



Committee for the Evaluation of Economics Study-Programs

General Report

November 2008

Contents

Chapter 1: Background.....2

Chapter 2: Committee Procedures.....3

Chapter 3: General Report – Evaluation of Economics Study Programs within the
Israeli system of Higher Education4-61

Appendices: Appendix 1 – Letter of Appointment

Chapter 1 - Background

At its meeting on October 10, 2006 the Council for Higher Education (CHE) decided to evaluate study programs in the fields of Economics during the academic year 2007-2008.

Following the decision of the CHE, the Minister of Education, who serves ex officio as a Chairperson of the CHE, appointed a committee consisting of:

- *Prof. Elhanan Helpman* - Harvard University, U.S.A.
- *Prof. David M. Kreps* – Stanford University, U.S.A. Committee Chairperson.
- *Dr. Leora Meridor* - The Private Sector, Israel.
- *Prof. Joel Mokyr* - Northwestern University, U.S.A.
- *Prof. Ariel Pakes* - Harvard University, U.S.A.
- *Prof. Robert S. Pindyck* - Massachusetts Institute of Technology (MIT), U.S.A.

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

Within the framework of its activity, the committee was requested to¹:

1. Examine the self-evaluation reports, submitted by institutions that provide study programs in Economics, and to conduct on-site visits at those institutions.
2. Present the CHE with reports for the evaluated academic units and study programs - a separate report for each institution, including the committee's findings and recommendations.
3. Submit to the CHE a separate report regarding the examined field of study within the Israeli system of higher education.

The entire process was conducted in accordance with the CHE's Guidelines for Self-Evaluation (of December 2006) and on the basis of the questions regarding the mission of the departments of Economics which were compiled by the committee.

¹ An example of the Letter of appointment for the committee members is attached as **Appendix 1**.

Chapter 2 - Committee Procedures

The Committee members received the self-evaluation reports, in November 2007, and began to hold discussions regarding these reports.

The Committee held its first meeting on March 24, 2008, during which it discussed fundamental issues concerning Economics study programs in Israel and the quality assessment activity.

In March-April 2008, the committee members visited the institutions. During the visits, the committee met with officials of each institution as well as faculty and students.

The committee members thank the management of the evaluated institutions and departments for their self-evaluation report and for their hospitality towards the committee during its visit to the institution.

This report deals with the **Economics Study Programs within the Israeli system of Higher Education**

Chapter 3: General Report – Evaluation of Economics Study Programs within the Israeli system of Higher Education

The attached report was prepared for the Israeli Council of Higher Education (MALAG) by a committee consisting of Elhanan Helpman (Harvard University), David Kreps (chair, Stanford University), Leora Meridor (the private sector of Israel), Joel Mokyr (Northwestern University), Ariel Pakes (Harvard University), and Robert Pindyck (Massachusetts Institute of Technology). We were very ably assisted in our efforts by the staff of MALAG, and in particular by Noa Nof Steiner and Michal Neumann; we thank them and also the twelve institutions we visited, which provided us with very informative written reports and, during our site visits, both warm hospitality and frank discussion.

The evaluation process consists two kinds of reports; a report on the status of academic economics in Israel generally, with appendix, followed by individual reports on the twelve institutions that we were asked to study. In academic fields that are thriving, it would be normal, we expect, for the reports on individual institutions to be most important. But, as we shall make clear, academic economics in Israel is very far from thriving; therefore, the first part of our report, addressing general issues, is of far greater importance. In fact, the reports on individual institutions can only be understood if the general report is read first. Many recommendations for specific institutions transcend the individual institution and so are made in the general part of the report.

The organization of the report is reflected in following table of contents:

The General Condition of Academic Economics in Israel

Executive Summary	6
1. The global market for academic economists	14
2. The state of Israeli academic economics---the research universities	15
3. The state of Israeli academic economics---the colleges and the Open University	24
4. The importance of economics education and research to the State of Israel	26
5. Reforming the undergraduate major and related recommendations	29
6. Recommendations concerning graduate education	32

7. Hiring strategies: Concentration versus balance and package deals	33
8. Improving the general conditions of academic economists	35
9. Employment of retired faculty members, at least temporarily	45
10. Establishing a teaching line at Israeli colleges	45
11. Research into issues of importance to Israel	48
12. Data collection	48
Appendix to the General Report	52

Executive Summary

The state of the discipline of economics in Israeli institutions of higher education is dire. There are, without question, some bright spots in the picture. But the picture is dismal overall: In any academic discipline, strength at the top is essential to long-term strength overall; MALAG explicitly recognized this by directing us to compare the departments of economics at Israel's research universities of Israel with the top ten departments of economics in the world. The Departments of Economics of Hebrew University and Tel Aviv University have in the past met this high standard; they have been amongst the very best in the world. But today, Tel Aviv's department is collapsing, and Hebrew University's is teetering on the brink.

The chief problem is human resources. Israel continues to produce some of the best academic economists in the world. A telling statistic is provided by Ali et al.², who surveyed the top ten economics departments in the United States and asked, Where did the assistant professors in these departments come from? Specifically, where did they receive their first degree? Approximately 28% received their first degree from a U.S. college or university; standing second in terms of country of origin was Israel, with 16% or 18 Assistant Professors.

Only one of these outstanding young Israeli economists received a Ph.D. from an Israeli institution; Israel continues to send its best students overseas, to the United States in particular, for doctoral education. But those students are choosing to return to Israel with diminishing frequency. And, increasingly, established academic economists in Israel are choosing to move overseas. The reasons are clear: Conditions outside of Israel for academic economists, especially for the best young academic economists, are improving dramatically, while conditions in Israel, especially for young academic economists, are worsening, if anything.

We believe, and we will argue, that this is a crisis situation. It is important for the State of Israel that Israeli institutions of higher education have economic departments that approach MALAG's standard of top ten in the world. Israeli universities cannot and should not hope to match, dollar for dollar and shekel for shekel, the economic conditions on offer to the best economists, and especially the best young economists, in the United States and Western Europe. But the gap must

² See Ali et al., "Elite Scientists and the Global Brain Drain," preprint, University of Warwick, September 2007. The departments in the sample are Harvard, Chicago, MIT, Berkeley, Princeton, Stanford, Northwestern, Pennsylvania, Yale, and NYU, with a total of 112 assistant professors.

be closed, and in a way that targets in particular outstanding young economists. Hence we make the following set of specific recommendations:

Appointments and Promotions (A&P) Committees in Israeli universities and colleges, as well as Deans of Social Sciences and Rectors, should make greater efforts to understand the publication lags present in economics and, for economists, should adjust their standards for promotion/appointment to the various ranks accordingly. They should appreciate that in Western Europe and North America, promotion and tenure is offered to the best young scholars in economics at extremely early age, based on relatively thin (but extremely high quality) vitae, and they should adapt their own standards accordingly. As a means toward this end, A&P Committees in Israel, Deans, and Rectors may wish to form standing boards of external economists who would evaluate candidates for appointment and promotion, and they should take these evaluations seriously.

Teaching loads should be arranged so that untenured faculty members have lighter teaching loads than their more senior colleagues.

Untenured faculty members should be given substantially greater freedom to be away from their home university during term time. Arranging to do most of their teaching in one semester or jointly teaching courses (so that, during some parts of the semester, the individual has no classroom responsibilities) should be permitted, and during these times, travel abroad should be allowed.

Funds to support travel abroad should generally be greater for untenured faculty members than for those with tenure, not less.

Appointment processes should be conducted on a calendar that recognizes the realities of the job market in North America and Western Europe. Appointment and Promotion processes should be streamlined so that the time taken from start to finish is measured in months and not years.

Universities and colleges should permit split appointments on a limited basis, as long as the citizenship duties to be performed by holders of split appointments

are clearly spelled out a priori and then fulfilled and fulfilled well. More than that, universities (and colleges) should be flexible in accommodating such arrangements; e.g., in making teaching and committee assignments, as long as an acceptable level of citizenship is provided.

The research universities should adopt a development priority of enlarging the endowments of existing research institutes in Israeli departments of economics, and they should raise fresh endowments for new institutes. Senior, prominent economists should be enlisted to aid and even lead in these efforts. The funds so raised should be used both to supplement the salaries of Israeli academics and to provide research funds.

In setting faculty salaries, University administrators should consider (a) the faculty member's contribution to science and the institution, (b) the institution's needs, and (c) the outside opportunities available to the faculty member.

University leadership should use the powers (we are told) it already possesses to supplement the salaries of economists. This may mean a re-working of the rules by which supplemental pay (currently paid on the basis of the grant size) is made, and/or it should be paid via re-endowed or newly endowed research institutes.

Israeli economists, with the help and encouragement of the State, should seek funds to create not-for-profit institutes for economic research, independent of the university system, which would pay directly to academic economists for research efforts, to supplement their university salaries. Universities (and MALAG) should accommodate such institutes, with reasonably liberal rules for extramural compensation.

With these tools in hand, and with the cooperation of the leadership of their institutions, we are confident that, over time, the various departments of economics in Israel can attract and retain outstanding colleagues. Of course, decisions must and will be made about whether to build broadly or to build concentrations of scholarly excellence. Those decisions should be left to the departments, with one admonition:

Departments must decide for themselves, in recruiting colleagues, how to trade off concentration versus balance. But we urge all departments to recruit in a way that promotes and maintains a fruitful interaction between economic theory and practice.

And, in the shorter run, Israeli institutions should be allowed to employ the human resources that are available already:

For at least the next five to ten years, and perhaps permanently, Universities should employ at their discretion retired faculty members from Department of Economics, to supplement their small numbers of academic staff.

Thanks especially to the rise of the colleges, Israeli institutions of higher education are producing more BAs in economics than ever before. The students range from good to outstanding, and the curricula are generally good. But we are not altogether pleased with either the numbers of BAs or with the curricula they are offered.

In terms of the numbers, the research universities have overpopulated their economics programs. This may be a response to the demand for economics as a major, and it may be a response to tightened budgets. Whatever is the cause, overcrowded courses have meant a decline in the quality of education.

As for the curricula, we observe that the BA in economics has become largely a pre-professional degree. Most first degrees in economics are degrees in Economics and Management or Economics and Accounting. (We will provide statistics later.) There is nothing particularly wrong with this; it is clear that demand for this sort of degree is strong. But there is less connection between economics and the professional subjects than is appropriate. Moreover, training in economics tends to be strong on theory and weak on the application; we found undergraduates who (a) knew a lot of economic theory, (b) had little idea how that theory could be applied to analyze real world problems, and (c) who regarded their economics courses as wholly disjoint from their management courses. Finally, economics education in Israel has lost much of its liberal education element, with “enrichment courses” being replaced by technical and pre-professional courses.

The success of the best Israeli undergraduates in graduate study overseas, as well as the popularity of economics as an undergraduate major, testifies that Israeli undergraduate education adds value. (The first fact also testifies to the natural

abilities of those outstanding Israeli students.) But we believe that Israeli undergraduate education in economics can be substantially improved:

Departments should change the structure of their undergraduate programs so that all students, including those in du-hugi programs, get a larger dose of the application of economic theory sooner. To the extent possible, applied issues of particular relevance to the Israeli economy and Israeli society should be employed as examples.

To aid in this shift in educational focus, admissions standards should be set to achieve an undergraduate student to senior faculty member ratio no greater than 40 to 1 and that, for a period of some years, VATAT should provide the universities and colleges with funds to make up for the foregone tuition (without cutting the basic grant).

Where departments offer courses in applied subjects of management, they should strive to connect the practical content of those courses with the more conceptual frameworks of economics. Where the teaching of management courses are left to other departments, economics departments should make special efforts to help students understand how the subjects connect.

The colleges we visited provide good economics education. The qualifications made above about the imbalance between theory and application and the too-weak connections between economics and other subjects apply virtually across the board, to the research universities and to the colleges. But with those qualifications noted, we were positively impressed with most of what we saw at the colleges.

