation in Israel is not very efficient and it is difficult for students to travel among the different locations.

(iii) Students are able to take courses offered at another university. However, the number of students who are taking advantage of this option is small.

(iv) Partially due to lack of agreement among potential contributors and partially due to lack of interest among many, nothing comes out of this (proposal).

These excuses (it is hard to call them “arguments”) are all unacceptable, and represent either narrow, departmental interests, or lack of foresight on behalf of students in the importance of a first rate education. The latter is excusable, the former is not.

It is strongly recommended that the CHE take the lead in attempting to establish a national statistical network that will implement the suggestions of the Committee in regard to statistical teaching and research.

2: Recommendation: The number of faculty members in statistics departments in Israel should be expanded to keep up with the growth in the field

Most departments are doing what they can in this regard, and it seems that university administrations are, overall, responding positively to the need for replacement and additional faculty. On a national level, this will remain a difficult issue for the foreseeable future, given the small supply of candidates.

3: Recommendation: The statistics departments should develop long-term plans which include positioning within the university, research-orientation and recruitment strategy.

The responses to the Committee's recommendations by the individual departments indicate that longer term planning is now happening, even when (as in the case of the Hebrew U Department) a department seems to be against this on principle.

Nevertheless, it could be argued that the inability to develop a national program in Statistics, with its clear and important long term objectives, might indicate that medium-term planning, rather than long-term planning, is the norm.

4: Recommendation: The horizons for hiring need to be expanded to meet the future needs.

Given the nature of this suggestion, and the fact that it depends primarily on new appointments, progress will naturally be slow. So although there is not much progress yet, that is only natural.

5: Recommendation: Statistics courses that serve other departments should be taught/overseen by the statistics department.

There is some progress here, but since issues of new slots, agreement with other departments, and reallocation of resources by university administrations, are all involved in this issue, real progress will take many years.

6: Recommendation: The statistical laboratories in statistics departments serve dual roles that are invaluable. They have all been hit by the financial crunch. Seed money should be given to these laboratories so that their potential is realized

The changes noted in the individual Department report indicate a small, but definite, improvement in support of statistical laboratories. Things here are moving in the right direction.

