

The Bulletin
of the University of
Minnesota

Report of the Survey Commission
II.

The Salary Situation and
Cost of Living



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UNIVERSITY SURVEY COMMISSION

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JOHN B. JOHNSTON, Dean of the College of Science, Literature, and the
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LAUDER W. JONES, Dean of the College of Engineering and Architecture¹
and Dean of the School of Chemistry¹
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ROSCOE W. THATCHER, Dean of the Department of Agriculture and Director
of the Agricultural Experiment Station
WILLIAM R. VANCE, Dean of the Law School¹

SPECIAL STAFF

RICHARD O. BEARD, Associate Professor of Physiology
ALBERT J. LOBB, Comptroller (previously Assistant Professor of Political
Science)
RODNEY M. WEST, Registrar (previously Secretary, University Depart-
ment of Agriculture) Executive Secretary of the Commission

¹ Term of office ended June 30, 1920.

PREFACE

On January 15 the Board of Regents of the University of Minnesota adopted the following resolution:

Voted that a Special Committee be appointed by the President of the Board to make a survey of the University and state educational activities, and investigate and report its findings and recommendations upon the following illustrative questions and upon such other questions as may seem advisable, to wit:

(1) What may be considered the growth of the University in the next twenty-five years?

(2) What in the nature of extension of grounds, construction of buildings, in the various departments and sub-stations of the institution, if no change is made in the present four-year period, will be required to meet the growth?

(3) Should the situation be relieved by the adoption of the principle of Junior Colleges to take over the work of the freshman and sophomore classes in the University?

(4) Should agricultural schools, such as the schools at Crookston and Morris, be multiplied?

(5) Should certain technical work now done in the Department of Engineering and in the School of Chemistry, be also taught in the Junior Colleges and Agricultural Schools?

(6) Are our professional courses too long?

(7) May not requirements for higher mathematics and other cultural things be somewhat lessened in preparation for medical degrees?

(8) What internal administrative adjustments could be made to improve and increase the amount of instruction?

The President of the Board then appointed the following committee:

Dean L. D. Coffman, Chairman

Regent J. M. McConnell

President M. L. Burton

Dean R. W. Thatcher

Dean J. B. Johnston

Dean W. R. Vance

Dean E. P. Lyon

Dean L. W. Jones

Dean G. S. Ford

The Survey Committee or Commission as it is now called had a number of preliminary meetings and finally on the recommendation of the chairman requested the appointment of Mr. Rodney M. West, Secretary of the University Department of Agriculture, Professor Albert J. Lobb of the Political Science Department, and Professor Richard O. Beard of the Medical School to assist with the collection of materials, the collation of data, and the preparation of reports. In addition a number of special sub-committees were appointed by the chairman of the commission to collaborate with the members of the commission in the preparation of special reports.

The reports now completed or in process of preparation are

1. The growth of the University
2. The salary situation in the University of Minnesota
3. The necessity of asking the legislature for an emergency appropriation
4. The building program
5. Junior colleges
6. The future of the schools of agriculture
7. An analysis of the budget situation.

Special committees are considering the following problems:

1. Are professional courses too long?
2. The service functions of the University
3. Graduate work
4. Utilization of the University plant
5. Retirement allowances

The second report which is herewith submitted was prepared by Mr. Albert J. Lobb, Assistant Professor of Political Science. This report deals with the salary situation of the University of Minnesota in comparison with the increased cost of living and in comparison with the situation at other typical universities. If the University of Minnesota ten years ago had had in its possession such information as this, all of which was available at that time, it would have been possible for it to have presented a program to the Legislature and to the citizens of the state which would have enabled it to have avoided the unfortunate conditions with respect to salaries which now exist in the University.

The commission is strongly of the opinion that the survey of the University of Minnesota should be continuous. Studies affecting its growth, revenues, building programs, budget systems, personnel, and internal organization and management are of fundamental importance if the University is to be economically administered and is to serve the state in an efficient manner.

LOTUS D. COFFMAN,

Chairman, University Survey Commission

UNIVERSITY OF MINNESOTA

June 3, 1920

OUTLINE OF THE REPORT

A. The Salary Situation in Former Years

1. A review of the Regents' and President's recommendations on the salary question 1902-1914.
2. The increasing cost of living during those years.
3. The recommendations to the 1919 Legislature and the results of its action.

B. The Salary Problem at the Present Time

1. Conditions at Columbia, Harvard, Yale, Cornell, and other leading institutions.
2. Minnesota as compared in general with other institutions.
3. Conclusion.

