Minutes*

Senate Committee on Finance and Planning
Tuesday, February 1, 2011
2:00 – 4:00
238A Morrill Hall

Present: Russell Luepker (chair), Will Durfee, Steen Erikson, Lincoln Kallsen, Kara Kersteter, Lyndel King, Judith Martin, Fred Morrison, Paul Olin, Shruti Patil, Richard Pfutzenreuter, Gwen Rudney, Terry Roe, Michael Rollefson, Karen Seashore, S. Charles Schulz, Mandy Stahre, Jeremy Todd, Lori-Anne Williams

Absent: Jon Binks, Sarah Chambers, Devin Driscoll, Kathleen O'Brien, Thomas Stinson, Michael Volna

Guests: Professors Fatih Guvenen (Economics) and David Weerts (Organizational Leadership, Policy, and Development)

[In these minutes: (1) discussion of "The Real Cost Equation" (a seminar on higher education costs, tuition, return on the investment); (2) budget planning for 2011-12; (3) reviews of units]

1. Discussion of "The Real Cost Equation"

Professor Luepker convened the meeting at 2:00 and welcomed Professors Guvenen and Weerts to discuss the article "The Real Cost Equation" that appeared in *Inside Higher Education* last October. The article was written by Professors (of Economics) Robert B. Archibald and David H. Feldman, College of William and Mary, who are co-authors of the book *Why Does College Cost So Much?* (Oxford University Press). Professor Luepker invited Professors Guvenen and Weerts to discuss the issues raised in the article.

Professor Guvenen began by showing the Committee a graph that plotted the increase in tuition from 1971-72 to 2002-03 at private four-year colleges (up from ~$8,000 to over $18,000), private two-year colleges (up from ~$5,000 to almost $10,000), public four-year institutions (up from ~$2,000 to ~$4,100) and public two-year institutions (up from ~$800-900 to ~$1,700). The rates, he pointed out, were flat in the 1970s but took off in the 1980s. Since 1980, inflation has averaged about 3% annually while tuition increases have averaged about 7%. That disparity has led to a great deal of debate; the article in *Inside Higher Education* is about a book that summarizes a lot of economic research in the area.

Professor Guvenen read a quote for the Committee: "Compared with our economy-wide index of costs, which has risen at an average annual rate of 2%, instructional costs per student have increased by around 8%." This is an issue that has recently received a lot of national media attention; the quote, however, is from a book by William Bowen written in 1968 about the economics of private research universities. Bowen looked at tuition increases from 1900 to 1960 and found that tuition increased 3% faster than inflation over the first six decades of the 20th Century. The trend has accelerated, Professor Guvenen said, but it is not new.

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* These minutes reflect discussion and debate at a meeting of a committee of the University of Minnesota Senate; none of the comments, conclusions, or actions reported in these minutes represents the views of, nor are they binding on, the Senate, the Administration, or the Board of Regents.

There are three factors driving tuition increases, Professor Guvenen told the Committee. The first is a rising demand for skills, especially since the 1970s: The education sector employs highly skilled labor, whose wages have grown very fast, and college graduates, the output of higher education, have had higher earnings than ever. The second factor is what is known as the Baumol effect: Education is a service, whose price always rises faster than other goods. The same patterns are observed in legal services, dental care, the cost of live performances, etc. The third factor, documented by research done by Caroline Hoxby at Stanford, is that increasing geographic competition leads to higher quality—but not necessarily lower prices. (In earlier periods, universities drew primarily from local areas, but while increased national competition can lead to a lower price for the same quality, if the demand for quality increases, it can lead to an increase in the overall price together with higher quality.)

Professor Guvenen turned to the first factor and presented a graph of the (log of the) ratio between wages of college and high-school graduates from 1963 to 2003. The college-educated in 1963 had about a 40% premium, which rose to about 47% by 1970, then dropped back to about 40% in the late 1970s, but has been steadily rising ever since the early 1980s, at which point there was a 65% premium. At present the college graduate has a 100% edge, Professor Guvenen said, so earns about twice as much as a high-school graduate. This is an important point, he said, because when one measures inflation in college cost, it is critical that one take into account quality improvements. A VW Beetle manufactured in 1950 is not the same as a 2010 Beetle; a Nokia 3310 cell phone that cost $100 in 2000 is not the same as an iPhone 4 that costs $600 in 2010. These examples illustrate the need to adjust for quality growth when measuring price inflation.