Even so, we saw something of a disconnect between the mission of the colleges and their policies concerning faculty promotion. Although the colleges have primarily a teaching mission, faculty members must be active in research to be promoted and to rise to leadership positions. We appreciate that it will be controversial (and we reserve our detailed arguments for the main body of the report), but we make the following recommendations on this score:

A four-rank teaching track, parallel to the research track of Lecturer, Senior Lecturer, Associate Professor, and Professor should be established and used at the colleges. In place of research requirements (for tenure and progression up the line), individuals should be required to contribute to education broadly, through the creation of written materials, pedagogical innovation, popular writing, and so forth.

Research into the Israeli economy and, in particular, research of this sort written in Hebrew, in journals such as *Riv'on Lekalkala*, *Riv'on Lebankaut*, and *Seker Bank Israel*, should be accorded greater status in the system.

In terms of students, graduate education in economics serves (at least) two purposes. The first is to train individuals for careers as “professional economists,” for both the private and public sectors. We use scare quotes around “professional economists” because these individuals will not necessarily have job titles that include the word economist; “Manager” and “CEO” are other job titles for which graduate education in economics is suitable. And graduate education in economics also produces the academic economists of the future.

For both purposes, it is desirable to have the strongest possible faculties and curricula that integrate tightly economic theory with the practical and contextual uses of theory. Currently Israel lacks both. Therefore, our earlier recommendations bear in particular on improving Israeli graduate education.

Sharing resources across institutions is more feasible in the context of graduate education than with undergraduate education. There are fewer students, and they are typically somewhat more mobile and motivated. Therefore, we endorse joint efforts across institutions, both formal and informal, in the context of graduate education. In the short run, such efforts can make up for current lacks in one faculty or another; in the longer run, they will allow students to take maximal advantage of the resources Israel possesses.

We heartily endorse the proposed union of the research MA and Ph.D. programs of Hebrew University and Tel Aviv University, and we believe that other research universities should look very hard for ways to share costs with their peers in graduate education.

We endorse the policy that allows graduate students at any university to take courses at other universities, and we recommend that universities take advantage of this by facilitating the transportation of their students.

Our charge from MALAG is to evaluate existing programs and departments in economics, not to comment on proposals for programs that do not yet exist. Nonetheless, weaknesses in existing programs can be attributed in part to a lack of resources, and proposals for the creation of new programs will, if accepted, inevitably mean further sharing of the scarce resources that Israel can devote to higher education in economics. The fixed costs incurred in creating an MA program at a new institution are substantial, including but not limited to the staffing of a sequence of economic and econometrics theory courses appropriate for graduate students. MALAG should steward the resources it has at its disposal wisely. So, while it is perhaps outside our charge:

At least for the time being, none of the colleges should establish 2nd degree programs in economics.

We recognize that the colleges are motivated to establish 2nd degree programs in part for their own faculty, as such programs allow faculty members to develop, hone, and sustain their skills as economists. We appreciate these benefits of 2nd degree programs; we simply feel that the costs outweigh the benefits. And, while imperfect, substitute means for obtaining these benefits are available:

In place of separate programs at the colleges, the research universities should find ways to welcome the faculty members of the college into participation in their 2nd degree programs, including the privilege of supervising theses.

Finally, while the institutions we evaluated were forthcoming with data, and the staff at MALAG were enormously helpful, we found ourselves handicapped by a lack of data that would have permitted us to do a better job in this evaluation. In particular, we were unable to access any good data about the outcomes of the educational process; how students perform once they graduate. We recommend that data of this sort be collected:

MALAG should institute a systematic program of data collection concerning the performance of individual students in their higher education studies and after. Privacy rights of individuals should be strictly respected, but aggregate data should be made available to enable Israeli students and parents to make informed choices about higher education. As a first step, MALAG should immediately commission a Committee on Statistics in Higher Education, which would be charged with designing in detail the data that will be collected and the ways in which it will be employed.

1. The global market for academic economists

To understand the state of Israeli academic economics, it is necessary to understand the global market for academic economists. So we begin there.

The first thing to recognize is that the market is global, at least as far as Israeli economists are concerned. The highest-ranking departments in the world, which are concentrated in North America and Western Europe, have no problem pursuing talent wherever it is found, including (of course) Israel. No prominent Israeli economist would have a problem attracting multiple offers from departments in North America and Western Europe; many outstanding Israeli economists have taken positions at those departments. In Winter 2007, Ali et al. compiled biographical data on Assistant Professors at the top ten economics departments within the United States.³ Approximately 28% received their first degree from a U.S. college or university; standing second in terms of country of origin (measured by the first degree) was Israel, with 16% or 18 Assistant Professors. (Only one of these 18 received his or her Ph.D. from an Israeli institution, a point to which we will return.)

This is the same for some other academic disciplines. What distinguishes economics is that the market for the best people is remarkably overheated. Top-ranked new Ph.Ds. with no publication records are paid on a twelve-month basis approximately double what a full professor at an Israeli university earns. Post-doctoral positions do exist, but they are not common---in the competition for the best rookies, departments go to great lengths to approximate conditions of post-doctoral positions (except for salary): teaching loads for rookies have fallen to the point where they are promised one preparation, one or two courses per year, and one year in the first four completely free of teaching.

Promotion comes earlier and earlier and is based on fewer and fewer publications. In some cases, young scholars, three or four years out of graduate school with a small handful of publications, have been offered Full Professor positions at the top economics departments, such as MIT, Stanford, and Princeton. Such cases are exceptional, but their frequency is increasing, as top departments compete for the best talent.

³ See Ali et al., "Elite Scientists and the Global Brain Drain," preprint, University of Warwick, September 2007. The departments in the sample are Harvard, Chicago, MIT, Berkeley, Princeton, Stanford, Northwestern, Pennsylvania, Yale, and NYU, with a total of 112 assistant professors.

Part of the reason for the small number of formal publications required at promotion is that publication lags, especially at the best journals, have grown.⁴ It is not uncommon for faculty members in top departments to have only two or even fewer publications at the time of their first review, in year three, four, or five after the first appointment. As a consequence, promotions committees increasingly must rely on the testimony of outside reviewers concerning the quality of working papers circulated on the internet; reputations are established at conferences and seminar publications. A key expression (and one you would expect from economists) is “the market has spoken,” when Department A decides to launch a pre-emptive raid on a successful young faculty member at Department B by offering immediate promotion, a light teaching load (for a while, at least), and riches, thereby setting off a frenzied bidding war in which Departments C, D, and E all take their shot at persuading the young man or woman to join them.

Why is this happening in economics and not in other academic disciplines? In fact, some other academic disciplines face similar conditions: The various disciplines of management (accounting, finance, marketing, and strategic management, in particular) and computer science have some of these characteristics. Many explanations have been suggested: External market opportunities for people in these fields generates some upwards pressure on salaries and working conditions; student demand for these subjects has been extremely strong; relative to other high-profile fields, economists are inexpensive, as they don't require expensive laboratories.

2. The state of Israeli academic economics---the research universities

Fifteen years ago, Israeli academic economics was in very good shape. Tel Aviv University's Department of Economics was, in the eyes of most, among the top twenty departments world wide. Hebrew University's Department, while not as strong as it had been perhaps fifteen years earlier, was still home to a number of outstanding people, and the other research universities had departments that were getting better with each year. The training provided by these universities to

⁴ For documentation, see Ellison, “Evolving Standards for Academic Publishing: A q-r Theory,” *Journal of Political Economy*, **195**(5), 2002, pp.947-1034.

undergraduates was very good. While the departments continued to follow the practice started decades before by Don Patinkin of sending many of Israel's most promising students overseas (mostly to the United States) to obtain Ph.Ds., many of those students returned to Israel, to continue to strengthen academic economics within Israel. In addition, the departments at Hebrew University and, later, Tel Aviv University began training some extremely successful economists themselves, many of whom stayed in Israel or returned there after brief stints overseas despite many opportunities at leading institutions.

Today, the picture is very bleak. Bar Ilan and Ben Gurion have consolidated their earlier gains; they are solid departments that typically are ranked in the range of 100 to 150 worldwide, with particular areas of strength. But Tel Aviv and Hebrew University, while maintaining their world-class status in particular subjects, are losing overall strength. Counting the number of full-time-equivalent faculty members (at the ranks of lecturer, senior lecturer, associate professor, and professor) in AY1997-8, AY2002-3, and AY2007-8, we have the data in Table 1.

	AY97-8	AY02-3	AY07-8
Bar Ilan	29	29	27
Ben Gurion	19	23	25
Haifa	17	17	13
Hebrew U	29	20	20
Technion	11	11	7
Tel Aviv	24.75	20.25	14.5

Table 1. Faculty Size at the Research Universities⁵

Only Ben Gurion has managed to grow over the ten-year period, although Bar Ilan has held nearly constant. The greatest losses have occurred in the cases of the historically strongest departments, at Hebrew University and Tel Aviv University.

Why has this happened? The problem is that the departments, and in particular Tel Aviv, Hebrew University, and Haifa, have been unable to hire young

⁵ The data are supplied by the departments and are not audited. Tel Aviv explicitly indicated that they were reporting "utilized" positions; that is, they did not count faculty members on leave for one reason or another, and they counted fractions for faculty members fractionally on leave. We asked departments to report full time equivalents, so we hope the data are consistent in this fashion. That said, we suspect that the most recent numbers for the Technion are unrealistically high; in other places, they report only six faculty members in the most recent academic year.

faculty members to replace those who have retired or otherwise departed. Leadership groups of the various universities assure us that they are prepared and even anxious to hire qualified candidates. But, as we heard from the leadership of several institutions, while a long queue of qualified candidates forms for every open position in most academic fields, in economics (and management, computer science, and to some extent law), qualified candidates willing to come are largely absent. As we noted in the previous section, highly qualified Israeli economists can be found at universities in North America and Western Europe: To repeat, 16% of the assistant professors at the top ten U.S. Departments received their first degree at an Israeli institution (and, presumably, are Israeli). But they are by and large unwilling to take positions in Israel.

Retirements are, of course, inevitable. But replacements have been necessary in large numbers because of other sorts of departures.

- Some of the departures were involuntary. Especially at Jerusalem and Tel Aviv, adverse tenure decisions were made in close and uncertain cases. In a handful of adverse tenure decisions, the university ruled against tenure or delayed tenure after a positive recommendation by the department. But in many other cases, the department elected to follow the well-known rule for granting academic tenure: “When in doubt, vote no.” This is a good rule to follow when there is a steady stream of new candidates to hire; the cost of losing someone close to but above the tenure standard is less when there is the possibility that the next person hired will fly above the standard with room to spare. But when there is not a steady stream of new candidates, this rule needs to be reconsidered. Reconsideration should be cautious and careful; but on the margin, Israeli departments have to face the reality of their situation.
- And, throughout Israel, universities (and departments) have been perceived as less than ideally hospitable places by young and successful economists, causing those young economists to leave voluntarily. A number of times and at a variety of institutions, tenured faculty members claimed to have been “humiliated” by the tenure and promotion process, even when the outcome was in the end positive. (We put humiliated in quotation marks because this was the exact word used.) University and department administrations have been perceived as less than flexible when confronted with faculty members who wanted the ability to visit (in some cases, on a permanent basis) at other institutions. Whether these perceptions are objectively justified or not, departments of economics in Israel,

and here we include in particular Tel Aviv, Jerusalem, Haifa, and the Technion, have lost to voluntary departures a number of their finest young senior faculty members.

Of course, fewer faculty members mean less research is done, hurting the reputation of the various departments. It means a greater administrative burden on faculty members, per capita, which also has an adverse impact on (per capita) research. And, both because the administrative burden has grown and the number of resident colleagues has diminished, it makes joining one of these departments less attractive to prospective faculty members.

