March 13, 1991, Capitol Hill, Washington, D.C. “What we will hear today is a story of tax-payer dollars going to bloated overhead [rather] than to scientific research. It is a story of excess and arrogance, compounded by lax government oversight,” said John D. Dingell (D-Mich.), Chairman of the House Energy and Commerce Subcommittee on Oversight and Investigations. Dingell concludes that three explanations are possible for events at Stanford University: “One is that there is great incompetence out there; one is that there is rascality out there; one is there may be both.”

Less than a year earlier, the New York Times had praised Stanford for “slashing its budget 13 percent, laying off nonteaching employees and tearing up organizational charts—all the while pledging not to raise tuition by more than 1 percentage point above the inflation rate.” The acting dean of Harvard University’s faculty of arts and sciences said, “These concerns are quite common. I admire Stanford for the fact that they have started to tackle this, and I am quite sure the rest of us will follow soon—not necessarily in terms of major cuts, but in terms of attempting to deal with these financial questions.”

Background

Stanford is at the center of a roiling dispute over the federal research dollars that vaulted the University to international prominence. In a statement to
the Subcommittee, Stanford President Donald Kennedy provided some historical perspective:

After World War II, the United States made the momentous decision to convert its wartime research efforts into a greatly expanded basic research program located in our universities, where the training of the next generation of scientists takes place. Originally, federal support of basic research in universities developed along the lines of an “assistance model”; academic scientists wanted to work on fundamental problems and the government (in the first instance, the Office of Naval Research) wanted to get it done... Federal support for university research has made possible an extraordinarily broad array of valuable and important advances in a variety of fields—from microbiology to engineering, from particle physics to genetics. At Stanford, federal research support has played a critical role in stunning advances, including such non-invasive technologies as magnetic resonance imaging; the discovery of the first reliable cure for Hodgkin’s disease; the development of the microwave transmitter that led to the first modern radar systems; the unlocking of the smallest known physical particles in the universe at the Stanford Linear Accelerator; the development of an experimental mouse with a human immune system that holds great promise for AIDS and other types of medical research; and a series of basic discoveries essential to modern genetic engineering.2

Indirect Cost Recovery

The federal government follows a policy of reimbursing universities for the full costs of conducting federally sponsored research. Office of Management and Budget (OMB) Circular A-21, entitled “Cost Principles for Educational Institutions,” establishes:

...principles for determining the costs applicable to research and development, training, and other sponsored work performed by colleges and universities under grants, contracts and other agreements with the federal government. The cost of a sponsored agreement is comprised of the allowable direct costs incident to its performance, plus the allocable portion of the allowable indirect costs of the institution.

Direct costs are those costs that can be identified specifically with a particular sponsored project, an instructional activity, or any other institutional activity; or that can be directly assigned to such activities relatively easily with a high degree of accuracy. Indirect costs are those that are incurred for common or joint objectives and therefore cannot be identified readily and specifically with a particular sponsored project. Identification with the sponsored work rather than the nature of the goods or services involved is the determining factor in distinguishing direct from indirect costs of sponsored agreements. At educational institutions, such [indirect] costs normally are classified under the following indirect cost categories: depreciation and use allowances, general administration and general expenses, sponsored projects administration expenses, operations and maintenance expenses, library expenses, departmental administration expenses, and student administration and services.

A cost is allocable to a particular cost objective...if the goods or services involved are chargeable or assignable to such cost objective in accordance with relative benefits

2 Donald Kennedy, in a statement to the Subcommittee on Oversight and Investigations (March 13, 1991).
received or other equitable relationship. The tests of allowability of costs under these principles are: (a) they must be reasonable; (b) they must be allocable to sponsored agreements under the principles and methods provided herein; (c) they must be given consistent treatment through application of those generally accepted accounting principles appropriate to the circumstances; and (d) they must conform to any limitations or exclusions set forth in these principles or in the sponsored agreement as to types or amounts of cost items.3

While A-21 establishes general principles for the calculation of indirect costs chargeable to a sponsored project and default allocation methods for each cost pool, the Circular requires that actual conditions be taken into account. The university and the cognizant government agency may agree that a different method of cost determination better represents the true cost incurred by the university and allocable to organized research. Such an agreement may result from a cost study conducted by the university. It is documented in a Memorandum of Understanding (MoU) between the university and the government. MoUs may also cover mundane matters like signing authority following the death of a principal investigator. Most MoUs specify an expiration date after which the agreement must be renewed or replaced. Otherwise, the default methodology contained in the Circular applies. Stanford had over 80 active MoUs with the government (Exhibit 1). Cal Tech, with 13, had the second highest number of MoUs.

The indirect cost rate is the total of indirect costs attributable to sponsored research, expressed as a percentage of modified total direct costs of sponsored research. Modified total direct costs are total direct costs less capital items and certain other costs. The indirect cost rate at Stanford (and many other universities) is negotiated “fixed-with-carryforward”: both direct and indirect costs are estimated in advance of the fiscal year. Based on these estimates, an indirect cost rate is negotiated for the coming year.