This same concept applies to a college education; an education now is not the same one a student would have received 40 years ago. Most of the discussion of college tuition remains focused on the costs. But how about changes in the quality of the output? One way to think about changes in the quality of the output is to look at the market value for college graduates as reflected in their earnings. Professor Guvenen provided some back-of-the-envelope calculations: Assuming an average income of $30,000, 40 years of working life, and an interest rate of 5%, in 1965 the typical college graduate earned 50% more than a high-school graduate; in 2000, the college graduate earned 90% more. In terms of lifetime earnings, in constant dollars, in 1965 the college graduate earned about $$300,000 more than the high-school graduate; by 2000, the difference had increased to $540,000.

Tuition plus room and board for a four-year college (without accounting for grants and fellowships) was $30,000 in 1965 and $64,000 in 2000 (figures are computed by enrollment weighting of public and private university costs). So there was a large increase in cost, Professor Guvenen said, but it must be measured against the market value of college graduation.

As for the second factor, education as a service, the idea is simple, Professor Guvenen said. Service sectors are typically labor intensive and experience slower technological change. When technology improves in other sectors and raises wages, services need to compete for the same workers, so they raise wages at the same rate. Because they are labor intensive, their average costs rise at the rate of wage growth, not the inflation rate. As a result, the price of services increases faster than average inflation. The economist Baumol William Baumol (NYU) in 1966 termed this the cost disease. For example, from 1960 to 2006: (1) the price index for personal consumption expenditures rose 5.6 times while the price index for "theater and opera performances" rose tenfold; (2) price inflation for food at home was 2.7% per year (5X) while restaurant food was 3.8% per year (9X); (3) new auto prices rose by 2.3% per year (4X) whereas the price for auto repairs rose by 4.2% (12X). At the other end of the

spectrum, computer and equipment prices rose at a rate 3-4% lower than inflation (so the prices actually fell).

A Mozart quintet requires five people to perform it in 2010—just as it did when Mozart composed it, Professor Guvenen observed. While productivity in other sectors has grown a great deal, and because wages increase when productivity increases, music (and other fields) must pay competitive salaries, but since most music costs are in wages, its costs grow faster than inflation. A large reason for the increase in the college premium is that if productivity relies on labor, and there is not a lot of technological change in a field, the prices will increase faster than inflation. So there have been parallel increases in tuition, the cost of legal services, medical care, and so on.

For long-term planning, an important question is whether the demand for skills is going up, Professor Guvenen said. Is the demand episodic or a long-term trend? There is a book by Harvard economists Claudia Goldin and Lawrence Katz (2008) that studied human capital and education wages in the 20th Century, and while there are a few periods where one does not see an increased demand for skills, there was a strong general upward trend in the demand throughout the century. Moreover, new inventions provide more benefit to the highly skilled, and since 1970 there has been an acceleration in the demand for skills (primarily because of the advent of computers and the demand for cognitive skills). There are large increases in college enrollment around the world; China has increased from less than 5% to about 29% in a very short period of time.

There has been an argument that there is not much merit to gold-plating the college experience (fancy residence halls, athletic facilities, counselors, etc.). Professor Hoxby has suggested that the gold-plating provides a competitive edge for colleges because it helps attract the students who will make the most money in the future.

One puzzle in all of this is the OECD data, Professor Guvenen said. Staff expenditures are skyrocketing; the U.S. is the only country in the OECD that spends more on staff than teaching faculty (29% versus 36%). France, Denmark, Switzerland, and Spain spend about 55% on teaching faculty versus 25% on staff, and the OECD average is 44% on teaching faculty versus 24% on staff. There are, however, classification issues that make such comparisons difficult.