While the number of faculty members has declined, the load in total number of students served has grown in most institutions. Numbers of students in advanced degree programs have remained more or less constant, but the number of undergraduates has grown. In 2003, the twelve institutions we studied issued 1880 first degrees in economics; in 2007, five years later, the number was 2431, nearly 30% more. Some of this gain came from the growth of the colleges. But the figures for the research universities are 1221 in 2003 and 1520 in 2007, a growth of around 25%. A central factor in this development has been the increase in demand for economics by undergraduate students. And some of this was due to decisions by university administrations to use economics (and, we suspect, other social sciences) as a means of meeting budget cuts: In the class admitted in 2003 and graduated in 2006, Tel Aviv University's first degrees in economics rose by 30% over the year before,⁶ Ben Gurion's by 40%, and Bar Ilan's by an astounding 70%. (Jerusalem and Haifa held the line; one expects that their administrations met the budget crisis in other ways. Technion's graduates in economics rose by 74%, but the numbers here are fairly low to begin with.)

These two trends have had a predictable impact on undergraduate student to faculty ratios. In Table 2, we give for each of the research universities the ratio of undergraduate students to senior faculty members (lecturers, senior lecturers, associate professors, and professors) for 2006-7, for the universities as a whole, for all the social sciences, and then for economics. (See the accompanying footnote for some qualifications.)

⁶ We are counting degrees given, not students admitted, because we lack the data on numbers of students admitted. We suspect that one-year growth numbers in students admitted would be even more extreme.

	All disciplines	Social Sciences	Economics
Bar Ilan U	10.7	43.7	45.3
Ben Gurion U	13.9	8.2	32.4
Haifa U	10.7	27.6	73.3
Hebrew U	14.0	16.8	40.0
Technion	16.1	n.a.	14.6
Tel Aviv U	15.3	28.7	89.7

Table 2. Undergraduate students-to-senior-faculty ratios.⁷

Even making allowances for the data problems mentioned in the footnote to the table, the numbers (except for the Technion) are stunning. And one sees the results in the classroom, with obligatory courses in economics being given to audiences over 100 students in most cases and with review and exercise (targelim) sections for those courses given to audiences over 50.

The impact on undergraduate education goes far beyond the numbers of students sitting in a classroom at any one time. With second-degree programs to teach, the research universities face a difficult question: In which classrooms do they deploy their senior faculty members? The universities have tried to cope with different strategies, which often result in an increasing amount of the teaching in undergraduate programs being done by adjuncts and junior faculty members (graduate students, primarily). Many of these are fine teachers. But students reasonably expect that a very substantial portion of their courses, including applied courses, will be taught by senior faculty members, expectations that are met less and less at many universities.

The large student/faculty ratios have contributed to one other undesirable impact on economics education in the research universities, an impact that has subsequently filtered down to the colleges. To understand this impact, one must first understand the nature of economics education:

Economics consists of some basic frameworks and models of how things work (or don't work) in the economic sphere. This includes models of choice by

⁷ The numbers used to create this table were gathered from several different sources, hence we cannot be sure we are comparing apples with apples. In particular: (a) For both Bar Ilan and Ben Gurion, we are using student numbers for the main campus only. (b) Issues of double-counting students when they are enrolled in du-hugi programs and service teaching may compromise the data. The effective undergraduate to faculty member load in economics should take into account the amount of a student's program is taught inside the department; we have no way to correct for these things. (c) For faculty numbers in economics, we are using the numbers in the final column of Table 1. The other faculty numbers were provided by the universities; we requested full-time-equivalent numbers, but we are not certain that this is what we received.

consumers and firms, and it includes models of institutions---most importantly the market---in which conflicting choices are brought into equilibrium. An important part of economics education is the study of these basic frameworks and models---so-called economic theory. But equally important is the study of these frameworks and models at work in real-life contexts, which is the real content of economics. A good analogy is to grade school arithmetic: economic theory is like learning long division, but one's knowledge of arithmetic is only useful if one learns when, in real life problems, it is appropriate to divide and not subtract; economics is the "word problems" that apply the somewhat mechanical procedures of economic theory. Understanding the basic model of supply and demand is economic theory; knowing how to use it to investigate the consequences of, say, a rent control program begun in Tel Aviv, is economics.

In Israel, the typical structure of an undergraduate economics program is:

- in the first year, some mathematics and statistics courses, and an introductory course in both micro and macroeconomics⁸
- in the second year, required courses in microeconomic theory (called price theory), macroeconomic theory, and statistics/econometrics
- in the third year, so-called field courses, typically taken as electives. A field course surveys the application of economic theory to some contextual area; examples include industrial organization, international trade, labor economics, public finance, and development economics. Also in the third year, it is common for students to take a seminar for which they write a significant paper.

The question then becomes: When does the student learn economic theory, and when does he or she learn how to apply the theory? It has always been true that students primarily learn the theory in the second-year obligatory courses, and they learn a lot about how to apply economic theory in the elective field courses. But, in an ideal world (as defined by this committee), the student will also learn to apply economic theory as he or she learns the theory, in the obligatory courses in the first and second year. We believe that waiting for field courses in the third year to learn to apply theory provides an inferior educational outcome, because to understand properly the theory, one should see it at work on real problems.

⁸ Microeconomics is, roughly, the study of individual consumers, firms, and markets. Macroeconomics, again roughly, concerns the aggregate behavior of the economy on a national or global level.

This, we are led to believe, is happening at substantially less than desirable levels in Israeli undergraduate programs. The obligatory theory courses, and most particularly the courses in microeconomics or price theory, have concentrated too much on the fine points of theory and too little on how the theory can be applied. We are led to this belief from reading syllabi, from talking to faculty members, and in particular from our discussions with undergraduates, who both expressed this criticism of the theory courses and, more importantly, who showed very little knowledge of how the theory could be used to shed light on practical issues.

Large class sizes are partially to blame here: It is difficult, when teaching to an audience of more than 100, to teach applications. The same is true in review sections of more than 50---to teach someone to apply theory takes more time and personal attention than is available in most Israeli classrooms. Another factor is the lack of senior faculty: To teach the application of theory takes an instructor with deep understanding of the theory and years of perspective on how to apply theory; graduate student instructors are often strong on theory and relatively weaker on application.

We don't want to overstate the case here. Some instructors teach application with the theory, and many other instructors see the problem and would like to move in the direction of integrating application with theory. But, and this applies in particular to the colleges, faculty members who would like to make such changes say they are constrained by "standards": It is not their role, they say, to modify the standard syllabus, and if they do less of the higher theory than is standard, so that they can do more application, their students will be deemed unprepared for second-degree programs and will not be admitted.

For all these reasons, the obligatory theory courses do less integration of application with theory than we think desirable. And, therefore, the reliance on third-year elective field courses to "complete" the education of undergraduate economists is higher. But for a variety of other reasons, this is also not happening:

- The diminishing number of faculty members and choices about where to deploy them means that, in many universities, the menu of field courses is reduced. Instead, students take as electives the next level of theory courses, primarily intended for students studying for their second degree; these courses are if anything even more focused on theory and away from application.
- Field courses are increasingly taught by practitioner adjuncts. In our meetings with these individuals, we were impressed by their dedication to teaching and to

their students. But, overall, we were less impressed with how well they integrated theory into what they taught; these courses often have the flavor of practical cookbooks rather than analytical investigations (using the constructs of economic theory) into a subject area.

- Among Israeli undergraduate programs, few students take an economics-only degree. Most students do a double-major (du hugi), combining economics with one of a variety of subjects. In some cases, the second subject is another academic discipline; statistics, mathematics, psychology, and law are common. But it has become commonplace to combine economics with either management or with accounting. Indeed, of all BA degrees in economics in 2006-7, 50% were economics combined with management, and 21% were economics combined with accounting. In the research universities, the percentages were 27% and 28%, respectively. Only at Ben Gurion was a majority of the economics BAs a degree “purely” in economics, and there a “pure economics” BA includes mandatory courses in accounting and finance, as well as electives in management. Table 3 provides the distribution of majors at the research universities among those who graduated in 2006-7.

(Du hugi where the second subject is neither management nor accounting always involve courses offered by another department in the university or college. But Economics and Management and Economic and Accounting often involve courses in management or accounting that are organized by the economics department, typically taught by practitioners who are adjunct faculty. Also, many economics and accounting programs have a fourth year that is purely devoted to studying the practice of accounting, in preparation for accounting certification exams. We will return to these matters shortly.)

	Bar Ilan	Ben Gurion	Haifa	Hebrew U	Technion	Tel Aviv
economics only	10%	67%	2%	10%		18%
econ & management	40%	16%	40%	20%	100%	12%
econ & accounting	38%	16%	27%	40%		23%
econ & law			9%	5%		10%
econ and other	12%		21%	25%		36%

Table 3. Distribution of majors in economics among 2006-7 graduates. (Column sums differ from 100% due to round offs. See text for a qualification concerning the “economics only” BA at Ben Gurion.)

Our point here is that in most du hugi programs, which, as Table 3 shows, is most economics undergraduate majors, the obligatory courses in economic theory in the first and second years remain obligatory; what is sacrificed is the number of more applied field courses. It is possible to teach courses in management and even accounting as applications of economic theory. But according to the testimony we received from students and economics faculty members, the amount of economics employed in most management and accounting courses (excepting to some extent courses in finance) is minimal. Therefore, to the extent that economics majors in Israel learn economics---that is, how to apply economic theory---they must learn the application of theory in their obligatory theory courses. And, as we have already observed, this is not happening at sufficient levels.

The net result is that economics BA students in Israel finish their degrees well trained in a complex language, economic theory, and with little or no ability to use that language to understand or solve real-world problems.

Turning to graduate education, the small number of faculty members and the large demands of undergraduate education also have had adverse impacts. Institutions do offer a third level of the theory courses, now appropriate for graduate education, but electives tend to be shared with undergraduate education, and again there is rarely a full complement of field courses. A positive step in this regard is the plan of the departments at Tel Aviv and Hebrew University to form a joint Israeli School of Economics, which will offer a research oriented 2nd degree as well as a Ph.D. We will discuss this venture later in the report.

We have painted a fairly grim picture of the overall status of economics in the Israeli research universities. And, we are afraid, the picture is becoming grimmer. Both Hebrew University and Tel Aviv anticipate further shrinkage of their senior faculty, as a number of current faculty members are approaching retirement. Haifa University is anticipating an immediate loss of at least 2 of their current 13, and the Technion anticipates that only 5 individuals will remain next year. Morale is low, and

faculty members have been exploring and, increasingly, are exercising their outside options. Some are departing for universities outside Israel. Others are leaving the universities, or reducing the percentage of their participation, in favor of the private sector. Many simply minimize their energy, presence, and involvement. This is not true at all the research universities: At both Bar Ilan and Ben Gurion, the atmosphere was positive. But at Haifa, Hebrew University, and Tel Aviv, the overall climate was one that mixes anger, resignation, and despair; anger at the perception that the university leadership is either antagonistic or indifferent, and resignation and despair that nothing can be done to repair the situation.

Of course, the process is a vicious cycle. The burden grows on those who remain, the fewer there are, encouraging those who remain to leave and discouraging those who might think of coming. Fewer colleagues means less people to talk to, again encouraging departures and discouraging arrivals. And private institutions in Israel (and outside) threaten to take advantage of the small numbers and poor morale at these departments, actively targeting the departments to lure away the few who remain.

3. The state of Israeli academic economics---the colleges and the Open University

It is our understanding that the colleges and the Open University were chartered with a mission of bringing higher education to “the periphery,” interpreted geographically, but also in terms of demography and records established in high schools. In our views, the colleges and the Open University are doing fine work fulfilling this mission. In 2006-7, the five colleges we visited (Tel Hai, Emek Israel, Ruppin, Tel Aviv-Yafo, and the College of Management) and the Open University awarded 911 first degrees in economics (90% in Economics and Management, with 10% awarded in Economics and Accounting), a 38% increase over five years. (The “night-time program” of the College of Management, soon to graduate its first class, will add another 175 BAs or so per year to this total.) The target audiences of the different colleges are different; we will discuss those targets in the reports on individual institutions. But, overall, if bringing higher education to the periphery, broadly defined, is their mission, they are doing this with good success.