The negotiated rate is the one that Stanford researchers use when they submit a funding proposal to any federal government agency. Most grant and contract awards are competitive. The intensity of competition varies with the specific skill and resource requirements of the research. Cost is a determinant in winning grants and contracts. Exhibit 2 details Stanford’s share of total federal R&D obligations to universities and colleges during the period 1975–1988. Exhibit 3 is a sample funding proposal from a Principal Investigator (PI).

The administration of this process is complex. There are two negotiation cycles for each fiscal year. Each cycle is comprised of proposal submission, audit, and negotiation. The objective of the first cycle is to agree upon a costing methodology

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and projected costs. The second cycle considers the application of the methodology to the costs incurred. Forecasting errors are corrected by adjustments to indirect cost rates of subsequent periods. When actual costs are known, the difference between Stanford’s indirect costs allocable to sponsored research and the amount of indirect costs reimbursed by the government is calculated. The indirect cost rate for the subsequent year is increased (decreased) by an amount sufficient to recover (repay) the difference from (to) the government.

Under OMB Circular A-88, a single federal agency (the “cognizant agency”) is responsible for the negotiation of the indirect cost rate at each university. The rate negotiated by the cognizant agency applies to all federal agencies (e.g., the National Institutes of Health, the National Science Foundation, the National Aeronautics and Space Administration). The cognizant agency is also responsible for the auditing of contracts at that university. The Department of Defense (DoD) is the cognizant agency for Stanford. Within the DoD, the Office of Naval Research (ONR) negotiates cost rates, while the Defense Contract Audit Agency (DCAA) conducts audits.

The DCAA must render an opinion regarding the acceptability of government contractors’ cost claims. Through the 1970s, audits were often completed in the six months following a contractor’s submission of actual costs. In the 1980s, under severe budgetary and staffing restrictions, DCAA designated universities as low-risk contractors and subsequently fell behind on university audits. Stanford’s 1980 costs were audited in 1984. The DCAA claims that Stanford’s books for 1981 through 1990 are open for audit and adjustment.

Although the indirect cost rate is often the focus of discussion, two rates apply to direct costs: the indirect cost rate and the staff benefit rate. Direct costs comprise salaries, supplies and expenses. Only the salary component of a research grant is multiplied by the staff benefit rate. The indirect cost rate is applied to modified total direct costs. At Stanford, salaries (excluding staff benefits) are about 70% of direct costs.

Like indirect cost rates, staff benefit rates vary among universities due to differences in benefits and methods of accounting. Overhead costs included in the indirect cost rate at one university are found in the staff benefit rate at another university. Exhibit 4 presents Stanford University’s indirect cost rates over time. Exhibit 5 compares Stanford’s rates with those of other universities.

**Internal Dissension**

In 1980, the University embarked on an ambitious renovation and construction plan. In 1986, University planners estimated that expansion of the University’s
physical plant over the next decade would cause an increase of at least 13 percentage points in the indirect cost rate.\textsuperscript{4}

Stanford developed a reputation for full recovery of indirect costs from the government. Controller Frank Riddle and Assistant Controller Janet Sweet taught seminars on indirect cost recovery for financial officers at other universities. In Riddle’s words, “Compared to a lot of institutions, we have a lot of innovative ways...to associate costs with research. I don’t know if that is ‘aggressive’ or not.”\textsuperscript{5} Both Riddle and Sweet had 20 years of experience in university cost analysis. Frank Riddle served as chair of the Costing Policies Committee of the Council on Governmental Relations, a professional organization of university financial officers.

Stanford’s 1988–1989 operating expenses were about $355 million. In that year, Stanford received $78 million in indirect cost reimbursement from the government. During the 1980s, Stanford received $550 million in indirect cost recovery. Nearly half of the faculty are principal investigators on sponsored projects that generate indirect cost recovery from federal agencies. Ten percent of the faculty generate 65% of the recovery. Some Stanford faculty members felt that high indirect cost rates mandated by the University rendered them uncompetitive in the market for federal research dollars. There was “tension between the research faculty, who in general would like a lower indirect cost rate, and the University budget planners, who struggle to find sufficient income to meet the ever-increasing demands of the University community.”\textsuperscript{6}

The deans of some Stanford schools pointed out that:

> While an implicit tie exists between indirect cost recovery and indirect costs associated with research, this tie is not made explicit during the budget process. As a result, there is confusion over the role indirect cost recovery plays within the University. Indirect cost recovery is, on the one hand, the reimbursement of research related indirect costs. As such, it is payment to Stanford for costs that Stanford has already incurred. However, because indirect cost recovery comes back to the University as general funds, it is treated the same as any other general funds income source in the budget planning process.\textsuperscript{7}

The Vice Provost commented:

> It is in the University’s interest to put no differential structural impediments in the way of research. By neutralizing, through an average indirect cost rate, the varying indirect costs of different forms of research, the institution makes a policy statement. That statement acknowledges the preeminent role of quality judgments in the funding

\textsuperscript{5} Frank Riddle, quoted in the Stanford Alumni Magazine (June 1991) p. 20.
\textsuperscript{6} Biedenweg and Shelley, p. xi.
\textsuperscript{7} Biedenweg and Shelley, p. 1.
of research and the obligation to all faculty to provide an environment supportive of work of their choosing. If different lines of inquiry are priced differently or different schools or departments have different indirect cost rates, the possibility of distorting or deforming judgments both within Stanford (e.g., in deciding where to lodge a research project) and outside in federal and other sponsoring agencies (e.g., where the agencies’ funds are perceived to buy “more” research by allocating those funds to lower overhead projects) would be considerable.  