C. Minnesota Compared with Other Mid-Western Institutions

1. Academic College—by departments.
2. Agriculture.
3. Engineering.
4. Medicine.
5. Law.

D. The Cost of Living

1. A family budget 1913-1919, Government statistics.
2. Private employer's investigation.
3. Increase granted by the Government to railroad employees.
4. Wages of farm labor.
5. Wages in the industries.
6. Union scale in Minneapolis
7. Increased building costs and rents.
8. Index numbers during 1918-1920.
9. Will prices decline?

A. THE SALARY SITUATION IN FORMER YEARS

The present salary problem is not a new issue in university management. A world war has practically doubled the cost of living, which had increased almost steadily since the Klondike and South African gold fields were developed.¹ The early reports of the Board of Regents refer to the problem, as in 1902:

It is becoming more and more apparent that if the institution is to be kept up to its present standard of strength and usefulness, there is likelihood of the necessity of an increase of salaries in some cases to prevent the institution being deprived of its most accomplished and useful men by their call, at higher salaries, to other institutions.²

¹ By means of index numbers it is clearly demonstrable that price levels all over the world have been steadily rising since 1897, *Monthly Labor Review*, Bureau of Labor Statistics, March 1920 p. 222. See also *Stabilizing the Dollar*, Irving Fisher.

² *Twelfth Biennial Report of the Board of Regents, 1901-2 p. 4.*

In 1904 the biennial report compares the current expense appropriation at Minnesota with ten other universities.³

A comparison was instituted last year with the other state universities, as respects the ratio of expenditure for current expenses to the number of students, not for the purpose of basing on it an estimate beyond the requirements of strict economy, but to emphasize the necessity of more means for current expenses to keep the institution up to the standard of the day, and make it effectual for the realization of the expected beneficial results of its work. The following table shows the results of such comparison.

COMPARATIVE TABLE

	Number of students 1902-3	Appropriations for current expenses 1903-4	Per capita appropriations for current expenses
Wisconsin	2,870	\$529,000	\$184.32
Michigan	3,792	708,500	186.84
Kansas	1,294	194,650	150.42
Indiana	1,416	290,000	197.41
California	3,922*	583,000	148.67
Illinois	3,289†	500,000	152.02
Nebraska	2,560	335,000	138.67
North Dakota.....	493‡	73,000	148.07
Ohio	1,735	400,000	230.54
Iowa	1,442	240,000	166.43
Minnesota	3,788	481,900	127.21

* Including all affiliated departments in San Francisco, except Mark Hopkins Institute of Art, which received no state aid. These affiliated departments are all self-sustaining except the Medical School.

† Including professional schools at Chicago which are self-sustaining.

‡ Of whom 125 were in preparatory department.⁴

The Regents' report of 1904 also contains the following statement which applies with additional force today:⁵

The salaries of professors and instructors have always been, and now are, low; and it is more and more evident, as stated in our last report, that some raises must be made, from time to time, not only in justice to a class of devoted and accomplished men, but to hold our men; in other words, to prevent the most valuable and useful from going to other institutions at higher salaries. It is degrading and detrimental to the University to place it in the position of a training ground for the trial, test and proof of men in its faculties for the benefit of other institutions. Just and judicious administration will therefore require more money for the salary list, not only for the reasons above stated, but because an increase of registration from year to year renders imperative an increase in the teaching force.

The increased cost of living had become so apparent by 1906 that the Regents' report for the biennium states:⁶

On account of the increased cost of living and the need of more teachers and other help, the Board has found it necessary, during the last fiscal year, to materially

³ *Thirteenth Biennial Report of the Board of Regents, 1903-4* p. 5.

⁴ Compare with 1916-17; the last year before the entry of the United States in the world war: number of students, 12,458; cost of maintenance, \$2,140,676. *Twentieth Biennial Report of the Board of Regents* pp. 42 and 163. Increase in number of students, 1903-1917, 329 per cent. Increase in cost of maintenance, 344 per cent.

⁵ *Thirteenth Biennial Report of the Board of Regents, 1903-4* pp. 6-7.