Professor Weerts took up the discussion and offered comments on three issues: the dysfunctional narratives discussed in the article (that is, the criticisms of higher education), higher education as a sector (and what Williams College economist Gordon Winston calls the "awkward economics" of higher education), and college costs as a battle of competing narratives (there are a lot of ways the problem is framed, and how one frames the problem determines which solutions are advanced)

In terms of the first issue, Professor Weerts quoted one statement in the article: "When state government finances are troubled, public universities face a choice between allowing quality to decline and raising in-state tuition to compensate for public cuts. Landing on the side of tuition increases suggests an affirmative choice for maintaining quality." There is a debate about what quality in higher education is, Professor Weerts said. The *Star-Tribune* recently had an article about a book that claims students have minimal learning gains in college. So then, are colleges and universities really offering students a quality education? But like the Mozart quintet, how does one measure quality? By the sound? By filling the seats? There is no agreement on measures of quality (if defined as learning) in higher education. The Bologna process in Europe is based on the idea that a quality education cannot be defined

as an accumulation of credits but rather the skills and competencies gained as a result of the college experience. This presents a dilemma with the college-costs question. If one assumes that learning results from a portfolio of hard-to-measure teaching and learning experiences, what might one be able to cut to be more efficient? If one thinks about the quintet and cutting costs, what does one do—cut the bassoonist? Will this have an impact on quality? How does one measure the impact of college? It is difficult to tease out these issues.

In terms of higher education as a sector, Professor Weerts cited Professor Winston: "It is very difficult to understand what is being bought and sold." The context is that higher education is a complicated industry; Winston talks about it as a "trust industry," where buyers are vulnerable to the seller's optimism about getting an education, a degree, and a job. The buyer is not sure what he or she is buying until it is too late to tell. Economists have data about the private benefits of higher education in the job market, but current unemployment rates cast doubt in many peoples' minds about whether their college investment will pay off.

Another unique and sometimes misunderstood aspect of higher education is the complicated confluence of revenue streams. Professor Weerts referred to Winston's observation that "higher education is part church and part car-dealer." It is both donative and commercial in that it accepts donations and charges tuition. It also provides subsidies for its customers and sometimes sells below cost. In this context, the criticism is that institutions are more concerned about revenue than containing costs. Economist William Bowen identified the revenue theory of cost in higher education, which states that colleges will raise all the money they can and spend all the money they make in pursuit of prestige. So what does higher education cost? As much as it can obtain to spend. Institutional ambition means trying to get as much money as possible to improve quality—a nebulous concept.

Finally, college costs as competing narratives, Professor Michael Mumper has talked about this in his chapter, "The paradox of college costs: Five stories with no clear lesson." In 2000 there were two dozen states that had commissions on college costs; these commissions never reached any conclusions about the causes of rising college costs or what to do about it. In Mumper's qualitative study, he interviewed policymakers in eleven states and identified five narratives about college costs, largely focused on tuition inflation. The five narratives about rising tuition include:

-- States have made prices rise because they have cut appropriations for higher education. In turn, states blame the economy.
-- Medicare and prisons have made prices rise because they crowd out funding for higher education. -- -
-- Higher education can raise its own money; thus it can be more independent.
-- Colleges are not accountable, and politicians create villains (e.g., the institutions spend too much on research and not enough on undergraduate education).
-- The more conservative view: it only looks like a problem, because enrollment is going up and institutions can charge what the market will bear.

There are good and thoughtful analyses of why costs have gone up, but they live in a political context and there is confusion due to the issues identified here. Rational economic analyses such as Professor Guvenen's often get lost in the greater landscape of competing narratives.

Professor Martin commented that in the measurements of increasing costs and benefits (both public and private), for an institution like the University, a public research university, there has

historically been the notion of a civic good resulting from public investment in the institution. Does that come up? Professor Guvenen said it has not; these analyses are purely economic, and there are not only the civic benefits but also research, which is not counted in the analyses.

Professor Martin said that politicization of higher education is occurring nationally as well as in Europe; is there any way to expose political leaders to this kind of information to help them in making decisions about higher education? One critique of the field of higher-education research is that it has not engaged with policy-makers, Professor Weerts said. The widely-accepted division of labor is that experts would produce knowledge and someone somewhere would, one hopes, use it. The public engagement movement in higher education tries to disrupt this traditional thinking and offers an avenue for policy-makers, academics, and other external partners to share knowledge and collectively solve problems (such as college costs). Professor Guvenen said that faculty members usually do research and that it requires a different set of skills to bring the results to light. Last year Congress wanted to know about economic research—but the hearings were a big disappointment because they invited a Nobel Prize winner who won for work decades ago and who has missed the last 30 years of economics research. He said he did not know how people were selected to testify or how the process works to choose evidence. It is easier to parade a student who could not get a job than to have seven minutes on CNN explaining these data, Professor Weerts observed.