Stanford waives indirect cost payments for some sponsors:

Many foundations have a formal written policy stating the limits on the indirect cost rates that they will pay. These limits typically range from 0% to 15% of the total agreement size. In accordance with the funding policies of these foundations, Stanford routinely waives the indirect cost rate down to the foundation’s particular limit…

Paul Biddle

Paul Biddle became ONR’s Resident Representative at Stanford in 1988. He was assigned to oversee the negotiation of overhead cost reimbursement. A self-professed zealot, Biddle brought to his role an abrasive stance that surprised Stanford officials. He immediately took issue with University indirect cost methodology. For instance, he objected to a cost study that prescribed the allocation method for amounts in the Library Expense pool. The same methodology, approved by previous government officials, had been in use at Stanford since 1964. Biddle felt

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8 Ray Bacchetti, Vice Provost and Director of University Budgets at Stanford, quoted in Biedenweg and Shelley, p. 52.
9 Biedenweg and Shelley, p. 53.
10 Earlier, Biddle had applied to Stanford University for employment twice. Stanford turned him down. His previous job was at the DCAA.
11 In the absence of a special study, A-21 prescribes the allocation of library expenses “first on the basis of primary categories of users, including students, professional employees, and other users… Amounts allocated above shall be further assigned as follows:

1. the amount in the student category shall be assigned to the instruction function of the institution;
2. the amount in the professional employee category shall be assigned to the major functions of the institution in proportion to the salaries and wages of all faculty members and other professional employees applicable to those functions;
3. the amount in the other users category shall be assigned to the other institutional activities functions of the institution.” Office of Management and Budget Circular A-21, p. 6.

Stanford’s allocation of library expenses was based on the results of a special study completed in 1981. Library costs are first separated into two library functions: Collection Development/Processing and Maintenance, and Public Service. These costs are then allocated separately to four users groups: Undergraduates, Graduate Students, Faculty/Staff, and Non-Stanford. The costs in the user groups are allocated to cost objectives by student hours or Faculty/Staff salaries and wages.
that Stanford had received excessive library cost reimbursement based on an un-
acceptable methodology. He recommended that accepted cost methodologies be re-evaluated.

In March 1990, Biddle alleged that Stanford University had overcharged the
government by about $200 million in indirect costs over the past decade and that
his predecessors and superiors at the ONR had a cozy relationship with Stanford
that benefitted the University at the expense of the taxpayer. Biddle also charged
an abuse of the system, fraudulent acts and false claims on the part of Stanford.
He contended that the ONR had been lax in agreeing to MoUs that lacked proper
justification. “It appears that anything the University felt may be beneficial to
them has been characterized and documented in the format of an MoU.”

In May 1990, Paul Biddle had the attention of Congressman John Dingell.
An August 20, 1990 letter from Dingell to President Kennedy said that the sub-
committee had “asked the General Accounting Office (GAO) to review government
contracting procedures involving a number of major universities. One of the uni-
versities of interest to the subcommittee is Stanford.” The Chief of Naval Research
ordered his Inspector General to conduct an inquiry.

Victoria

In the summer and fall of 1990, investigators from the DCAA, ONR, GAO and
Dingell’s subcommittee descended on Stanford. Newspapers quoted an anonymous
congressional source as saying, “We don’t want to be paying for putting in tennis
courts, or for a 65-foot yacht, or for someone’s salary who doesn’t even work at the
university anymore.” Larry Horton, Stanford University’s Associate Vice Presi-
dent for Public Affairs, wrote to a member of Dingell’s staff who had inquired about
a boat:

I believe the boat you refer to is the Victoria, a 72-foot vessel that is moored
in the San Francisco Bay, in the Oakland estuary. It was donated to Stanford in
December 1987, as part of a boat donation program, which is similar to boat donation
programs at many colleges and universities. This particular boat was a “donative
sale”: the donor/seller was paid $100,000, a price far below the appraised value of the
boat... Currently, the boat is for sale at a price of $475,000. So far, due to a depressed
market for such boats, we have been unable to sell the Victoria...

12 Paul Biddle, in a letter addressed but never sent to Thomas J. Dolan, Director of University
Business Affairs of the ONR (March 6, 1990). Stanford first obtained a copy of this letter in
August 1990.
13 The Peninsula Times Tribune (September 21, 1990).
Neither the Victoria, nor any vessel obtained by Stanford through the boat donation program, has any effect on Stanford’s indirect cost rates for sponsored programs or staff benefit rate, nor does it affect charges to the government in any other way.\textsuperscript{14}

Then, with tremendous loss of face, Stanford University officials allowed that a mistake had been made. Larry Horton wrote, “The Victoria and some other equipment items donated to or purchased by the Department of Athletics were inadvertently included in the equipment depreciation pool, part of which was allocated to Organized Research.”\textsuperscript{15} Stanford University hastily adjusted its claim to the government by $184,286, the amount incorrectly allocated to Organized Research during the years 1981 to 1988. On December 5, 1990, the San Jose Mercury News reported “Stanford bills U.S. for jacuzzi on sailboat.”