⁶ *Fourteenth Biennial Report of Board of Regents, 1905-6* p. 5.

increase the salaries of professors and teachers in the University of Minnesota as well as all help employed in the various departments, which will materially add to the expense for the fiscal year from August 1st, 1906, to July 31st, 1907, an amount that will at least use up the balance on hand at the beginning of the year. But the salaries for the teaching force are still inadequate for the service rendered and required and it is the judgment of the Board of Regents that the deficiency appropriation of \$60,000.00, made by the last Legislature, should be increased to \$100,000.00 for each of the fiscal years of the next biennial period in order that the Board may increase salaries of the members of the faculty to a figure approximating the salaries paid men in similar positions in other Western Universities where similar conditions exist.

The Legislature recognized the justice and necessity of the request of the Board of Regents, and yet the continued increase in the cost of living made the appropriation granted inadequate before it was expended. Nearly all of the increase awarded at this time was used for the increase of salaries in the higher ranks.

The most important matter entrusted to the Board by the last Legislature was an increase of \$105,000 in the annual appropriation for current expense, mainly for the purpose of increasing salaries of the University professors. The Board used \$93,250 for that purpose and the balance to employ needed instructors and assistants.

There has been no appropriation made by the Legislature for the University that has meant so much for the improvement of University conditions as has this for advancing salaries to something nearer a proper living basis. While this advance has afforded great relief, the present scale of salaries of members of the faculty is below that which must in time be established and maintained if Minnesota is to attract and retain men of high rank and advance to its proper place among the leading institutions of the country. The urgent necessity at this time, however, is for means to enable the Board to employ more mature, and better equipped instructors.⁷

President Cyrus Northrop's last biennial report (1910) contains his endorsement of the statement of Dean John F. Downey of the College of Science, Literature, and the Arts:⁸

I can not too strongly urge that the Board of Regents follow up the resolution adopted at the meeting of June 10, 1910, recognizing the need of increased salaries and the further need of adopting a definite schedule of salaries. When vacancies now occur, it is very difficult to fill them with suitable men, on account of the low salaries paid. We can not compete with the institutions with which we are accustomed to compare our University; and too often they get the men we would like to have, forcing us to take less desirable men, and occasionally good men of our faculty are enticed to other institutions by the larger salaries paid, with a definite scale of increase. It is most important that the Board adopt, before the next annual adjustment of salaries, a scale of salaries and increases similar to that recently adopted by the Yale corporation, or to that proposed in Mr. E. B. Johnson's report to the salary committee of the Board of Regents.

The Board of Regents had by resolution recognized the familiar condition of the "need of increased salaries."

When President Vincent came to Minnesota he recognized the fact that the salaries were inadequate and that the standard of the University could not be maintained unless increases were obtained.

⁷ *Fifteenth Biennial Report of the Board of Regents, 1907-8* p. 14.

⁸ *Sixteenth Biennial Report of the Board of Regents, 1909-10* p. 21.

In spite of marked increases in salaries during the last five years, the salary scale at the University of Minnesota is distinctly below the point where many strong men and women from without can be successfully called to the institution, and able men within given adequate support and encouragement. The strength of the University lies in the personnel of its teaching staff. The buildings and equipment are of secondary importance.⁹

The Dean of the College of Science, Literature, and the Arts, in his report for the year ending July 31, 1912, in the words of President Vincent stressed the "need of additions to the teaching force and upon the importance of larger salaries for men of unquestioned ability or of distinct promise."¹⁰

The world war, which has changed many estimates and placed the nation on a new price level, began in August, 1914. The Board of Regents made the request to the 1915 Legislature on the basis of existing facts which were as follows:¹¹

In formulating their requests in behalf of the University for the biennium beginning August 1, 1915, the Regents have been guided by the following considerations:

Educational efficiency preferred to building expansion.—The Regents are convinced that the University's primary need is for continued strengthening of the teaching staff by increase in numbers and gains in able and well-trained personalities. Progress has been made during the present biennium, but much ground must still be gained if Minnesota is to take the place she should hold among the leading state universities of the country.

Thus if the salaries at Minnesota are increased in the same proportion as the increases made by other institutions in order to meet the increased cost of living, such increases will still be insufficient,—“if Minnesota is to take the place she should hold among the leading state universities of the country.”

The average salaries were:

Year	Deans	Professors	Assoc. Prof.	Asst. Prof.	Instructors	Assistants
1913-14	\$4,954.17	\$3,089.24	\$2,677.22	\$2,265.00	\$1,318.17	\$689.00*
1915-16	5,215.00	3,064.00	2,695.00	1,922.00	1,282.00	650.00†

The present salaries are:

Year	Deans	Professors	Assoc. Prof.	Asst. Prof.	Instructors	Assistants
1919-20§	\$5,542.31	\$3,868.27	\$2,905.17	\$2,178.00	\$1,500.72	\$634.82‡

* *Eighteenth Biennial Report of the Board of Regents, 1913-14* pp. 28-29.