Ms. Stahre referred to the three areas of cost increases and that part of the third point about increasing college costs reflected in increasing geographic competition. Part of the argument was that colleges compete for the best students and those students are not necessarily the ones in close geographic proximity (though a school starts with those). The best students in Minnesota are not necessarily going to go to the University of Minnesota because surrounding colleges and those on the East Coast are going to compete for the same students. One word that was not used, but is part of this conversation, is the reputation of the institution. Reputation is driving some of the disparity of income and potential earnings within college graduates, because the reputation of the institution, and the fact students want to go to a prestigious university, also drive costs as these types of institutions can increase what they charge and students are still going to pay it if for name recognition alone. There was a mention regarding land-grant institutions and their mission in educating the students of that state, but colleges also need to recruit those students who are most likely to succeed.

Professor Guvenen said that Professor Hoxby at Stanford has made a convincing case about the enormous increase in the average distance from home for students in higher education. But degrees from different universities are not perfect substitutes for each other. If there is more competition, that reduces universities' monopoly power (it would give the University a lot of power if every student in the state wanted to come to it; it could increase prices and reduce cost per quality). But the frightening data are that while the average college graduate earns more than the average high-school graduate, the wage disparity among college graduates is increasing. Consequently, competition has been geared toward increasing quality, which is attractive to students who want to earn the higher wages even among college graduates. As a result, competition has not generated lower prices; it has generated higher quality, and lower price per quality, but not an overall lower price. Many schools have increased tuition, but they have also increased financial aid in order to attract the best students, which is also consistent with Hoxby's theory.

Ms. Stahre said that for-profit universities are pushing up costs; have they figured in the economic models? Professor Guvenen said they are very new, so they have not. They have seen a

dramatic increase in enrollment, and it is worth investigating how higher education might better use technology. Higher education has not changed very much: It is the professor in the class and a set number of students being taught.

Professor Roe inquired: The tuition gap, adjusted for scholarships, between public and private institutions is in the neighborhood of $15,000 - $19,000, and apparently growing. The college premium is continuing to rise. Do these facts suggest the argument could be right that the public sector could withdraw some support (or have support growth at a slower rate) because the private gains are relatively high, i.e., students can pay because the gains, on average, from having a degree are growing? What does the literature say?

Professor Seashore said the literature is clear: People from low-income, low-capital (i.e., money, not human capital) environments are much more loath to take on debt for an uncertain outcome, so the Minnesota strategy of moving to a high-tuition/high-state-support (through loans) will not work well with the new immigrant population, which has no capital. The University has dealt with the problem through the Presidential Scholars program, but states have not. The question is how much capital does a family need to feel that it can take on debt for higher education? Probably more than a 15-year-old car.

Professor Roe said that capital markets tend to fail in the financing of human capital. The ability to make the case with families from low-education, low-capital is very difficult to make, Professor Seashore said. That is an institutional failure, Professor Roe said; to increase students' ability to finance higher education, a better form of credit availability may be needed (longer maturity, repayment based on earning ability post graduation). This should be privately profitable, on average, with growth in the college premium. That is the "rational man" theory, but the evidence is that it does not work for all populations, Professor Seashore said, and the evidence has to be built into the approaches used.

In Canada and Europe banks did offer loans on the basis of human capital, Professor Guvenen said; some took them and paid them back. Economists have begun looking recently at the effects of different bankruptcy arrangements (loan forgiveness?) on student loans on college attendance; if one makes it too easy, everyone defaults. The data on student-loan defaults are U-shaped: Those who are very poor default, but so do those who are very rich. Professor Guvenen agreed that those who are poor do not take on debt unless default would not look like bankruptcy. A University of Chicago economist, Jim Heckman, who studied education decisions, has concluded, broadly speaking, that if one looks at candidates for college, one does not see a substantial effect of borrowing constraints on college attendance choice.

Professor Weerts commented that high-tuition, high-aid is seen as an efficient way to approach tuition, but given the fiscal constraints that states face, the approach may eventually become high-tuition, low-aid. Also, people over-estimate the cost of college, see the sticker price, and don't apply. This is the problem with this model.