We were very impressed with the management of the colleges we visited. With exceptions to be noted in the individual reports, the colleges had a clear, simple, and easily understood mission. They are more centrally managed, with predictable consequences for efficiency and flexibility.

It goes without saying that the quality of the final product is not as good in academic terms; using psychometric scores as a uniform standard of comparison (and recognizing that the psychometric scores are problematic as an accurate measure of ability for all the well-known reasons), the average psychometric score of students of the colleges is approximately 90 points less than that of the research universities;⁹ that large a difference in the input must be somewhat reflected in the output. But the leadership and faculty of the colleges are emphatic: They assert that while the variance in their student populations may be larger at first, and it may take longer for their students to learn how to learn, by the end of their programs, their students are nearly as able and well-trained as students at the research universities. It is, of course, hard to audit such claims. On the one hand, these claims were made by many of the faculty members at the colleges who also teach in one capacity or another at research universities. On the other hand, faculty members at the research universities are quick to dismiss the quality of education offered at the colleges. But we feel relatively confident in the judgment that the colleges provide a good education in economics and management, with excellent value added to their students. Some of the colleges, we believe (and will discuss in individual reports) go beyond that: With their emphasis on teaching and student services, they may provide a better overall educational experience for the students they serve than would the research universities. And the flexibility they provide for students who work full time, who live in the periphery, or who for other reasons would not attend a research university cannot be doubted.

The colleges are not without problems. We complained earlier that Israeli teaching of economics is too much economic theory and not enough economics; we make the same complaint here. Most degrees combine economics with management, and our sense is that, overall, the connections between economics and the management courses are less than ideal. Students at the colleges complained regularly that the application of economic theory to real-world situations is often haphazard and superficial.

⁹ This is a very approximate figure, and it excludes the Open University, as the Open University does not collect information on psychometric scores.

Faculty members complain about the hours of teaching they must do, compared to that of faculty members at the research universities, as well as the lack of state support for their research. (They are, however, quite grateful for the research support given them by the administrations of their colleges.) One could argue that this is because research is not in the direct mission of the colleges, at least not the way it is in the research universities. But promotion in the colleges is dependent on an established record of research and, in particular, publication in refereed journals. When we get to overall recommendations, we will comment further on this. We will also discuss there the growing number of proposals by the colleges to MALAG to establish 2nd degree programs in economics.

4. The importance of economics education *and* research to the State of Israel

The emergence of the colleges should be regarded as a development that has created opportunities for the research universities. The two types of institutions are complements rather than substitutes, and the growth and strengthening of the colleges should allow the research universities to do what they do best, which is to conduct research and teach the best Israeli undergraduates along with graduate students, leaving a larger share of the professionally-oriented students to the colleges. It is of critical importance to the State of Israel that it maintain a broad and strong base of higher education in economics for those who will join the private sector primarily, a thinner but still substantial tier of education for those who will serve as professional economists in both the private and public sectors and, at the apex, centers of world-class excellence in economic research.

- The ability to apply the economics paradigm allows individuals in the private sector to compete more effectively *and*, by doing things more efficiently, to generate more total value to be split amongst the individual and his or her employees, customers, and other trading partners. Of course, self-centered actions can sometimes lead to inefficient outcomes, and a purely economic mindset can lead one astray. But a well-structured program of study of economics, one that critically examines its virtues and its flaws in contexts such as how firms and other organizations work internally and compete externally, how

markets function (and where and when they fail), and how the international economy operates, is critical to competing effectively in today's global economy.

- The mastery of the economics paradigm in its widest sense, provided it is tempered with an understanding of its limitations and nuances, allows those who have mastered it to design and support better social and economic policies and design more effective institutions that enhance well-being in the widest sense. Such mastery requires an understanding of the sometimes contradictory actions of actors in social and political as well as economic processes; only a deep and subtle understanding of economics, blended with a similar understanding of social and political forces, enables analysts and policy makers to realize what is feasible and desirable in modern society.
- Economic research into questions of importance to the economy and society of Israel will produce better understanding of Israel's economy and society and, with better understanding, better social and economic outcomes.

These propositions are amply supported by available evidence, such as: the success of the price stabilization program of 1985; the impact of modern monetary and fiscal policies on business cycles in Israel and throughout the West generally in the past three decades; the impact economic reasoning has had on environmental policy, as in creation of markets for trading emission right; the impact on regulation and antitrust in the context of existing firms and mergers;... the list, we think, is long and convincing. One cannot participate in a serious discussion of the major policy issues in any of these fields without a deep knowledge of different parts of modern economics. Of course, policies based on simplistic economic theory have at times led to bad outcomes. But as our appreciation of the challenges of implementing economic policies and the importance of cultural norms and social capital has grown, so has the ability of economists to make useful policy prescriptions.

Of what value, one may ask, is pure or abstract economics research of the sort that is prized by the research universities? Should the State of Israel, a small and relatively poor state, contribute public monies to support this sort of research? We believe that it should. Abstract economic research improves our understanding of economic phenomena, even if with a lag. Israeli economists have made important individual contributions to many different subjects within economics, but if there is one "school" of economics that owes much of its development to Israeli scholars, it is probably the development of game theory by the many students and academic

descendents of Nobel laureate Israel Aumann. Professor Aumann, who we must observe was a Professor of Mathematics at the Hebrew University, has spawned at one or two or three removes generations of scholars in mathematics, statistics, economics, and management departments, all of whom have contributed to the rise of game theory as a tool of economic analysis. And while formal theories of game theory may not have directly impacted policy, game theory has provided more applied economists with the language and tools needed to study such topics as contract design, the structure of long-term employment relationships, auction theory, and reputational concerns in central banking. Work that is descended from papers in abstract game theory proves the adage that “there is nothing more practical than a good theory.”

And young economics scholars, who cut their teeth on high-brow theory, often develop into mature economists, able to provide the sort of economic counsel that the State of Israel sometimes solely needs. The support of esoteric economics research is perhaps not obviously a strategy for developing the sort of human capital that is wanted. But, empirically, it has been and continues to be a good strategy.

Having said this, we are compelled to add a cautionary note for our colleagues in economics. The members of this committee are strongly of the opinion that economics is and should be an applied social sciences and, both in research and in teaching, it is in the application of economic theories and frameworks that the subject justifies its existence. A case might be made---and sometimes is made---that economic theory is an important end in and of itself. Without arguing the merits of that position, we are arguing here that the discipline of Economics, because of its value in application, merits special support and attention by the State; that the current crisis of academic economics in Israel should be cause for special concern, because of the value of the discipline to society in application. In our view, abstract research merits support because it has lead to fruitful application: Recent theoretical and methodological developments in which theory and applied work interact have generated an expanded ability for economics to contribute to both the understanding of economic phenomena and to aid in economic policy application. But this interaction does not happen automatically, and departments of economics throughout Israel, in staffing decisions and in educational programs, should scrupulously promote and maintain a balance between theory and application and, even more, the fruitful interaction between them. We will return to this admonition when we come to recommendations.

5. Reforming the undergraduate major and related recommendations

Given the importance of economics education and research on the one hand and its current condition in Israel on the other, action is clearly called for. We move now to our recommendations for improving the situation. We are not prioritizing these recommendations, nor are we giving time frames for them. We are insufficiently knowledgeable about the political considerations to be able to give serious implementation time frames. And we hope that we have communicated the dire nature of the current situation, calling for action along many dimensions, as soon as possible.

Our first recommendations concern the structure of the undergraduate major.

We recommend that the departments change the structure of their undergraduate programs so that all students, including those in du-hugi programs, get a larger dose of the application of economic theory sooner. (Specifics are left to the departments, but we suggest two ways of doing this in the text.) In particular, we recommend that, to the extent possible, applied issues of particular relevance to the Israeli economy and Israeli society be employed as examples.

To aid in this shift in educational focus, we recommend that admissions standards be set to achieve an undergraduate student to senior faculty member ratio no greater than 40 to 1 and that, for a period of some years, the VATAT provides the universities and colleges funds to make up for the foregone tuition (without cutting the basic grant).

Where departments offer courses in applied subjects of management, they should strive to connect the practical content of those courses with the more conceptual frameworks of economics. Where the teaching of management courses are left to other departments, economics departments should make special efforts to help students understand how the subjects connect.

The issue here is simple. Undergraduate education should aim at teaching students how to practice economics, rather than training them (solely or even primarily) in economic theory. With a few notable exceptions, the obligatory courses

in these subjects have drifted too far into theory. The system in place depends too much on the third-year electives to tie theory together with application, especially given the limited number of third-year electives being offered and the fact that du hugi students often take very few of these electives. It is our sense that this is most needed in the case of microeconomics (or price theory).

This could be accomplished in several different ways. One possibility is to incorporate more applications of theory into the first- and (especially) the second-year theory courses. Of course, this means less theory would be learned, but we think that is an easily justified tradeoff to make. A second possibility is to require some field courses in the second year, lowering the number of hours devoted to the theory courses, and to use those field courses to teach portions of the theory. One might, for instance, require a field course in either labor economics or industrial organization, and use either as a vehicle to teach aspects of price theory, and require a field course in either international finance or development, using that to teach aspects of macroeconomics. Any such field courses should involve a significant empirical component. Again, less theory would be learned but, again, the tradeoff is one we recommend. (Students wishing more theory might take the 2nd degree theory courses in their third year as electives.)

The use of Israeli issues, data, and contexts is surely non-controversial, although in the global economy we inhabit, this should be balanced with issues, data, and contexts drawn from world-wide sources. To go further in this direction, the committee endorses the idea, which we know is practiced broadly already, that every undergraduate program should include a mandatory course on The Economy of Israel and its place in the broader global economy. But we disagree internally on when such a course should be offered: Some believe it should come in the third year of studies, possibly taught by both a macro- and a micro-economist, when students have the tools needed to do a proper job of analysis of the complex issues that arise; the course would then have the dual objectives of showing how those tools can be employed and studying issues of particular interest to Israeli undergraduates. Others believe that a descriptive course that sets up the issues and asks questions should be part of the first semester of studies, to set the economic context, as long as those issues and questions are then analyzed in depth in the obligatory courses that follow.

The second recommendation is made to help facilitate the first. Teaching students to think like economists is harder than teaching economic theory. It takes a

level of individual attention that is hard to provide in frontal lectures to over 100 students or in review and exercise sections over 50. Moreover, the general quality of education in economics majors is unquestionably decreased at current student-faculty ratios, and we would prefer a higher-quality education delivered to fewer students. It is understandable, given reductions in public funding of higher education, that universities have resorted to increasing the numbers of students in the social sciences and, in particular, in economics. But however understandable, it is not conducive to quality education.

There are other issues for undergraduate education that need attention. As we noted earlier in the report, we are concerned that many of the management and accounting courses taught in programs of economics and management or economics and accounting do an inadequate job of bringing economic tools to bear on the management function being studied. This is probably least true in courses in finance, where the connection to economics is most direct. We recommend that departments take steps to increase the connections between economics and “practical” courses in management.

A number of people with whom we spoke recommended a “liberal arts” or “general studies” du hugi, where out of 120 units, the student might take (say) 75 units in economics and the remainder in whatever pastiche of courses the student chooses, more nearly mimicking the liberal arts education common in the United States. Some universities already offer this option; we see a lot of benefits in making it an option in any institution whose other course offerings support it. Although we appreciate that studying economics as part of a broader intellectual experience rather than as part of a pre-professional education may not attract many students, we believe that this sort of program is more likely to attract the most intellectually ambitious and talented students.

6. Recommendations concerning graduate education

We recommend that, at least for now, that none of the colleges establish 2nd degree programs in economics. In place of separate programs at the colleges, the research universities should find ways to welcome the faculty members of the college into participation in their 2nd degree programs, including the privilege of supervising theses.

We heartily endorse the proposed union of the research MA and Ph.D. programs of Hebrew University and Tel Aviv University, and we believe that other research universities should look very hard for ways to share costs with their peers in graduate education.

We endorse the policy that allows graduate students at any university to take courses at other universities, and we recommend that universities take advantage of this by facilitating the transportation of their students.