† *Nineteenth Biennial Report of the Board of Regents, 1915-16* pp. 39-40. (See page 12.)

‡ Comparative salary budget for faculty members, 1919.

§ Percentage of increase: deans, 11.8 per cent; professors, 25.1 per cent; Associate professors, 8.7 per cent; Assistant professors, 3.8 per cent decrease; instructors, 13.7 per cent.

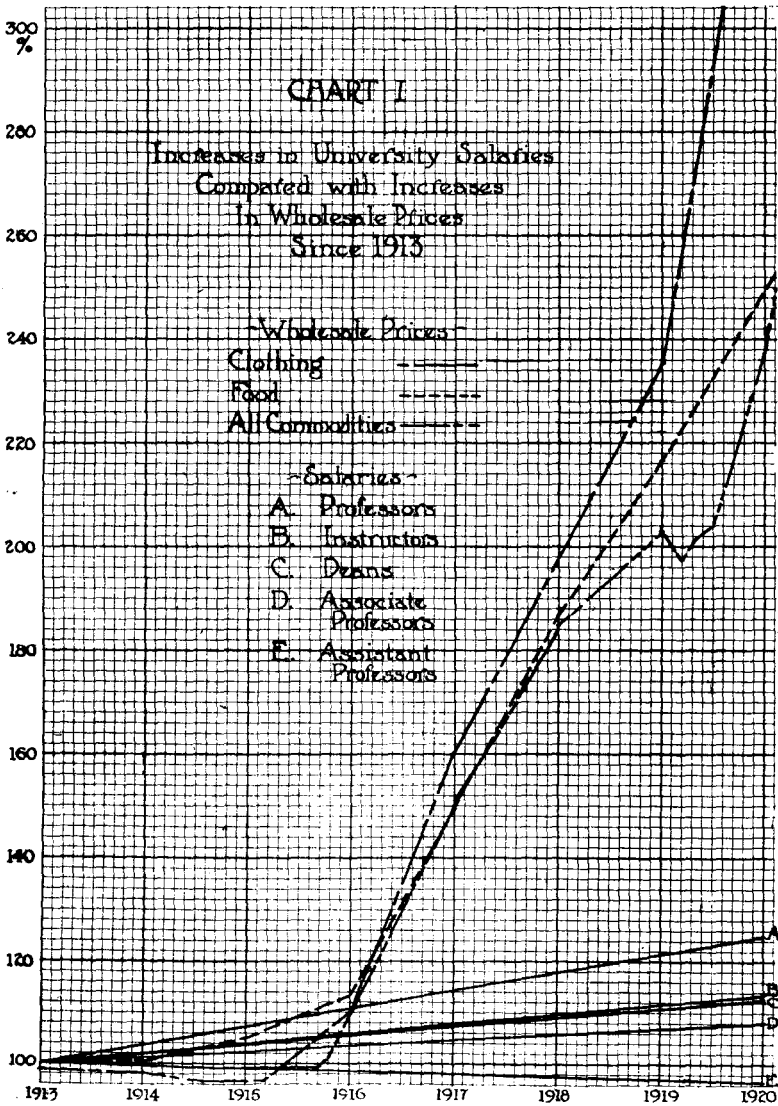
The annual cost of food for the average family in Minneapolis, based upon the December prices of 1919 as compared with the average for 1913, was \$657 in 1919 as compared with \$319.98, an increase of 105 per cent.¹²

⁹ *Seventeenth Biennial Report of the Board of Regents, 1911-12* p. 44.

¹⁰ *Ibid.* p. 55.

¹¹ *Eighteenth Biennial Report of the Board of Regents, 1913-14* p. 4.

¹² U. S. Department of Labor, *Monthly Labor Review*, February, 1920 p. 83.