Professor Schulz said that if he understood correctly, even with the increase in tuition, students get jobs that produce more income. He is from the Medical School, he related, and seeing the phenomenon of such a rapid increase in the price of medical education (the average medical student leaves with about $150,000 in debt) that students do not go into primary care and instead think about specialties that carry much higher incomes. Is this a canary in the coal mine? The cost of school is going

up, but many of the jobs that society wants people to do—teachers, public defenders, etc.—will go unfilled because graduates have to seek higher-paying jobs in order to pay off their debt.

How effective are loan-forgiveness programs if people agree to spend a certain amount of time in rural areas, Professor Weerts asked? They are effective, Professor Schulz said, and some students do finish their programs and spend three years in rural areas. But the costs of education and the caps on reimbursements have had an impact on the number of family physicians, which has an impact on society. It may be the canary, Professor Guvenen said. Informally, he has heard that the difference from top to bottom among medical specialties has grown from 2:1 to 5:1. He also cautioned that one must be careful in the analysis of tuition increases versus price movement; some students never have to pay for school.

Professor Luepker commented that the two guests had shown what most on the Committee believed: One goes to college and makes more money, which is the justification for charging more for college, but the distribution of incomes among college graduates is wide (e.g., the string-quartet player versus the chemical engineer). Is higher education producing too many graduates? The U.S. rate of college participation is higher than China's 29%.

That is a valid question, Professor Guvenen said, and there are different views about it. The general view among economists is that if one looks at the whole century, the relationship between college and earnings is very robust over time and across countries. There was a book written in the 1970s by Richard Freeman, *The Over-Educated American*, that argued the college premium was disappearing—but it was written at the only period in the century where there was a dip in the premium. One would expect that an increasing number of graduates would reduce the premium, but the fact that the premium is still increasing shows that there is more demand than can be satisfied. It may be that colleges and universities over-produce in some fields and under-produce in others.

Professor Luepker thanked Professors Guvenen and Weerts for their presentations and said the Committee may wish to hear from them again.

Professor Roe said he thought this had been a good discussion and suggested the Committee revisit the issues to narrow them what the University of Minnesota might do and think about.

2. Budget Planning for 2011-12

Professor Luepker turned to Vice President Pfutzenreuter to lead a discussion of the current budget planning for 2011-12. He said he asked Mr. Pfutzenreuter to talk with the Committee following several discussions he has heard about budget issues. Although no one knows what the legislature will do, the Committee can talk about a number of steps being proposed for the next few months to deal with the situation.

Mr. Pfutzenreuter began by observing that this is the continuing depressing story of the budget.

The administration starts working on the budget in the fall because the budget process begins with the support units, Mr. Pfutzenreuter explained, and they need to have some idea where the University might end up in the spring. They know that every year the University's costs increase about $90 million because of several factors: safety and contractual costs, technology, student financial aid, facility operations, strategic investments, and compensation. But there are choices that can be made about

some of those items; some are fixed but some are not. It is on those points that they start the discussion with the President and the academic leaders.

They have made some projections for next year for some of the items in that list that makes up the $90 million, Mr. Pfutzenreuter said, and proposed to cut it back to about $41.6 million. This amount is predicated on a wage freeze (subject to collective bargaining negotiations), reduced new building operations, a lower academic investment pool, and slower growth in utilities and debt. The $41.6 million includes $16.8 million in fringe-benefit costs (a complicated recovery issue related to FY2010 because of federal regulations), $4 million in facility operations (which is down), $5 million in contractual obligations, $10.5 million for new academic investments, and $5.3 million in contingency funds (because of uncertainty about what will happen in St. Paul).

They are also making tentative assumptions about the state appropriation, Mr. Pfutzenreuter said. The balancing strategy (accommodating the increased costs of $41.6 million and a potential reduction in state funding) will require an average internal budget cut of 5% and increased tuition revenue (a 5% increase).

Mr. Pfutzenreuter reviewed state funding for the University from 2009-10 through projections for 2012-13. The funding for the current year takes the University back to the 2006 level of funding; if the legislature makes the kind of cuts that have been discussed, the funding level could be reduced to the same level as 1998. Professor Seashore asked if University representatives will make that point to the legislature; Mr. Pfutzenreuter said the University's funding has already been rolled back several years and may get rolled back more. Professor Martin commented that the legislature may not care.

Even with potential cuts, Mr. Pfutzenreuter commented, the University would contribute a relatively small percentage of the funding needed to eliminate the state's projected budget deficit of $6.2 billion.