President Kennedy explained that Stanford “is a complex cost-accounting environment; we process approximately 3 million accounting transactions per year, originating in over 400 departments, and flowing through more than 17,000 accounts. We know that, despite our best efforts, an error-free accounting system is not realistically attainable and that, understandably, there can be differences of opinion about certain studies and procedures.”\textsuperscript{16} Exhibit 6 summarizes Stanford’s treatment of indirect costs.

The discovery of the error related to Victoria marked the beginning of intense scrutiny from DCAA auditors and the press. In early December 1990, Congressional investigators discovered several questionable charges relating to the operations of Lou Henry Hoover House. On December 14, 1990, the San Jose Mercury News and the Los Angeles Times reported that Stanford had billed the government $3,000 for a cedar-lined chest, $2,500 to refurbish a piano and up to $2,000 per month for flower arrangements at Hoover House.

As President Kennedy wrote in a letter to the faculty,

The fact is that presidents of Stanford University live in Lou Henry Hoover House as a condition of employment, amidst an institutional enterprise that manages 75 events a year for about fifteen thousand people. To those who have been there, it is obvious that Hoover House has no separate “personal quarters.” No part of the house is closed to the public, and even as presidents change, the furnishings, with some additions, remain part of this historic dwelling.

Because Hoover House is a National Historic Landmark, as the home of a former President of the United States... the Board of Trustees has believed that it should be appropriately furnished. Items were chosen that fit with the house’s design and will hold their value over time and thus over the occupancy of future presidents.\textsuperscript{17}

\textsuperscript{14} Larry Horton, in a letter to Leila Kahn, a member of Rep. Dingell’s staff (October 25, 1990).
\textsuperscript{15} Larry Horton, in a letter to Leila Kahn (November 29, 1990).
\textsuperscript{16} Donald Kennedy, “Statement on Indirect Costs” (December 18, 1990).
\textsuperscript{17} Donald Kennedy, Message to the Faculty (April 4, 1991).
Hoover House costs had always been in the G&A pool and had never been questioned by the DCAA.

**Damage Control**

Upon discovery of the yacht error, Stanford stepped up its efforts to get the facts and make improvements. Stanford reduced its claim to the federal government, but maintained that since many research-related university functions are held at the official residences, the associated costs are allocable to sponsored research. Stanford pointed out that some of these cost entries were straight-forward errors. For example, Stanford Shopping Center management costs were incorrectly allocated to federal research in 1986 and 1987. Such errors would be corrected and prevented from reoccurring. The University withdrew $1,003,576 in allowable but politically sensitive charges and $347,066 for errors (Exhibit 7).

On February 7, 1990, after investigating Paul Biddle’s charges for six months, the Inspector General of the Office of the Chief of Naval Research (the ONR-IG) released its findings. The ONR-IG concluded that “amounts alleged [by Biddle] as overpayment were speculative, based in part on incorrect assumptions and calculations, and also included subjective judgements.” The ONR-IG also found “no apparent partiality by the ONR... personnel in their dealings with Stanford.” However, based partly on the fact that the DCAA had not completed reviews of Stanford’s cost analyses, the report found “some validity to ONRR’s [i.e., Biddle’s] concern that the government has overpaid Stanford for indirect costs during the period 1980–1989; however, we have been unable to substantiate or reliably estimate the exact amount.”

“The headlines taken together painted a vivid picture of a wealthy and elitist institution that was using public money to finance its high living.” Questionable charges were assiduously reported. “The 1980s were the decade of greed, and Stanford was charging what the traffic would bear,” said the *San Jose Mercury News*. “What is clear from a cursory look at how Stanford is using federal research money is that taxpayers are being hornswoggled, swindled and defrauded,” thundered *The Arizona Republic.*

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21 *San Jose Mercury News* (December 7, 1990).
President Kennedy said, “Never in my time at Stanford, and that is now nearly thirty-one years, has the University been more in the news. In exactly one week, beginning on the evening of March 9, Stanford was the subject of an uplifting NBC Nightly News essay on our initiative to improve the quality of teaching; then the focus of a widely reported and damaging Congressional hearing on indirect research costs; and then—on a Friday that should have been the 13th—a mugging victim on the ABC program 20/20.”

The Investigation

Rep. Dingell is known in Washington newsrooms for his “Dingell Specials”—juicy, news-making investigations that make for good sound-bites on the evening news. The Stanford case provided him a new opportunity to apply his experience: “If those expenses are legal, the Pentagon has some problems. If they’re not, then Stanford has some problems. We’re urging them to sort this out, and that will help decide who most merits jail.”