The following table shows the changes in wholesale prices during the past twenty years:

INDEX NUMBERS OF WHOLESALE PRICES, 1899 TO 1918, BY GROUPS OF COMMODITIES
(1913=100)

Year	Farm Products	Food	Cloths and clothing	Fuel and light	Mis-cellaneous	All commodities
1899	62	75	82	71	82	74
1900	69	79	88	80	91	80
1901	73	80	82	78	90	79
1902	81	85	84	92	92	85
1903	75	82	88	105	94	85
1904	80	87	89	91	94	86
1905	77	86	91	87	95	85
1906	78	84	97	90	97	88
1907	85	89	104	93	101	94
1908	85	94	94	91	97	91
1909	97	99	98	88	109	97
1910	103	100	99	84	116	99
1911	93	99	96	82	104	95
1912	101	108	98	89	101	101
1913	100	100	100	100	100	100
1914	103	103	98	96	98	100
1915	105	104	100	93	99	101
1916	122	126	128	119	120	124
1917	189	176	181	175	155	176
1918	220	189	239	163	193	196
1919	234	210	261	173	217	212

The index number for all commodities for 1919 is 212. But the index numbers for all commodities for the last three months of 1919 were October, 223; November, 230; December, 238. Hence it is undoubtedly true that the index number of 212 is too low for the present period.¹³

Two years after the beginning of the great war, the Regents realized that in planning for the biennium ending July 31, 1919, they were confronted with a most unfortunate situation:

It is generally admitted that the pay of college teachers is deplorably inadequate when account is taken of what is expected of them in preparation and in service. The rise in living expenses merely precipitates the question of salary increases which could not in any event be long postponed. In many cases the clerical salaries and the wages paid by the University are below the prevailing scale. A large annual sum is needed for raising the salaries and wages, chiefly of the teachers, clerks, and manual workers who are receiving the smaller incomes.¹⁴

¹³ U. S. Department of Labor, *Labor Review*, February, 1920 pp. 88-89. The index number for all commodities for January 1920 was 248. *Labor Review*, March 1920 p. 65.

¹⁴ *Nineteenth Biennial Report of the Board of Regents, 1915-16* p. 5.

An excellent statement of the salary situation appears in the Regents' report transmitted to the Governor, January 23, 1919:

In realizing these aims, our outstanding difficulty centers in the general salary situation. The seriousness of this problem can not be exaggerated. Improvement here is our first necessity. The members of the Legislature may ask whether we intend to say that we put the salary question ahead of all others. Our answer is "Yes." It strikes at the very heart of our efficiency. From the standpoint of the future, nothing will determine our success more definitely. Unless we can pay larger salaries, we can not hold the very members of the staff who are most essential, nor can we command from other sources the type of men we must have. From 1912 to 1918 the University lost, by reason of inadequate salaries, 75 professors and instructors. The whole teaching profession is at present seriously endangered. Men of first-class abilities can not enter upon the teaching career with assurance. Their self-respect compels them to seek other lines of service. This state must help immediately in counteracting this tendency. Without any exception, the world now knows that no activity is more important to a state or a nation than its educational system. The high cost of living has produced a very difficult situation for large numbers of our staff. At the present time 261 professors and instructors are receiving salaries ranging between \$1,000 and \$2,500. From the standpoint of purchasing power, the entire staff has experienced a sharp reduction in income. We are not proposing a "blanket increase" in salaries. We believe that the question should be decided upon the basis of services rendered and upon the merits of the case. It will be noted from the tables that we are asking for appropriations both for increasing the salaries of the present members of the faculty, and for the salaries of additions to the staff where the work must be strengthened and improved.¹⁵

A \$500,000 increase in the annual budget for salaries was asked of the 1919 Legislature. President Marion LeRoy Burton states that:

The University went before the forty-first session of the Legislature with a sharply defined program. It took the firm position that adequate provision for salaries was the first need of the University. Accordingly it proposed that the general maintenance fund be increased from \$1,365,000 to \$1,865,000 annually.¹⁶

The 1919 Legislature granted the requests of the Board of Regents:

It is a pleasure to report that the Legislature made the following appropriations:

1. For general maintenance (annual).....	\$1,865,000
For buildings (immediately available).....	175,000
For buildings (1919-20).....	328,000
For land, roads, and paving.....	49,000

2,417,000

Mill tax (estimated)..... 365,000

Total for 1919-20..... \$2,782,000

2. For the comprehensive building plan beginning July 1, 1920 the sum of \$560,000 annually or \$5,600,000 for the decade. In order to make these statements perfectly clear and to compare them with the appropriations for 1917, the following table is presented:

¹⁵ *Twentieth Biennial Report of the Board of Regents, 1917-18* pp. 8-9.

¹⁶ *President's Report for 1918-19*, October 31, 1919 p. 7.