Graduate education is an important activity, in terms of establishing a research climate at an institution and as a means for training future generations of economics scholars as well as economic analysts. But it is an expensive activity, both in money and in the toll it takes on scarce faculty resources. Many of the costs are fixed in the sense that they are incurred at the same level if the program enrolls twenty students a year or if it enrolls sixty; chief among these fixed costs is the cost of teaching a third level of economic theory courses.

Israel, unfortunately, is not a rich country. In higher education, it cannot do everything, but must allocate those funds it provides to higher education in a cost effective manner. From the perspective of training future generations, it would be most cost effective to centralize graduate education, so that the fixed costs are amortized over the greatest number of students. But to the extent that local graduate programs help to establish a research culture, complete centralization is undesirable. And some level of internal competition and diversity should be maintained, even in a small country.

Our recommendations attempt to draw an appropriate compromise among these considerations. It is important that the research universities have thriving research cultures, so graduate education at the universities is appropriate. But to the

extent that economies can be achieved through cost (and course sharing), they should be. The proposed joint program (between Hebrew University and Tel Aviv University) is an exemplary experiment in trying to balance these two considerations--similar experiments should be attempted. If the joint program is a success, we believe serious consideration should be given to folding into this "Israeli School of Economics" research-based programs at the other universities. However, we do not see this as an obvious step to take: To maintain competition and diversity, it may be better to maintain a few smaller programs specializing in some fields.

We cannot recommend the establishment of 2nd degree programs at the colleges or the Open University at the present time.¹⁰ The fixed costs seem to us too large to justify such programs and, in any case, to be successful, the colleges would need to add considerable faculty resources. We understand that this makes it harder for the colleges to establish their own cultures of research; but we see the costs as simply too high. Participation of faculty from the colleges and the Open University in the 2nd degree programs of the universities is a not an ideal substitute, but it will provide some of the benefits to those faculty members without incurring the full costs of stand-alone programs.

7. Hiring strategies: Concentration versus balance and package deals

In Section 8, we will make recommendations that, we believe, will aid in the recruitment and retention of academic economists. But even after these recommendations are implemented, questions of recruiting strategy remain. Foremost among these is whether Israeli universities seek to build concentrations of excellence or seek balance in the faculty they hire?

The allure of building concentrations of excellence is two-fold. First, a prospective employee is more likely to join a department in which he or she has on site natural immediate colleagues. To take an example, Hebrew University's Center for Rationality is an enormous lure to anyone interested in the topics researched there. Second, a recruitment strategy that can often work well involves a "package deal," in which the institution simultaneously approaches a number of individuals who share a

¹⁰ Kreps dissents from this recommendation in the specific case of the College of Management. A detailed argument is given in the section of the report specific to the College of Management.

natural affinity; for instance, one might approach two pairs of coauthors, where the pairs share research interests. Of course, such package deals need not add to imbalance in a department; a department lacking in, say, econometric theory or empirical labor economics might approach a set of three or four individuals working in one of those areas, achieving instant and substantial diversification. But perhaps the greatest chances of success arise when the package deal involves a field in which the institution already has some strength.

Resulting imbalances are not so problematic when it comes to graduate education, as long as there is adequate diversification across Israeli institutions. For one thing, departments can pool their resources in graduate education, as we have already recommended; for another, at the graduate level, instruction and, even more, research supervision is best delivered by true experts in a subject. But the pooling of resources across institutions is less practical when it comes to undergraduate education, and in undergraduate education, a curriculum that is broad is a definite virtue. It seems to us that asking trained economists to teach at times outside their narrow specialties at the undergraduate level is a reasonable request: Beyond being a wonderful strategy for broadening one's human capital, the flexibility afforded by a willingness to teach outside one's narrow area of expertise at the undergraduate level can add enormously to a department's efficiency.

In one respect, we think departments must keep balance in mind, and this is the balance between theory and practice. Even more than that, because we believe that the most important advances in economics have come in the interaction between theory and practice, we strongly advise departments to emphasize recruiting individuals who by inclination, training, and ability will contribute to this fundamental interaction. This is important enough to us that we make it a formal recommendation:

Departments must decide for themselves, in recruiting colleagues, how to trade off concentration versus balance. But we urge all departments to recruit in a way that promotes and maintains a fruitful interaction between economic theory and practice.

8. Improving the general conditions of academic economists

We come now to our most important recommendations; steps that should be taken to entice Israeli academic economists to return to Israeli departments and to remain once here. Before giving these recommendations, some remarks are in order.

We repeat: The state of Israeli economics is dire. We will make several recommendations, and one might conclude that we are suggesting that the authorities pick a few from the menu. This is not our intention: We hope that that as many as possible of these recommendations are adopted. Efforts along multiple fronts are required in the current crisis.

To set the stage for our recommendations, we recall that, some years ago, universities in Great Britain faced a similar crisis, also in economics. British economists were remaining in the U.S. and Canada if they went there for graduate education; those in Britain were being lured away. The economic conditions of employment in Britain, compared with those in the U.S., were to blame. And so, to deal with this crisis, the Labour Government allowed university leadership the freedom to pay whatever wages they thought appropriate, to preserve excellence in certain subjects at the British universities. “The unions will never stand for it.” “It will destroy the academic culture of the university.” These sorts of statements were heard. But the government enabled university leadership to act, and the leadership of many of the best universities did act, (among other things) bringing the salaries of British economists up to par with salaries at the premier universities in the U.S. The result was a revival of economics (and other subjects similarly situated) in British Universities, and we do not believe that predictions of “destruction of the university culture” came true.

At some of the institutions we visited, we heard from University leaders that they do not feel the “market” should determine academic salaries and other employment conditions. It is better for the university *as a whole*, the argument went, for universities to stand up against these market pressures. Israeli universities have an egalitarian culture that would be shattered by giving in to the market.

There are, certainly, times when one should resist market pressures. But one should not think that things will get better for Israeli departments of economics if nothing changes in the conditions of employment for economists. To do nothing will leave Israel with at best competent departments of economics, ranking in, perhaps, the top 100 in the world, but not much better than that, with many if not most of the best

Israeli economists holding positions outside the country. When we asked MALAG to indicate the appropriate aspiration level for Israel, they said explicitly (and we quote), “the research institutions should be benchmarked against the top ten universities worldwide...” Unless conditions change, no Israeli university will have an economics department remotely close to such a benchmark. We think just competence is the wrong choice for Israel and the great research universities of Israel, and we tailor our recommendations to have a hope of regaining for Israel the outcome implicit in MALAG’s benchmark. We do so acknowledging that this will pose challenges for the culture of Israeli institutions of higher education. But, we feel confident that Israeli higher education is robust enough to surmount those challenges, as was the case in Great Britain.

We will take this set of recommendations in subsets. The first group pertains in particular to younger scholars.

Appointments and Promotions (A&P) Committees in Israeli universities and colleges, as well as Deans of Social Sciences and Rectors, should make greater efforts to understand the publication lags present in economics and, for economists, should adjust their standards for promotion/appointment to the various ranks accordingly. They should appreciate that in Western Europe and North America, promotion and tenure is offered to the best young scholars in economics at extremely early age, based on relatively thin (but extremely high quality) vitae, and they should adapt their own standards accordingly. As a means toward this end, A&P Committees in Israel, Deans, and Rectors may wish to form standing boards of external economists who would evaluate candidates for appointment and promotion, and they should take these evaluations seriously.

Teaching loads should be arranged so that untenured faculty members have lighter teaching loads than their more senior colleagues.

Untenured faculty members should be given substantially greater freedom to be away from their home university during term time. Arranging to do most of their teaching in one semester or jointly teaching courses (so that, during some parts of the semester, the individual has no classroom responsibilities) should be permitted, and during these times, travel abroad should be allowed.

Funds to support travel abroad should be greater for untenured faculty members than for those with tenure, not less.

Appointment processes should be conducted on a calendar that recognizes the realities of the job market in North America and Western Europe. Appointment and promotion processes should be streamlined so that the time taken from start to finish is measured in months and not years.

For many years, Israel has sent many of her best students in economics to Western Europe and North America to obtain Ph.Ds. These students, as able as any of their peers in departments of economics at the best universities, receive very attractive first-job offers outside Israel. And it has been commonplace for the newly minted Ph.Ds. to take a first job outside Israel, both to save money and, more importantly, to launch their careers. (It hasn't helped that standards for first appointments in Israel sometimes include the expectation of one or more journal publications, something extremely rare for newly minted Ph.Ds. in economics.) These new Ph.Ds. are joined by many of the best Ph.Ds. produced in Israel, who take post-docs or assistant professorships in the United States at the advice of their teachers, for similar professional reasons. We have already seen the results of this: Israeli economists are 16% of the assistant professors at the top 10 departments in the U.S.

Conditions for the best young Ph.Ds. in economics at the universities of North America and Western Europe are very, very good and, in the competition for the very best, they are getting better. Teaching loads are light, and funds to support travel and other research activities are plentiful. Promotion is based on very realistic appraisals of the publication process in economics and, for the strongest faculty members, promotion can come quickly. Is it any wonder, then, that the best young Israeli scholars elect to stay "one more year" or "a few more years" or "until the next promotion?" Is it any wonder that they increasingly elect to stay in North America or Western Europe until they are fully mature scholars, holding a Professorship or, more to the point, until they reach sufficient stature to return to Israel at high rank?

And is it any wonder, therefore, that many never return at all? The longer these young scholars stay away from Israel, the deeper are the roots they put down elsewhere. Some marry non-Israelis. Children start schooling. Personal

attachments grow, while emotional attachments to Israel, on average, grow fainter. The recommendations in this set are directed at one overriding goal; to make a return to Israel as a younger scholar of economics relatively more attractive, so that younger scholars are less prone to the “just a few more years” phenomenon.

We observe that some of our recommendations, that teaching loads, teaching arrangements to facilitate travel, and funds to facilitate travel all be skewed in favor of younger scholars, seem to us to be good policies for universities and colleges to adopt regardless of field. There is nothing special about economics here. A scholar’s intellectual growth doesn’t end with the acquisition of a Ph.D. or, in some fields, with the end of a post-doc. One hopes, of course, that it never ends. But young lecturers and senior lecturers are particularly active in building their human capital, and they should be given the time and other resources required to do so effectively, even if this increases the workload and decreases resources available to their senior colleagues. (In terms of teaching load, this is the firm practice of the premier universities in North America, at least.)

Lightening the teaching loads for younger faculty members will, of course, exacerbate the problems of large classes that we have already discussed, unless one increases the teaching loads for more senior faculty members. We do not recommend this; terms of employment for senior faculty members should not be worsened. We hope instead that by improving terms of employment for younger faculty members, more young (and senior) faculty members will be present to share the teaching load.

Our recommendations concerning the process of promotion respond to the vehemence with which younger scholars we interviewed attacked the promotion process: We have already observed that senior faculty members at several institutions asserted that they felt humiliated by the promotion process; many young scholars with whom we spoke said that they regarded the uncertainty of the promotions process and a perception that Israeli universities don’t appreciate or refuse to adapt to world-wide promotion standards in economics as real impediments to taking a job in Israel. At the same time, deans and rectors with whom we spoke rejected, in some cases categorically, that there was any substance to these claims. And university-wide A&P committees are bound to take offense at these recommendations, which seem to contain implicit criticism of past practices as well as a direct attack on the principle of university-based governance of the faculty.

We are in no position to offer a judgment concerning past practices. But we are able to pass on the information that perceptions among economists are quite sour.

These sour perceptions among economists are demotivating in two ways: Prospective (young) faculty members are less likely to come if they think they will be subjected to a “humiliating” process, and incumbent members of departments are less motivated to work hard at rebuilding their departments. Again, we are not saying that the perceptions invariably are justified. But to rebuild economics departments, it is important to deal with these *perceptions*, and so we hope deans, rectors, and members of A&P Committees will adopt an attitude of noblesse oblige, accepting these recommendations without necessarily agreeing that there is substance to the complaints of the economists.