An investigator for the House subcommittee said their inquiry was similar to the one they had undertaken in the mid-1980s that found defense contractors had charged improper activities to government contracts. As a result, General Dynamics had agreed to return $500 million to the government.

On March 13, 1991, President Kennedy and other University officials were grilled by the subcommittee. The DCAA recommended that Stanford’s indirect cost rate be lowered to 52%. The ONR said it had investigated the possibility of disqualifying Stanford from receiving federal funds, but decided it was not necessary at present.

In April 1991, the ONR terminated all of Stanford’s MoUs retroactive to the beginning of fiscal year 1991. The ONR also cut Stanford’s indirect cost rate to a provisional rate of 55.5%. The University, which had budgeted for a rate of 78% in 1990–1991, would receive roughly $28 million less in indirect cost recovery than previously anticipated. Stanford protested the cancellation of the MoUs and indicated it would litigate the issue.

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23 Donald Kennedy, in remarks to the Los Angeles Alumni Conference (March 23, 1991).
24 Quoted in a Campus Report digest (January 9, 1991) of a San Francisco Chronicle (December 24, 1990) article.
Questions

1. Does the federal government engage in cost-plus contracting or does it seek competitive bids for sponsored research? What are the advantages and disadvantages to the government of its present method of procurement?

2. Put yourself in the shoes of each of the people below, and answer these questions from the perspective of that person:
   (a) How does Stanford’s indirect cost rate affect you?
   (b) At the margin, would you prefer to see Stanford’s indirect cost rate raised or lowered?
      (i) A principal investigator in the School of Engineering
      (ii) A principal investigator in the Department of Economics
      (iii) An official responsible for awarding NASA’s sponsored research contracts to universities
      (iv) The Controller of Stanford University
      (v) The President of Stanford University

3. Distinguish between
   (a) direct and indirect costs;
   (b) allowable and unallowable costs; and
   (c) allocable and unallocable costs.

   There are eight possible combinations of the terms above (e.g., indirect, allowable, allocable costs). Provide an example of each or explain why no cost can satisfy the given combination of terms.

4. (a) Why does Stanford apply an average indirect cost rate to all its federally sponsored research activities?
   (b) What are the costs and benefits of adopting multiple indirect cost rates for federally sponsored research at Stanford?
   (c) What are the costs and benefits of varying the indirect cost rate across sponsors?

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Some notation is helpful in distinguishing among various types of contracts. Let $B$ be the amount bid by a supplier and let $C$ be the cost realized by the supplier in fulfilling a successful bid. A contract specifying the amount paid to the supplier in exchange for the good or service can be written as $xB + yC + z$. If $x = 1$ and $y = z = 0$, then the contract is a fixed-price contract. If $x = 0$ and $y = 1$, then the contract is cost-plus. In this case, $z$ is the profit allowed to the supplier.
5. Paul Biddle alleges Stanford overcharged the government by about $200 million. Relate this claim to the evidence.

6. (a) What groups audit Stanford University?  
(b) In what ways do such audits help or hurt Stanford University?  
(c) Is this an instance of audit failure? If so, which group of auditors is responsible?

7. Are Stanford’s cost recoveries from the federal government excessive? Are there actions of the University (or its employees) that may be considered illegal? Unethical?
### Exhibit 1

**Representative Memoranda of Understanding (MoUs), Other Agreements & Cost Studies between Stanford University and the Office of Naval Research**

**TYPE Key:**
- A = Definitions
- B = Effort Reporting/Department Administration
- D = Equipment Inventory and Depreciation
- I = General Administrative/Sponsored Projects Administrations
- J = Library
- N = Service Center Agreements
- O = Service Centers – Long Term Pricing Agreements

**STATUS Key:**
- 1 = Active/Ongoing
- 2 = Active/Date Specific
- 3 = Inactive
- *Extension Requested

**CATEGORY Key:**
- 1 = Study
- 2 = MoU
- 3 = Other Agreement

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<th>Effective Date</th>
<th>Type</th>
<th>Subject</th>
<th>Date Signed</th>
<th>Status</th>
<th>Purpose</th>
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<td>A.02</td>
<td>Exclusion of rental/lease of equipment from Modified Total Direct Cost</td>
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<td>Costing changes regarding sabbatical leave</td>
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<td>Moves sabbatical leave from department administrative pool in indirect cost rate into benefit rate</td>
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<td>D.02</td>
<td>Change method of equipment cost recovery from use allowance to depreciation</td>
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<td>Establishes depreciation as method to recover equipment costs</td>
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<td>Provides flexible pricing for efficient resource allocation, long term breakeven</td>
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Exhibit 2