In connection with this table it is important to observe (1) that during the last biennium all building projects were suspended owing to the war and (2) that the increase of one million dollars in the appropriation for general maintenance was intended to meet squarely the general salary situation.¹⁷

COMPARISON OF LEGISLATIVE APPROPRIATIONS IN 1917 AND 1919

	Granted 1917-18	Granted 1918-19	Granted 1919-20	Granted 1920-21
Mill tax.....	\$ 351,775	\$ 360,000	\$ 365,000	\$ 365,000
General maintenance..	1,365,000	1,365,000	1,865,000	1,865,000
Buildings	125,250		503,000	560,000
Lands and roads.....			49,000	
Total for each year.	\$1,842,025	\$1,725,000 1,842,025	\$2,782,000	\$2,790,000 2,782,000
Total for each biennium		\$3,567,025		\$5,572,000

It would be a serious mistake if anyone concluded that the salary problem of the University was solved by the action of the 1919 Legislature. The armistice in the great world war was signed November 11, 1918. On December 1, 1918 the budget for the University for the biennium ending June 30, 1921, was submitted to the Governor. High hopes and expectations were entertained by many that an early return to a somewhat lower price level would be realized. Few individuals expected a continuous increase in the already abnormally high cost of living. But the report of President Burton on September 15, 1919, shows that economic causes continued to operate in such a manner that the situation at Minnesota was serious even at that date.

It is true that the Legislature gave the University the appropriations it asked for increasing the salaries and for additions to the staff. The biennial appropriation for the General Maintenance Fund was *increased* by the amount of one million dollars. No word written here, therefore, must be interpreted, even by inference, as criticism of the actions of the Legislature. Indeed, only expressions of appreciation are appropriate. Nevertheless, the general salary situation remains serious. In a word, only a beginning has been made. Our plans submitted to the last Legislature were formulated in the fall of 1918 and were submitted to Governor Burnquist, in accordance with legal requirements, on December 1, 1918. In the months which have elapsed since then economic conditions have grown steadily more difficult and have accentuated the problems arising out of the high and increasing cost of living. Approximately 76 per cent of the increase in salaries was awarded to those whose salaries were \$2,500 annually or less. Either prices must go down or salaries must go up. America, to-day as never before, realizes the absolutely vital importance of education to democracy. Never before have the universities been regarded so highly as to-day. They are tremendously potent factors in shaping the citizenship of the new day. No man is too well equipped or possesses too much ability to perform the high task of training and inspiring our youth. At the present moment, however, the supply of first-class men for university teaching is growing steadily less. As compared with the financial opportunities in other professions and in business, the career of the professor is not attractive. In sheer self-respect many are deserting the ranks. The war has been a seriously disturbing factor. Large numbers of our staff were summoned into military and Government service. They have had new experiences, and especially they have sensed large, new possibilities in other careers.

¹⁷ President's Report for 1918-19, October 31, 1919 p. 8.

Moreover, the world has had an opportunity to discover the rare qualities and unusual abilities of university men. In the long run, the results will be highly beneficial. In the meantime, one of our most serious duties is to do all in our power to maintain a respectable living wage for the teacher. It must be done. I confidently believe that the representatives of the people of Minnesota can be depended upon to meet the situation courageously and in a statesmanlike manner.¹⁸

During the entire period from 1900 to 1919 the Board of Regents has been confronted with an ever-increasing salary problem. Unlike the business man, or the mechanic or day laborer, the salaried man was unable to obtain the relief necessary to meet the increasing costs of living. The ordinary salaried man suffered. But the salaried man in the service of the state was made to suffer even more because appropriations were made on the basis of a two-year estimate. No emergency fund sufficient to meet the new conditions existed. Whereas in the commercial field a salary might be adjusted at any time, the university man was compelled to wait the action of the next legislature. It was therefore a fact that in this period of rising prices the servant of the state of Minnesota suffered even more than the typical salaried men in other fields of service. When relief was granted by the Legislature, it always lagged behind the constantly mounting costs of existence. Thus the very large appropriations for 1919-21 did not reach the instructor as quickly as the increased rents, or the new prices on food and other essentials. When the budget was submitted in December, 1918, the average annual family expenditure for the 22 food articles used by the typical family in Minneapolis was \$577.06; but by the time the instructor began to receive the benefits, one year later in December, 1919, the same articles of food cost \$657.00, according to the United States government report.¹⁹ Thus, an instructor who received an increase of \$100 a year, in accordance with the plan approved February 18, 1918, by the Regents,—“in case the instructor’s work, personality, and interests warrant the expectation that he will prove a desirable permanent member of the University faculty”²⁰—found that when he received that \$100 it cost his family \$77.94 more for food than the preceding year.²¹ The average 1919-20 salary of the instructor on a twelve months’ appointment was \$1,676. The federal government’s reports show that the wholesale prices of clothing increased 34 per cent between December, 1918 and December, 1919.²² The government investigation of 12,000 family budgets in 92 localities shows that 16.6 per cent of the family income is expended for clothes. According to the

¹⁸ *President's Report for 1918-19*, October 31, 1919, pp. 79-80.