Some members of the committee would go further. If a department of economics is told that it has some given number of slots that it may fill, it is in the best general interests of the members of the department to fill those slots with the best scholars that can be induced to come. It is in the best general interests of senior members of a department to give promotion and tenure to scholars who are the best available, taking into account the pool of available replacements and the impact tenure and promotion decisions have on others within or prospectively within the system. In two words, if a department has a budget of slots it can fill, it is, by and large, *incentive compatible* for the department to make the right choices.

Of course, departments sometimes fail to exercise good judgment in these matters, usually connected to issues of internal politics and personalia. For this reason, university-level oversight of departmental decisions is appropriate. But a university-level reversal of a departmental decision should only be based on the judgment by the university-level authority that the department’s processes have failed; it should not involve second-guessing the scientific judgment of members of the department. Some members of the committee would go so far as to require, in any case of a reversal, that the university-level authority be public and explicit as to its reasoning. It should be compelled to say what in the department’s process it finds inappropriate. To the extent that backchannel evaluations or judgments are employed, they should be brought into the light of day, revealed at least to the senior members of the department affected.

The committee is unwilling to meddle deeply in established processes of university governance, so we refrain from strong recommendations along these lines. In particular, we do not recommend that university-level authority be diluted. But if university-level authority is unsure of a particular judgment of its own departments, we suggest that a standing panel of external experts might be consulted.

Universities and colleges should permit split appointments on a limited basis, as long as the citizenship duties to be performed by holders of split appointments are clearly spelled out a priori and then fulfilled and fulfilled well. More than that, universities (and colleges) should be flexible in accommodating such arrangements; e.g., in making teaching and committee assignments, as long as an acceptable level of citizenship is provided.

Split appointments, where an individual holds partial appointments at more than one institution, are necessarily contentious. For the Israeli academic who can arrange a part-time appointment outside of Israel, it provides both income and the opportunity to interact with colleagues at a second institution. Of course, split appointments are unappealing to many individuals; for faculty members with small and school-age children, they often involve periods of separation from the family. But for some scholars, such appointments can mean the difference between being in Israel a substantial part of the academic year and not being there at all.

At the moment, policies concerning split appointments are murky at many Israeli institutions. Faculty members who wish to make such arrangements often have to do so on a year-to-year basis; few institutions are willing to regularize such arrangements. The murkiness and ad hoc nature of such arrangements is itself dysfunctional, as members of various departments are left to wonder why Professor X is permitted to undertake such arrangements while others seemingly are not.

We appreciate the downside to such arrangements. Universities depend on faculty members who perform services for the common good, services that part-time faculty members sometimes fail to provide. But this is not a law of nature, and we know of individuals holding part-time appointments at two departments or institutions and who provide extraordinary services to both. Some duties---serving as department chair, for instance, or service on standing university committees---are certainly precluded. But the internet and modern technology make the provision of many citizenship duties at a distance increasingly possible. If an arrangement acceptable to the department can be made a priori and is fulfilled, the benefit from gaining a valued if part-time colleague is well worth the cost. Moreover, to facilitate such arrangements, universities should relax residency rules and should permit faculty members to arrange their teaching in a fashion that accommodates these arrangements.

These arrangements are often framed in the negative: an “Israeli” faculty member takes advantage of the situation and becomes a part-time faculty member. But the flow goes both ways. In particular, Israeli economics departments sometimes have their curricula enriched with so-called mini-courses, where a scholar comes for some period of time from an outside institution to give a series of intensive lectures, counting as a one- or two-unit course. Why not approach prominent Israeli economists overseas with the proposition of regularizing such arrangements---arrange a multi-year commitment for the individual to come for a certain period each year, to give a mini-course? We don’t pretend that institutions in North America and Western Europe will give enthusiastic consent to such arrangements. But given the powerful bargaining position in which economists find themselves, we suspect that such arrangements will be possible.

The research universities should adopt a development priority of enlarging the endowments of existing research institutes in Israeli departments of economics, and they should raise fresh endowments for new institutes. Senior, prominent economists should be enlisted to aid and even lead in these efforts. The funds so raised should be used both to supplement the salaries of Israeli academics and to provide research funds.

Every discipline wants its cause to be high on the list of a university’s development priorities; our claim for special treatment for economics is that economics faces a crisis that is unusually acute. University development offices sometimes prefer that faculty members leave development alone, and for good reasons. But senior and prominent economists are, in our experience, unusually effective (for faculty members) in such activities, especially when working in their own interests.

Most academic institutions, with a view to the far-off future, insist that funds raised for such purposes be primarily placed in endowment, with funds for current use being derived from the income the endowment provides. Given the dire current situation in Israeli economics, we recommend that institutions bend somewhat, allowing more of the funds raised to be expendable over a short time horizon. To provide some continuity of funding while accelerating the rate of payment, a scheme where, for instance, a research institution in any year can spend (say) 20% of the funds it holds, or a scheme where an individual gift can be spend over a five-year horizon,

should be considered. The objective in the short-run should be to turn the current situation around, which should be a basis of the pitch made to prospective donors.

The recommendation that funds raised for research institutes should be used to supplement the salaries of Israeli academics is the start of what will probably be the most controversial of our recommendations.

In setting faculty salaries, University administrators should consider (a) the faculty member's contribution to science and the institution, (b) the institution's needs, and (c) the outside opportunities available to the faculty member.

University leadership should use the powers (we are told) it already possesses to supplement the salaries of economists. This may mean a re-working of the rules by which supplemental pay (currently paid on the basis of the grant size) is made, and/or it should be paid via re-endowed or newly endowed research institutes.

Israeli economists, with the help and encouragement of the State, should seek funds to create a not-for-profit institutes for economic research, independent of the university system, which would pay directly to academic economists for research efforts, to supplement their university salaries. Universities (and MALAG) should accommodate such institutes, with reasonably liberal rules for extramural compensation.

University leadership should have the resources and authority needed to pay exceptional individuals exceptional base salaries, in line with the recommendations of the Shochat Commission. They should have the resources and authority needed to meet critical institutional needs. We reiterate that we see the rebuilding and strengthening of economics as a very critical institutional need. And, to attract and retain outstanding economists, this is likely to mean paying academic economists salaries higher than their peers in most other fields.

Academic economists (and academics in several other fields) earn more in direct compensation throughout Western Europe and North America than academics in most other fields. Therefore, the opportunity cost they pay---what they give up---to take positions in Israel is relatively greater than the opportunity cost paid by academics in most fields. This fact is not the sole explanation, but surely it is part of

the explanation, for why queues of qualified candidates appear to fill Israeli vacancies in most fields, but willing and qualified candidates to fill vacancies in economics (and in a handful of other fields) are largely missing. Because of the importance of economics to the development of the State and the lack of supply of qualified candidates, it is imperative to find ways to compensate these scholars, so that qualified candidates for vacancies in economics will (re)appear.

We are not recommending that compensation for academic economists be brought to a level equal to what they can earn overseas. That is true in no field of academics, and should not be true in economics. But economists (and scholars in a few other fields) earn more than their compatriots in most other fields throughout the world; Israel cannot hope to compete in a world market for economists in the same way it competes in other fields, if economists are asked to bear a much higher opportunity cost.

We believe the most straightforward way to do this would be a forthright declaration that it is being done, to provide exceptional salaries to exceptional individuals *and* where university needs are greatest. If this is done, then perhaps our other recommendations in this section are unnecessary. But if this straightforward approach proves politically infeasible, universities and colleges should look for ways to direct extra compensation to economists within the existing salary agreements, by finding imaginative ways to compensate high-quality researchers. We are told, for instance, that academics in the physical and biological sciences can supplement their university income by up to 90%, based on the monetary size of grants they bring to their institutions. Economists rarely do research that calls for expenditures on the scale of the sciences, so we recommend that the formulae that permit this sort of supplemental pay be reworked, to provide equitable opportunities for this sort of supplementation across fields. We also know that universities and colleges are able under existing rules to supplement compensation via research institutes; we already called for research institutes in economics to be re-endowed (or to be newly endowed) to provide research and travel support to economists; they should also be used to supplement the income of economists.

Our final recommendation in this set is inspired by the experience of the UK, France, Italy, and Spain, where research institutes have been formed to promote economic research on the one hand and, in institutional environments in which field-based differences in salaries were problematic, to provide additional compensation to economists on the other. These research institutes are organized in different ways:

some, such as IDEI in Toulouse, have close ties to industry; others, such as CREI in Barcelona, are funded by the local government; still others, such as the Collegio Carlo Alberto near Turin, are funded by a combination of government and private funds. We do not take a position on how exactly they should be organized in Israel, but we strongly endorse the creation of such institutes in a form that will compensate scholars for research. One possibility is to establish independent institutes in which broad themes will be identified for research, such as regulation or taxation, and the institutes will have research affiliates who will be compensated for their scholarly work on these themes. While we leave detailed questions of governance to those who do the actual work of organizing them (although see the next paragraph), we strongly endorse three principles: The institutes should support theoretical and empirical work and, indeed, should provide forums in which theorists and empiricists can interact. They should have the flexibility to change themes rather than be confined to dedicated subjects. They should have as a special mission the support of younger scholars and not (only or primarily) established academic economists.

We recommend that these institutes be established independently of the universities and colleges, to avoid political complications. This (presumably) means that such institutes would be outside the purview of the universities (and MALAG), and hence outside the purview of this report, with one proviso: Universities and MALAG should formalize rules for outside compensation of faculty members that will encourage these institutes and enable faculty members to supplement their university compensation in nontrivial ways. Universities have a right and a duty to protect their own interests and those of the public: Rules concerning participation at these institutes should ensure that they don't cause faculty members to absent themselves from campus too frequently, and work done at and for the institutes should remain in the public domain; these should not become proprietary consulting firms for private firms. But as long as the intellectual interests of the universities and the public are preserved, universities should facilitate the creation of these institutes as a way to help bring back to Israel and retain world-class economists.

9. Employment of retired faculty members, at least temporarily

For at least the next five to ten years, and perhaps permanently, Universities should employ at their discretion retired faculty members from Department of Economics, to supplement their very small numbers of academic staff.

Our understanding is that Departments of Economics are unable to employ individuals who have retired as faculty members from the department (although University A can hire a faculty member retired from University B). In a few cases, retired faculty members teach for their former employees on a voluntary basis, but compensation is not allowed. We are told that this is a rule of individual universities and not of MALAG. No matter whose rule it is, though, it should be suspended, at least temporarily. Universities are lacking in faculty members, and many retired faculty members are an excellent human resource going to waste.

The committee was split on whether the rule against hiring retirees should be changed permanently. On the one hand, it does seem a shame that the human resources of retirees who wish to do some teaching are rendered unavailable; on the other hand, one can imagine that such a policy would result in wholesale early retirements. The universities may wish to give thought to ways in which rules for this sort of thing could be crafted, to prevent the latter outcome.

Of course, departments must exercise judgment when deciding whom to employ in this fashion; the decision should depend on teaching need and the pedagogical abilities of the individual. This should not become an entitlement of retired faculty members, to supplement their pension.

10. Establishing a teaching track at Israeli colleges

A four-rank teaching track, parallel to the research track of Lecturer, Senior Lecturer, Associate Professor, and Professor should be established and used at the colleges. In place of research requirements (for tenure and progression up the line), individuals should be required to contribute to education broadly,

through the creation of written materials, pedagogical innovation, popular writing, and so forth.

It is traditional in higher education to link research and teaching, requiring individuals to do both, to attain tenure and higher rank. The argument for this linkage typically runs in one direction: To be an effective teacher over the long term, the individual must remain at the forefront of knowledge in his or her subject, and participation in research ensures that this is so. Effective teaching requires flexibility of mind, which develops with research. Research (and, in particular, publication in refereed journals) subjects the individual to the scrutiny of his or her peers, an important mechanism for reviewing performance objectively. Less is typically heard concerning the benefits for research that accrue from engaging in teaching, but arguments in this direction are also sometimes made: Research, to be effective, requires that the fruits of research are communicated clearly, and teaching enhances one's ability to communicate abstract ideas. Teaching keeps researchers grounded, at least to some extent, and it forces the individual to acquire a broad knowledge of the field being taught, which often has positive spillovers into one's research.