Total Federal R&D Obligations in Relation to Stanford University

(1988 constant dollars in millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Federal R&amp;D</th>
<th>SU share of total (%)</th>
<th>SU number of tenure-line faculty</th>
<th>SU research space (thousands of sq. ft.)</th>
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<td>1984</td>
<td>6,189</td>
<td>2.9</td>
<td>1,157</td>
<td>967</td>
</tr>
<tr>
<td>1985</td>
<td>6,852</td>
<td>3.1</td>
<td>1,160</td>
<td>989</td>
</tr>
<tr>
<td>1986</td>
<td>6,968</td>
<td>2.8</td>
<td>1,165</td>
<td>1,018</td>
</tr>
<tr>
<td>1987</td>
<td>7,530</td>
<td>2.8</td>
<td>1,186</td>
<td>1,051</td>
</tr>
<tr>
<td>1988</td>
<td>7,717</td>
<td>2.7</td>
<td>1,177</td>
<td>1,064</td>
</tr>
</tbody>
</table>

Exhibit 3

Research Budget Model

(11/1/88 – 10/31/89)

A. SALARIES AND WAGES:

J.A. Doe, Professor and Principal Investigator, part-time effort for four quarters at no cost $ —
A.B. Coe, Research Associate, 10% effort for 12 months; based on a full-time rate of $5,250 per month current year 6,342
D.E. Jones, Acting Assistant Professor, part-time effort for 9 months at no cost and 10% effort for 3 months; based on a full-time rate of $3,258 per month current year 1,065
F.G. Smith, Research Associate, 5% effort for 12 months; based on a full-time rate of $2,896 per month current year 1,749
Graduate Student Research Assistant, 50% effort for three quarters and 75% for one quarter; based on a full-time rate of $5,724 per quarter current year 12,965
1.0 Engr/Tech month; average rate $3,559 per month current year 3,583
0.8 Hansen Labs Direct Admin month; average rate $2,749 per month current year 2,213
0.5 Ginzton Lab Direct Reports/Admin month; average rate $2,680 per month current year 1,349
1.0 Secretary month; based on $2,721 per month current year 2,739

SUBTOTAL: Salaries and wages 32,005

B. STAFF BENEFITS: 27.0% of salaries through 8/31/89 and 27.8% thereafter 8,683

C. EXPENDABLE MATERIALS AND SUPPLIES 14,110

D. TRAVEL 1,500

E. REPORTS AND PUBLICATIONS 750

F. COMMUNICATIONS 2,250

G. COMPUTER COST: 0.2 hour on IBM 3090 at $2,232 per hour 444

SUBTOTAL: Modified Total Direct Cost (MTDC) 59,742

H. INDIRECT COST: 73% MTDC to 8/31/89; 74% thereafter 43,713

I. CAPITAL EQUIPMENT 46,545

TOTAL ESTIMATED COST $150,000

• Indirect cost is applied to all items except capital equipment.
• Indirect costs pay for average costs of building depreciation, operations and maintenance (heat, electricity, water), administration allocated to research, and library use for research.
• Indirect cost is \$43,713 \$150,000 \approx 30\% \text{ of the program budget.}

Source: Dean of Research, Stanford University (August 1991).
Exhibit 4

On-Campus Indirect Cost Rates and Recovery for Sponsored Research

<table>
<thead>
<tr>
<th></th>
<th>FY81</th>
<th>FY85</th>
<th>FY86</th>
<th>FY87</th>
<th>FY88</th>
<th>FY89</th>
<th>FY90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Actual Base Rate(^1)</td>
<td>64.8</td>
<td>68.0</td>
<td>70.9</td>
<td>74.1</td>
<td>72.1</td>
<td>74.9(^4)</td>
<td>78.2(^4)</td>
</tr>
<tr>
<td>Negotiated Rate(^1,5)</td>
<td>58.0</td>
<td>69.0</td>
<td>69.0</td>
<td>73.0</td>
<td>73.0</td>
<td>73.0</td>
<td>74.0</td>
</tr>
<tr>
<td>Staff Benefits Rate(^2)</td>
<td>19.2</td>
<td>24.1</td>
<td>25.0</td>
<td>24.7</td>
<td>26.2</td>
<td>27.0</td>
<td>27.6</td>
</tr>
</tbody>
</table>

(millions of dollars)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Indirect Costs</td>
<td></td>
</tr>
<tr>
<td>Recovered(^3)</td>
<td>37</td>
</tr>
<tr>
<td>Operating Budget(^6)</td>
<td>147</td>
</tr>
</tbody>
</table>

\(^1\) as a percent of modified total direct costs.
\(^2\) as a percent of salaries and wages.
\(^3\) excluding the Stanford Linear Accelerator Center.
\(^4\) estimated.
\(^5\) including carryforward.
\(^6\) The Operating Budget includes most of the recurring unrestricted income available to the University plus those restricted funds, such as endowed professorships and scholarships, that are restricted to the core activities of the teaching, departmental support, and financial aid. In addition, the Operating Budget contains most of the University’s overhead and administrative costs providing support for the various teaching, research, and auxiliary activities.