¹⁹ U. S. Department of Labor, *Monthly Labor Review*, February, 1920, p. 83.

²⁰ *President's Report for 1917-18* p. 62.

²¹ The accuracy of this estimate is attested by the fact that the increase of the wholesale food prices for the year ending December, 1919 was 11.4 per cent. The average per cent of a family budget expended for food was found to be 38.2 per cent. This means \$640.23 of a \$1,676 budget. An increase of 11.4 per cent on this budget equals \$72.98. Therefore, the actual family budget increase for Minneapolis estimated at \$77.94 is very close to the exact increase. This is evidenced by the fact that the increase in the cost of food in Minneapolis has been 105 per cent since 1913-14, a greater increase than in most American cities.

²² United States Department of Labor, *Monthly Labor Review*, February, 1920 p. 88.

December, 1918 prices, \$278.22 of the annual family budget of \$1,676 was expended for clothing. But as the prices of clothing had gone up 34 per cent by December, 1919, \$373.81, or an increase of \$95.59, was necessary in order that the instructor might purchase the clothing that his salary would normally purchase when the requests were made of the 1919 Legislature.

In other words, the average instructor on a Class A appointment (appointment for the fiscal year) received in 1919-20 \$1,676. But he expends \$95.59 more for clothing and \$77.94 more for food; a total of \$173.53 more than in 1918 for these two items. If he expends \$373.53 for clothing and \$657 for food, this constitutes an expenditure of \$1,030.81, or 61.5 per cent of the entire budget for food and clothing. But this is nearly 10 per cent more of the total budget than is expended for food and clothing than would normally be so used.²³

It is clearly evident that the financial condition of the instructor at Minnesota at the close of 1919 was a most embarrassing one. The men in the higher ranks were relatively worse off than they were twenty years ago. Two attempts in the past decade at a solution of the problem have ended with the salary issue still the most important single University question before the Board of Regents and the representatives of the people of Minnesota.

²³ United States Department of Labor, *Monthly Labor Review*, January, 1920 p. 98.

B. THE SALARY PROBLEM AT THE PRESENT TIME

A worthy example for American universities was set by Columbia University in 1876. In that year the salaries of professors in the academic department were established at \$7,500. When the purchasing value of the dollar is considered, the actual value of the salaries established by Columbia nearly a half-century ago, seems almost unattainable with the possible revenues of institutions today. A salary of \$15,000 today would not purchase the services or commodities that \$7,500 purchased in 1876. Yet until that standard, at least, is reached our universities have failed to reward the services of men of the first order of ability as was done at a much earlier day when the high salaries in the commercial field were comparatively unknown. No salary scale as yet adopted by any institution is considered ideal, nor high enough to command the services of men who may find equally scientific and much more remunerative fields of activity in the commercial and industrial life of the nation.

The fact is recognized that the universities will develop both students and members of the staff who may best serve the needs of the commonwealth and nation outside the scholastic walls. It is neither possible nor entirely desirable that no losses in the staff occur. Both the general public and the university gain when the relation between the university and the business and professional life of the community is so intimate that changes, both ways, may occur. No successful attempt can or should be made to retain all members of the staff who receive offers of higher financial rewards elsewhere. When the individual becomes less interested in scientific investigation or the highest type of teaching, it may be the best policy for the state and the university to allow the man to labor in his most productive field elsewhere.

Yet it is of the utmost necessity that university salaries be sufficiently high to induce capable young persons to consider university teaching as a profession. The most serious problem is not the loss of members of the present staffs in American universities. Years of training, deep-rooted traditions, loyalty to their work and institutions, the inertia of the settled life, and other factors may cause the older members of existing faculties to remain. But no delusions about the present or future outlook of the professor will induce the right type of productive scholarship and highest teaching ability to enter the graduate schools of the nation. The publicity given to the salary problem of the professor has made known the facts. It is possible that too much publicity may overreach the mark and lower the self-respect of the professor and discourage the possible new recruit, thus making the present intolerable situation even more unbearable.