The idea that one must do research to be an effective teacher is certainly an axiom among Israeli academics. In our visits to various institutions, and in particular to visits at colleges, we pressed our interlocutors on this, and virtually everyone regarded it as self-evident truth. And this idea is enshrined in the personnel procedures of Israeli institutions of higher education; while the tenured rank of Senior Teacher is available, few individuals are found in it. In particular, the permanent teaching faculty members of the colleges are overwhelmingly researchers who seek to publish in refereed journals. They are compelled to do so to advance in rank. And, with higher teaching loads than are found in the research universities and no resource-related recognition by MALAG of research as part of their duties, they are very frustrated researchers.

We are unconvinced of the *necessity* of doing, or having done, journal research (meaning publication in refereed journals) for effective undergraduate teaching. Of course, one does want teachers of undergraduates to be current in their fields. But publication in refereed journals is only one tool, and arguably a fairly blunt one, for achieving or verifying currency. Indeed, to the extent that publication in refereed journals requires deep understanding of a narrow topic, to require the depth of understanding needed for "research" may hurt the sort of broad

comprehension of a field that is more important to many forms of undergraduate teaching. We certainly know many very successful researchers, measured in terms of their publication and citations records, who define the cutting edge in a very narrow range of topics and are pretty uneducated in the broader expanses of economics.

Moreover, the insistence on journal research to advance in rank limits to some extent the number of teachers the colleges can employ. The colleges (correctly in our view) define their mission as overwhelmingly teaching; why not have greater access to people who would be willing to make a career as a college *teacher*?

To deal with the issues of “keeping current,” we suggest that the teaching track not focus exclusively on skill at frontal lecturing. Good teaching implies more: innovation in the classroom; creation of materials (textbooks, exercises, simulations, cases) that can be transferred to other teachers and other institutions; high quality writing for the general public; administration of courses and supervision of teaching assistants; and counseling of individual students. Faculty members on a teaching track should be evaluated along these different dimensions and, to advance in rank, they should be required to make contributions along dimensions besides demonstrated skill in frontal lecturing. Compensation and other forms of support (including funds to attend conferences, to keep them current) should be similar to that provided to faculty members on the research track.

To be clear, we do not want to discourage faculty members at the colleges from doing research. Indeed, our earlier recommendation that research-oriented faculty members at the colleges be allowed full participation in second-degree programs at the research universities is meant both to facilitate the research of those faculty members and to engage their skills and knowledge for the betterment of Israeli graduate students. But we don't think that journal research should be the sole path to advancement in the colleges.

Based on conversations we have had, we imagine that many if not most members of the leadership and faculty at the colleges will resist this recommendation. Together with our recommendations against the establishment of second-degree programs at the colleges, it will be perceived by them as a demeaning attempt to consign them to second-class status.

This is not our intent at all. Teaching---not merely effective frontal lecturing, but the full range of activities involved in teaching---is not and should not be regarded as a low-status activity. Teaching is the primary mission of the colleges, and excellent teaching should be treated accordingly. Our objective is to provide an

institutional framework at the colleges for giving excellent teachers the respect they have earned. But it will only be effective if there is shift in the culture and authority within the colleges, as well. In particular, senior members of the teaching track should be eligible for positions of leadership in the colleges, including Department Head for the most senior and most distinguished of them.

The question then arises, Should such a teaching track be instituted for the research universities? The committee is evenly divided on this question. Half the committee believes that, if used sparingly and only for outstanding individuals, such a track would benefit the universities, But others on the committee worry that such practices will tend to be over-used, degrading the research mission of the research universities.

11. Research into issues of importance to Israel

Research into the Israeli economy and, in particular, research of this sort written in Hebrew, in journals such as *Riv'on Lekalkala*, *Riv'on Lebankaut*, and *Seker Bank Israel*, should be accorded greater status in the system.

In several institutions, we were given the strong impression that research concerning the Israeli economy and research published in Hebrew was accorded very low status. This might be appropriate for the strongest research universities, unless the research can be packaged in a way that appeals to a broad (global) audience of economists. But for the colleges, and in particular for colleges who see themselves fulfilling a regional mission this is inappropriate. MALAG should encourage research on issues of local importance by giving it higher status in promotion cases, especially those at the colleges.

12. Data Collection

MALAG should institute a systematic program of data collection concerning the performance of individual students in their higher education studies and after. Privacy rights of individuals should be strictly respected, but aggregate data should be made available to enable Israeli students and parents to make informed choices about higher education. As a first step, MALAG should immediately commission a Committee on Statistics in Higher Education, which

would be charged with designing in detail the data that will be collected and the ways in which it will be employed.

We focus here on data that would help assess the extent to which the various institutions of higher education are successful in their teaching goals. Part of our motivation in making this recommendation comes from our frustration in preparing this report: While the institutions we examined were generous in the preparation of their written reports, there were many types of data that we would like to have had and that, we were told, simply did not exist. These data are particularly important as the State of Israel and MALAG attempt to assess the performance of the colleges vis a vis the research universities in providing undergraduate education, something which we found particularly difficult. But these data could be used for other purposes; for instance, to improve our understanding of how well Israel is preparing a future generation of researchers and practitioners in different fields.

It is not an easy matter to decide which data to collect: one needs measures both of inputs to higher education and outputs, in a form that allows them to be combined into measures of educational productivity. The issues are made more complex and sensitive if the data, once collected, are made public; misinterpretation of data of these sorts is common if the data are not well presented. And we believe that the data should be made public; they would enable the Israeli public to make more informed decisions both as private consumers of higher education (for themselves or for their children) and as voters in society. Because of the complexity and sensitivity of the issues raised by such an effort, we are hardly in a position to give a detailed description of what should be done. We will make a few preliminary observations and suggestions, but to do this right, MALAG should form and fund a committee of experts to decide precisely what should be collected and how it should be maintained and presented.

Data on input measures should be reasonably easy to collect. Primary input measures are the psychometric and bagrut scores of individual students. Other input measures at the institutional level would include student—teacher ratios (broken down by teacher credentials) and perhaps measures of expenditures on buildings, libraries, and other forms of educational infrastructure.

Output measures are harder to get, and even harder to aggregate. Perhaps the single least contentious measure is the graduation rate; if disaggregated data can be

maintained, MALAG should keep track of the graduation outcome of each student, together with records concerning majors and grades achieved

Post-graduation outcomes are, of course, harder to measure. In some fields, this is not difficult. For instance, institutions should be able to keep track of the fractions of graduates from an accounting program that subsequently pass the qualifying exams required to become a chartered accountant and the fraction of law school graduates that are subsequently admitted to the bar. Of course, it may well be the case that an individual does not pass the accountancy exams but does well in some other activity. Still, were we to find that the fraction of accounting graduates that passed these exams in the colleges was roughly similar to that fraction for the universities, we might conclude that the colleges are doing quite well in at least one aspect of their teaching responsibilities.

More controversial measures (for undergraduate outcomes) would be measures of admissions rates to and subsequent performance in graduate education, both professional and academic. If, holding fixed other factors, students from the colleges perform as well in (say) MBA studies as do students from the research universities, this again would indicate success by the colleges. To calibrate the relative grades at different institutions, it might be useful to compare undergraduate performance (measured by grades) at various institutions with subsequent performance in graduate and professional school

To get more general output measures, MALAG would probably need to undertake an occasional survey of graduates from the different institutions. The size of the surveyed group and the questions posed should be carefully thought out by a research team. However, we can suggest steps that can be taken now, before the survey design is determined. Specifically, the various institutions should be required to keep contact lists of their graduates, from which samples could be drawn. (These data should be kept in a form that makes it relatively easy to associate to members of any sample their “input” measures such as psychometric scores as well as measures of the performance in their higher-education studies.) We realize that the institutions cannot keep track of all past graduates, as people sometimes will not respond to requests for information. We also realize that such contact lists tend to degrade over time. But measures of performance even a few years out would be useful, and selection biases can be taken into account.

Because Israel is a relatively small state and one in which information flows relatively freely, it might be helpful to track institutional performance according to

public perceptions. For instance, one might look at yield rates on cross-admits: If an individual is admitted to economics at Tel Aviv and business administration at HUI, where does the individual choose to go? To answer such questions, MALAG might choose to maintain (for each student) a record of applications, admissions, and acceptances.

Again, these are only some preliminary ideas. We are clear that data of this sort could be very useful, both for evaluations of the sort we have undertaken, for more general issues of educational policy in Israel, and for the Israeli public; and we are clear that, to be done right, a committee of experts should be charged with designing the enterprise.

Appendix to the General Report: Committee Processes

In this appendix, we describe the processes used by the committee in the preparation of this report.

The committee was appointed by MALAG. We assume that MALAG consulted in the formation of the committee, but we were not privy to those consultations, so we cannot comment on them.

The main body of material provided to the committee prior to our site visits is contained in the Self-Study Reports (and appendices to same) commissioned by MALAG and executed by the various departments and institutions. Our understanding is that those self-study reports will pass into the public domain with the publication of this report.

The committee conferred primarily via email, in the period of time leading up to the site visits, both internally and with staff members of MALAG. A few phone conversations were also held. The chair (David Kreps) met with representatives of MALAG in Israel in August, 2006, for preliminary consultations.

Prior to the site visits, and while preparing for them, the committee decided to request further information from (a) the various heads-of-department; (b) senior leadership of the various institutions, and (c) MALAG. At the conclusion of this narrative of committee processes, we provide the questionnaires sent to the various groups. For one set of questions, the data we received are made available at the website of the council for higher education: www.che.org.il. We also asked the leadership of various Schools of Business and Management in Israel for their evaluation of the students they received from various undergraduate programs in economics; but no useful information emerged from this process.

Of course, members of the committee began the review process very well acquainted with issues connected to economics in Israeli institutions of higher education and with a number of the people involved. We tried very hard to keep an open mind about what we saw, but it would be witless to assert that we came to the process with no

preconceptions. Our familiarity with the general picture is, of course, what made us suitable as an external panel to report on these issues.

During the period of site visits (25 March 2008 to 7 April 2008), committee members paid site visits to the various institutions. Schedules varied slightly from one institution to the next, but the general pattern of a visit (which consumed one day) was:

- An opening meeting with the leadership of the institution (rector or president and others) and with the leadership of the department
- Meeting with senior faculty members
- Meeting with junior faculty members and/or adjuncts
- Meeting with graduate students (if any)
- Meeting with undergraduate students
- Meeting with administrative staff of the department
- Final meeting with the leadership of the institution and the department, at which we offered an initial, verbal report on what we saw

In many cases, we also took a brief tour of the facilities.

We found both the self-study reports and the site visits to be informative. We were uniformly impressed by the warm hospitality accorded us during the site visits. Our only suggestions for improvements are (a) that the self-studies be constructed in a way that gives the department/institution a better opportunity to offer their own evaluation, in their own words and in their own style, of the overall situation they face, and (b) that in constructing panels of students for site visits, a more-or-less representative sample should be constructed; in a number of cases, we got to meet with a selection of the very best students, which was edifying but not necessarily as informative as would have been ideal.