Source: Controller’s Office, Stanford University (December 1991).
## Exhibit 5

### A Comparison of Indirect Cost and Staff Benefit Rates at Stanford and Other Universities

*(percent)*

<table>
<thead>
<tr>
<th>Institution</th>
<th>1986 Indirect Cost Rate</th>
<th>1986 Staff Benefit Rate</th>
<th>1990 Indirect Cost Rate</th>
<th>1990 Staff Benefit Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harvard Medical School</td>
<td>99.0</td>
<td>21.0</td>
<td>77.0</td>
<td>22.5</td>
</tr>
<tr>
<td>Columbia</td>
<td>74.1</td>
<td>27.0</td>
<td>74.1</td>
<td>27.0</td>
</tr>
<tr>
<td>Stanford</td>
<td>69.0</td>
<td>25.0</td>
<td>74.0</td>
<td>27.6</td>
</tr>
<tr>
<td>Cornell</td>
<td>63.6</td>
<td>28.5</td>
<td>70.0</td>
<td>29.0</td>
</tr>
<tr>
<td>Harvard</td>
<td>66.0</td>
<td>21.0</td>
<td>68.0</td>
<td>21.0</td>
</tr>
<tr>
<td>Yale</td>
<td>72.0</td>
<td>21.0</td>
<td>68.0</td>
<td>28.5</td>
</tr>
<tr>
<td>University of Pennsylvania</td>
<td>65.0</td>
<td>29.9</td>
<td>65.0</td>
<td>29.2</td>
</tr>
<tr>
<td>Johns Hopkins</td>
<td>61.0</td>
<td>24.0</td>
<td>64.0</td>
<td>24.0</td>
</tr>
<tr>
<td>USC</td>
<td>61.0</td>
<td>24.0</td>
<td>63.2</td>
<td>28.9</td>
</tr>
<tr>
<td>MIT</td>
<td>61.5</td>
<td>37.8</td>
<td>62.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Cal Tech</td>
<td>58.0</td>
<td>29.5</td>
<td>58.0</td>
<td>29.3</td>
</tr>
<tr>
<td>University of Washington*</td>
<td>43.0</td>
<td>18.8</td>
<td>51.0</td>
<td>24.0</td>
</tr>
<tr>
<td>UC Berkeley*</td>
<td>45.6</td>
<td>24.0</td>
<td>49.0</td>
<td>30.0</td>
</tr>
</tbody>
</table>

* State appropriations normally pay for indirect costs at public institutions. Indirect costs recovered on sponsored agreements are counted as state revenues, not revenues to the institution. This reduces the incentive for full cost recovery at public institutions.

**Source:** Rick Biedenweg and Dana Shelley, “1986–87 Decanal Indirect Cost Study” (February 1988) p. 33; and Office of Public Affairs, Stanford University (October 1990).
Exhibit 6A

Illustration of Indirect Cost Allocation Process

1) An expense is incurred and recorded in a cost center account.

2) Expenses fall into three categories: allowable direct costs, allowable indirect costs, and unallowable costs. Allowable indirect costs accounts are subdivided into functions (see below) such as “Plant Operations and Maintenance” or “Administrative Expense.”

3) Costs in each function are assigned to an indirect cost pool or a final cost objective.

4) A stepdown allocation process (Exhibit 6B) assigns costs to Cost Objectives.