The net result of the current estimate is that the University would face a shortfall of about $112 million, Mr. Pfutzenreuter said. The President does not want to increase tuition dramatically, so about one-third of the problem would be solved with tuition and two-thirds from internal cuts. The budget instructions to the support units used this framework, and he will report back to the Committee on the cost-pool changes.

Professor Durfee said that in previous years there have been uniform cuts across units. Is that the long-term strategy? Is that an appropriate strategy? Mr. Pfutzenreuter said that is not a question he should answer. In general, there is not major movement of resources across units; if there are changes, they are something the deans do inside the colleges. It is difficult for central administration to make such decisions.

Professor Martin noted that Professor Stinson will do another revenue forecast in the near future, and it could be that revenues will be up a little. If there is a small increase, is the implication that there will be smaller cuts? Mr. Pfutzenreuter said that Professor Stinson will make a report to the Board of Regents in March to update the revenue forecast; the employment numbers are a little better and the Minnesota economy is responsive to employment. But there may not be enough evidence to forecast much change in revenue; Mr. Pfutzenreuter said he believed there would be a little more revenue, but not a lot. He said he was more optimistic about the second year of the biennium; the November forecast

might show improvement. Professor Martin asked if there is any precedent for adjusting the University's funding in the second year of the biennium if revenues improve; Mr. Pfutzenreuter said it has happened a number of times.

Mr. Pfutzenreuter discussed with the Committee various scenarios related to state cuts, tuition, and the political situation at the Capitol. The University will do a budget by July 1, he said, but it is possible that it will have to go without state funds for a period if the governor and legislature cannot reach agreement.

Ms. Stahre asked about the impact of the end of the stimulus funding on tuition. Mr. Pfutzenreuter said that student who had a stimulus grant will see a $774 increase in tuition next year in addition to any percentage increase approved by the Board of Regents. That increase will need to be addressed through existing financial-aid programs. He tells people that it was one-time money, it was spent the way the federal government directed, and it was good for students because they paid less. But the funds are no longer available.

Professor Luepker observed that this is an evolving situation and the last act may not be performed until the summer. Some potential solutions have been discussed, such as the salary freeze, and there are ongoing discussions about health and retirement benefits, tuition, and the cost pools. If the University is a high-tuition, high-aid school, every time tuition is increased, so does the cost pool that provides financial-aid funding. He said he understands, however, that the cost pools may go down. Mr. Pfutzenreuter said that Professor Luepker was correct, although the rate decreases will apply differentially by college. The Budget Model Advisory Committee has recommended "unpacking" the student-services cost pool so that the financial-aid costs are more transparent.

Professor Luepker thanked Mr. Pfutzenreuter for his report.

<u>3. Reviews of Units</u>

Professor Luepker said the Committee will begin reviewing administrative units, and while it is not a decision-making body, it can learn and then provide advice to the administration. Mr. Rollefson asked about the audits to be conducted last year by the University's auditor; they were delayed, Professor Luepker said, and he will schedule units for Committee review when he has those results.

Professor Seashore said that the earlier discussion was a useful reminder about looking at costs allocated to instruction. It is very difficult to make international comparisons, although she said she suspects there probably is a difference between the United States and Europe on the allocation of funding for instructional staff. The difference may not be bad but it is something the Committee should look at.

Professor Schulz asked if things will go back to normal after the $6.2-billion state deficit is taken care of. Mr. Pfutzenreuter said that they will not, but if they fix the structural problem, that will help. The deficit is a product of a number of things, including buying back the school transfer, but the costs of certain parts of the state budget are growing faster than revenues and even if they fix the deficit, those costs will continue to outstrip revenues. The demographics are against a fix because of the age structure of the population. Professor Luepker agreed that the age structure is changing; there are fewer wage earners and more people over 65 who need assistance. Mr. Pfutzenreuter said he understood that there are 10,000 people per day reaching the age of 65 in this country—and that will continue to happen for the

next 18 years. Professor Martin recalled that Professor Stinson had said there would be a state deficit through about 2018. Mr. Pfutzenreuter said that will happen unless the state adds permanent new revenues to the mix.

Professor Luepker adjourned the meeting at 3:50.

-- Gary Engstrand

University of Minnesota