As noted, site visits typically consumed one workday. The members of the committee present at the various site visits changed and, in particular, at the visits to the colleges (and the Open University), we split into two subcommittees. The following was the schedule of site visits and participants:

- 25 March: Kreps and Meridor visited Emek Yezreel; Mokyr and Helpman visited Tel Hai
- 26 March: Helpman, Kreps, Meridor, and Mokyr visited U. Haifa

- 27 March: Helpman, Kreps, Meridor, and Mokyr visited Technion
- 30 March: Helpman, Kreps, Mokyr, and Pakes visited Hebrew University
- 31 March: Kreps and Mokyr visited Open University; Helpman, Meridor, and Pakes visited Ruppin
- 2 April: Kreps, Meridor, Mokyr, Pakes, and Pindyck visited Tel Aviv University
- 3 April: Kreps, Meridor, Mokyr, Pakes, and Pindyck visited Bar Ilan University
- 6 April: Kreps, Meridor, Mokyr, and Pindyck visited Ben Gurion University
- 7 April: Kreps and Pindyck visited College of Management; Meridor and Mokyr visited the Tel Aviv—Yaffo Academic College

In addition to these site visits, the Committee met separately with Professors Eddie Dekel, Stanley Fisher (and staff from the Bank of Israel), Ariel Rubinstein, Efraim Sadka, Eitan Sheshinski, Manuel Trachtenberg, Yoram Weiss, and Menachem Yaari. These extra meetings were arranged for a variety of reasons, principally to accommodate travel and work schedules of specific individuals.

During the period of site visits, the committee had several working sessions at which it began deliberation and drafting. Drafting continued for several months, working (largely) virtually, via email.

In supplement the self-study reports prepared by the various departments and schools, we asked for additional information. Following is the memo that went to heads of departments:

The self-evaluation reports you have made available to us are thorough and informative; thank you very much. But we would like, if you don't mind, to get answers to a limited number of very specific "statistical" questions, and also to ask you some more speculative questions about what you see as your (department's) mission and (at the end) to tie the two pieces together.

Questions on Mission

Our job is to evaluate how well you are doing. But it is fruitless to attempt to judge how you are doing, without some agreement (or acknowledged disagreement) on what you are trying to do. It is important to know (a) what each department considers its mission to be, (b) what the senior leadership of each institution believes its department is or should be doing, and (c) what the CHE views as the overall mission of economics in higher education in Israel. Disagreements between a department and the senior leadership of its university/college concerning mission may explain more obvious tensions over resources that are provided. It is vital to achieve as much congruence concerning mission as possible between the department and university administration and between those parties and the CHE, and to know where congruence is lacking.

For these reasons, we wish to obtain information about missions in an admittedly imperfect questionnaire. We have identified nine fairly general missions that an economics department might reasonably pursue. This list is probably not comprehensive, and we will leave room for parties to add up to three more missions. Moreover, we understand that these missions are quite general, and specific departments may have specific slants on them. (For instance, the curriculum for economics majors at the Technion has a very specific slant.) We will give you the opportunity to specify your particular brand of a general mission.

The nine missions are:

Research:

1. Advance the discipline of economics through academic research
2. Apply economics to understand better issues of significant relevance to the economy, society, and security of Israel

Service:

3. Provide economic advice and counsel to Israeli public institutions
4. Provide economic advice and counsel to Israeli private organizations

Education:

5. Train economists for employment in institutions of higher education, engaged in both research and teaching.
6. Prepare highly trained economists (masters level or more) to work in Israeli public institutions and private organizations as professional economists
7. Educate economics majors, who will move on to professional degrees in business, law, etc., or for whom the BA will be a terminal degree
8. Provide economics education for college/university students in other disciplines
9. Provide economics education for individuals who will not complete a BA degree; e.g., as adult education

We are asking each Department, the senior leadership of each university/college, and the Council of Higher Education, to tell us which of these missions is/should be of importance. In all but the case of the CHE, we are asking this question in two parts:

A. Which of these are/should be of importance to your own department? We ask you to code your answers as follows: You may assign a total of 100 points to the categories of missions. (You may add up to three additional missions and allocate points to those, but the total should remain 100.) The number of points should reflect relative importance; roughly put, twice the points should represent twice the importance, and 0 points should reflect a mission that is of no direct importance to your department.

We appreciate that within a department we will find a diversity of opinions on this matter. We suggest that the Chair of each department consults with senior colleagues and former chairs, and that he or she then formulates a consensus view.

B. What is the relative importance of these various missions to “economics higher education” in Israel. Again divide 100 points among the missions. The idea here is to get a sense of where you see your own institution contributing within the broader picture of institutions of higher education in Israel.

(The questionnaire form is attached separately.)

Requests for Statistics

We appreciate that the self-evaluation report you submitted contains a great variety of statistics. We are fairly sure that we could find within many of the reports you prepared the numbers we are about to request. In fact, we attempted at first to find these numbers---the task proved sufficiently difficult in a few cases that we decided to ask if you could kindly fill in these few more boxes.

1. Undergraduate degrees

For the academic years 2002-3 to 2006-7, how many “first degrees” (B.As., etc.) did you award. Include any first degree in which the study of economics was a major part of the course of study. To the extent you are able, please break out this total into categories: We include “economics alone,” “economics and management,” “economics and law,” and “economics and accounting” as categories and leave room for you to add other important categories as you see fit. (The form on which we ask you to supply these data is attached.)

2. Second degrees

For the academic years 2002-3 to 2006-7, how many “second degrees” (M.As., etc.) did you award. Please give the total number for each year and then give subtotals for the following four categories: Economics only, with a thesis; economics only, without a thesis; economics combined with another (significant) subject, with a thesis; economics combined with another (significant) subject, without a thesis. We leave some extra rows if you wish to give us subcategories based on the other significant subject. (The form on which we ask you to supply these data is attached.)

3. Student input into the undergraduate program

We would like to the extent possible to get a sense of the “quality” of students who apply, are admitted, and then attend your undergraduate program. (We appreciate that, in some cases, such as the OUI, these data do not exist.) Lacking any other uniform measure of “quality,” we will rely on the psychometric scores of the students; we do recognize the imperfect nature of this as a measure of quality. We would like

statistics on three groups of students: The application pool; the pool of students given admission; and the pool of students who choose to matriculate. Ideally, we would like statistics that describe the full distribution of students in each pool: the psychometric scores of the 10th, 30th, 50th, 70th, and 90th percentile student in each pool would be excellent; the means and standard deviations would also be less helpful but still helpful. But we recognize that these data are not always readily available, and we would be grateful for whatever you can supply.

A form for supplying these data is attached. Please label the columns with the statistics you are providing.

4. Faculty stocks and flows

Even a casual reading of your self-assessments indicates that we must pay attention to the stocks and flows of your permanent and adjunct faculty. Because there have been, in some cases, dramatic changes in staffing levels over the past fifteen years, we will ask for some historical data, knowing very well that these data may be difficult or even impossible to produce.

a. First, we would like to know the size and composition of your regular (tenured and tenure-track) faculty, this academic year (AY7-08), as well as in AY2002-3, AY1997-8, and AY1992-3.

b. Second, we would like to know the (gross) numbers of regular faculty members added (by rank) over the three five-year periods covered above.

c. We would like to know the (gross) numbers of departures and, where possible, the reasons for those departures, over these three five-year periods. If you know the current employers of those who departed, please supply those.

d. We would like to know the numbers of internal promotions that occurred for each of these three five-year periods. We assume that all internal promotions are of a one-step increase in rank; please amend our form if necessary on this point.

e. Finally, we would like to know for the current academic year the distribution of courses taught by various types of instructors and by level of the courses. For multi-section courses, consider as the “instructor” the individual who provides the bulk of the frontal teaching in the course. Do not include ad hoc reading courses or thesis supervision. We would like you to measure in units of “courses” (instead of,

say, students taught); when a course is offered in several sections, each having its own primary frontal instructor, please treat the sections as separate courses. We prefer that you provide us with the numbers of courses; if you prefer to give proportions (in percentage terms), please do so separately for each category of course (so that the columns in our table sum to 100%).

The future

The “faculty stocks and flows” statistics we’ve requested deal with the past fifteen years or so. If possible, we’d appreciate it if you could tie these numbers together with your initial mission assessment, by giving us an indication of where you would like to be in five years concerning faculty human resources. We have not prepared a form for you to fill out, because this is much more speculative; we’d appreciate it if, instead, you could prepare a page or so of text indicating what you think must/should/will happen to faculty composition and their deployment in the classroom. To the extent you can predict retirements over the next five years, we suggest you begin there; then tell us what is necessary and desirable by way of hiring and promotions, if your department is to fulfill its mission. We understand that what is necessary is less than what you may find desirable, and you may wish to explain what you see as the differences. Also, to the extent you feel able to do so, you might want to give your impressions of what you will be able to do, given what you perceive as the resources with which you will be provided.

The first part of this questionnaire, concerning the mission of the department, went as well to the leadership of the various institutions. And we asked MALAG to provide information in this format concerning what it saw as the mission of the various institutions we were charged with evaluating.

Of the answers received, we believe the most interesting answers concern the first set of questions, about mission. The answers allow us to understand what the departments (and their institutional heads) see as their mission, both absolutely and relative to other institutions in Israel. And a comparison of answers given by department heads and their institutional leadership can help us to understand

differences in the perceptions at those two levels. We have posted the answers received at the web site www.che.org.il.

MALAG's response to the questionnaire was as follows: (We have extracted from a longer response the salient portion.)

Being a policy-making authority rather than a discipline-based body, the CHE views the issue of departmental missions and goals as part of the institutional autonomy and leaves it to the discretion of each institution. Nevertheless, at its meeting on June 3, 2003 the CHE decided to establish a system for assessing and assuring quality at institutions of higher education in Israel, in order to preserve and foster their quality and make sure the CHE's vision on excellence in higher education is being implemented.

The CHE recognizes the differences between the missions and goals of research universities and colleges. It views universities as the main institutions responsible for producing and creating knowledge, while endowing it to students, whereas the colleges are viewed as largely responsible for the transfer of knowledge/teaching. This policy is also reflected in the budgeting model of the Planning and Budgeting Committee that takes into account research considerations (such as laboratories etc.) when budgeting universities.

Nevertheless, regarding Economics studies, we believe that of the research institutions should be benchmarked against the top ten universities worldwide, whereas some of the undergraduate college programs should be compared to the top fifty undergraduate programs worldwide.

Each member of the Committee has had prior connections to and dealings with the institutions under review. We believe that we are able to examine the data we were provided with an open mind, but in the spirit of full revelation of potential conflicts of interest, we close the appendix with brief statements of formal prior connections.

Elhanan Helpman was a faculty member of the Berglas School of Economics, Tel Aviv University, for 30 years. He retired from this position in 2004. Since then he has been a Visiting Professor by Special Appointment in the Berglas School

In 1984, David Kreps spent 4 months visiting the Center for Rationality at Hebrew University. Beginning in the late 1980s, he visited Tel Aviv University on numerous occasions, as a participant in Summer in Tel Aviv, primarily. In AY90-91, he took sabbatical at the (then) Department of Economics and as a Fellow of the Sackler Institute. Following this, he held the largely honorific position of Senior Professor by Special Appointment until (approximately) three years ago. In AY98-99, he spent a second sabbatical year at the Department.

Leora Meridor has been an adjunct lecturer in the Department of Economics at the Hebrew University since 2006.

Joel Mokyr is a Sackler Fellow at the Eitan Berglas School at TAU, where he has taught a minicourse on a more or less annual basis since 2000. He is a graduate of the HUJI (Economics and History), 1968. He is supervising the preparation of a course for the Open University.

Ariel Pakes was a member of the Department of Economics at Hebrew University from 1980 until 1986.

Robert Pindyck has had close connections with Tel Aviv University, at both the personal and institutional levels. During 1978 to 1984, he spent one to two months each year as a visitor in the Faculty of Management and/or Department of Economics. During AY85-86, he spent a sabbatical year in the (then) Department of Economics and as a Fellow of the Sackler Institute. From 1986 onwards, he has been a regular visitor at the Department/School of Economics, most years spending two to four weeks at a time there.

Signed by:



Prof. Elhanan Helpman



***Prof. David M. Kreps
Chairperson***



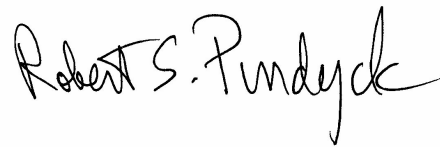
Dr. Leora Meridor



Prof. Joel Mokyr



Prof. Ariel Pakes



Prof. Robert S. Pindyck