* Capital asset costs for Buildings, Improvements, and some Equipment are recorded in Plant Accounts; other Equipment for depreciation is recorded in Function 1 through 8 accounts.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Depreciation:</td>
<td></td>
<td>$15,541,006</td>
<td>(15,541,006)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buildings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td></td>
<td>14,217,732</td>
<td>(14,217,732)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvements</td>
<td></td>
<td>3,180,800</td>
<td>(3,180,800)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operations &amp; Maint.</td>
<td></td>
<td>47,477,187</td>
<td>64,814</td>
<td>429,900</td>
<td>82,310</td>
<td>(48,033,901)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General &amp; Admin.</td>
<td>53,673,591</td>
<td>1,185,289</td>
<td>1,597,192</td>
<td>292,621</td>
<td>3,478,190</td>
<td>(60,226,883)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsored Proj. Admin.</td>
<td>24,32,070</td>
<td>6,733</td>
<td>19,831</td>
<td>3,800</td>
<td>45,015</td>
<td>253,631</td>
<td>(2,761,080)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department Admin.</td>
<td>44,789,868</td>
<td>2,939,437</td>
<td>3,497,128</td>
<td>655,834</td>
<td>7,917,413</td>
<td>4,164,799</td>
<td>(63,964,479)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsored Proj. Admin.</td>
<td>16,625,023</td>
<td>180,015</td>
<td>492,644</td>
<td>94,380</td>
<td>1,158,140</td>
<td>1,506,988</td>
<td>(20,057,201)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Services</td>
<td>16,625,023</td>
<td>1,686,495</td>
<td>365,766</td>
<td>572,099</td>
<td>6,888,740</td>
<td>2,538,123</td>
<td>(4,374,166)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library (Ex. SLAC)</td>
<td>31,726,943</td>
<td>1,686,495</td>
<td>365,766</td>
<td>572,099</td>
<td>6,888,740</td>
<td>2,538,123</td>
<td>(4,374,166)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Cost Objectives:</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsored Instruction</td>
<td>99,612</td>
<td>23,138</td>
<td>313,026</td>
<td>868,260</td>
<td>123,063</td>
<td>22,691,371</td>
<td>89,549</td>
<td>388,350</td>
<td>$4,295,236</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organized Research</td>
<td>6,715,662</td>
<td>4,652,957</td>
<td>857,936</td>
<td>17,142,550</td>
<td>19,287,492</td>
<td>2,293,951</td>
<td>25,933,884</td>
<td>4,144,701</td>
<td>12,502,032</td>
<td>93,531,165</td>
<td></td>
</tr>
<tr>
<td>Instruction &amp; Department Research</td>
<td>2,089,671</td>
<td>2,533,651</td>
<td>484,984</td>
<td>4,561,222</td>
<td>19,343,088</td>
<td>0</td>
<td>34,956,295</td>
<td>15,624,231</td>
<td>29,519,378</td>
<td>111,112,520</td>
<td></td>
</tr>
<tr>
<td>Research Libraries Group</td>
<td>47,142</td>
<td>0</td>
<td>12,068</td>
<td>120,238</td>
<td>713,088</td>
<td>0</td>
<td>0</td>
<td>892,536</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient Care</td>
<td>58,617</td>
<td>45,476</td>
<td>8,713</td>
<td>265,847</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>378,633</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Institutional Activities</td>
<td>488,104</td>
<td>454,010</td>
<td>91,267</td>
<td>1,127,376</td>
<td>86,912</td>
<td>0</td>
<td>0</td>
<td>1,158,026</td>
<td>3,375,695</td>
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</tr>
<tr>
<td>Other Sponsored Activities</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>43,218</td>
<td>6,180</td>
<td>74,506</td>
<td>0</td>
<td>123,904</td>
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<tr>
<td>Stanford Linear Accelerator Center</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3,168,798</td>
<td>261,331</td>
<td>0</td>
<td>153,671</td>
<td>168,318</td>
<td>375,318</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSRL (DoE CONTRACT 13000)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>569,809</td>
<td>76,356</td>
<td>683,483</td>
<td>45,048</td>
<td>12,062</td>
<td>1,387,217</td>
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<td></td>
</tr>
<tr>
<td>Stanford University Hospital</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>49,375</td>
<td>2,731,111</td>
<td>0</td>
<td>0</td>
<td>2,780,466</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Howard Hughes Medical Institute</td>
<td>9,415</td>
<td>8,610</td>
<td>1,650</td>
<td>31,545</td>
<td>65,379</td>
<td>0</td>
<td>46,480</td>
<td>163,079</td>
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<tr>
<td>Auxiliary Enterprises</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2,984,864</td>
<td>4,886,187</td>
<td>0</td>
<td>0</td>
<td>7,871,051</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total $229,664,220


This schedule summarizes the allocation of indirect costs to cost objectives at Stanford for 1988. Each indirect cost pool has its own basis of allocation. For instance, depreciation on buildings is allocated according to the square footage of space occupied by each cost objective within the building. As another example, footnote 11 of the case describes the allocation of library costs. At each step of the process, one cost pool is emptied. Some indirect costs in the pool may be allocated to other indirect cost pools (e.g., the first step allocates $1,686,495 of building depreciation to the library cost pool). In turn, these costs are allocated among the remaining cost pools and the direct cost objectives. The process terminates after all indirect costs have been allocated to cost objectives.
Exhibit 7

Indirect Costs Withdrawn by Stanford University
Between 12/90 and 3/91
(Dollars)

Stanford University maintains that these costs are allowable under A–21 Stanford University acknowledges that these costs were included in error

<table>
<thead>
<tr>
<th>Year</th>
<th>Operations</th>
<th>Renovations</th>
<th>Depreciation</th>
<th>Social Club Payments</th>
<th>Centennial Costs</th>
<th>Reception²</th>
<th>Shopping Center</th>
<th>Athletic Department Depreciation³</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>31,561</td>
<td>57,994</td>
<td>304</td>
<td>2,534</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>52,547</td>
<td>75,174</td>
<td>903</td>
<td>2,534</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td>56,312</td>
<td>13,041</td>
<td>1,074</td>
<td>2,534</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>70,737</td>
<td>22,195</td>
<td>1,160</td>
<td>2,534</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>71,210</td>
<td>23,478</td>
<td>1,542</td>
<td>2,534</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>91,578</td>
<td>3,491</td>
<td>1,745</td>
<td>2,534</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1987</td>
<td>101,850</td>
<td>5,706</td>
<td>1,758</td>
<td>2,455</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>583,453</td>
<td>206,239</td>
<td>10,984</td>
<td>20,272</td>
<td>178,944</td>
<td>3,684</td>
<td></td>
<td></td>
<td>1,350,642</td>
</tr>
</tbody>
</table>

1 The University operates official residences for the President, Provost, VP for Public Affairs, and the Chancellor. They are Hoover House, Hannah House, Lake House and Chancellor House.
2 Board of Trustees reception on the occasion of the wedding of President Kennedy to introduce his bride to the community.
3 Includes depreciation on the yacht Victoria of about $50,000 in 1988.

Source: Correspondence between Stanford University and the DCAA (November 29, 1990 to May 23, 1991).