The statement of President Butler of Columbia to the trustees of that university a few months ago, indicates clearly the decline in the actual value of the salary received by the professor and an excellent scale for the new salaries.¹

¹ Columbia University, *Report of President Butler, 1919* pp. 13-16.

SURVEY COMMISSION REPORT

Despite the best efforts of the Trustees, however, the scale of salaries is in 1919 far below the point fixed in 1876, while living costs are probably not less than twice as great as they were then.

It will not be without interest to quote the following figures from a statement prepared by a competent authority, based on the accepted value of the dollar of January 1916 as 58 cents at the date of this report. In making these comparisons, deductions have been made for income tax in the year, 1919, based on an exemption of \$2,000, with no exemption for children. In the lowest salary quoted (\$2,000) no deduction for income tax has been made.

Annual Salary 1916	Value of same salary 1919*
\$12,000	\$6,487
10,000	5,463
8,000	4,428
6,000	3,382
5,000	2,830
4,000	2,273
3,000	1,717
2,000	1,160

* After deducting income tax according to law and allowing for decrease in purchasing power of dollar.

It is imperative that the salaries of the teachers in Columbia University be raised and that the burden of sacrifice and deprivation which scores of cultivated men and women are bearing for the sake of their profession and their ideals be lifted. If \$7,500 was an appropriate and adequate salary for a professor in Columbia College in 1876, surely \$8,000 is no more than an appropriate salary in 1920, for teachers of a high order of excellence who have given the University long and faithful service. There are grave objections to fixing a hard and fast compensation for all teachers of a given grade regardless of their effectiveness, length of service, and other similar considerations. It will be wise for the Trustees always to keep in their own hands the adjustment in particular instances, but a strong argument may be made for fixing and announcing the amount which the Trustees, under present conditions, regard as suitable normal compensation for incumbents of the several academic grades.

In fixing salaries and in making promotions, due account should always be taken of teaching effectiveness, scholarly productiveness and academic usefulness.

It is therefore recommended that sufficient additional funds be sought to enable the Trustees to establish and to maintain the following scale of salaries, exceptional cases being treated, as they should always be treated, in exceptional ways:

For full professors.....	\$6,000-\$8,000
with the expectation of paying salaries of \$10,000 to a limited number of teachers of unusual distinction	
For associate professors.....	4,500- 5,000
For assistant professors.....	3,000- 3,600
For instructors	2,000- 2,400
For assistants	1,000- 1,200

If such a scale of salaries as is suggested can be established at Columbia it may be necessary to take formal steps to limit the number of professorships, and to hold out hope of promotion or new appointment only when vacancies occur by death, retirement or resignation, or when circumstances plainly require the establishment of additional teaching positions in the higher grades of service. Emergencies could be met by adding to the number of associates, lecturers and instructors as occasion may require, without offering to the persons so appointed any prospect of advancement in grade unless vacancies shall be created in the manner stated.

President Lowell, of Harvard, announced March 16, 1920 the new budget for Harvard, effective September 1, 1920, as follows:

SALARIES AND COST OF LIVING

	1919-20		1920-21		Per cent of Increase Min.
	Min.	Max.	Min.	Max.	
Professors	\$4,000-	\$5,500	\$6,000-	\$8,000	50
Associate professors.....	3,500-	4,000	5,000-	5,500	43
Assistant professors.....	2,500-	3,000	3,500-	4,000	40
Instructors	1,000-	2,000	1,600-	2,750	60

Yale started the year 1919-20 with salaries much higher than Minnesota, but the trustees, realizing the great pressure upon the university staff by reason of the mounting living costs, adopted a new salary schedule and made it retroactive from July 1, 1919.

	1919-20 original schedule		Retroactive 1919-20 schedule	
	Min.	Max.	Min.	Max.
Professors	\$4,500	\$5,000	\$5,000	\$8,000
Associate professors.....	3,500	4,500	.....	.....
Assistant professors.....	2,500	3,000	2,500	4,000
Instructors	1,250	2,000	1,250	2,000

The increases made at Yale are not sufficient to meet the situation and under date of March 15, 1920 the director of the Sheffield Scientific School writes:

The Corporation of the University, however, is considering further advances, to be applied more particularly to instructors and appointments of assistant professors on the first and second term.

Cornell is now making a new budget for next year. The existing average salaries and the proposed new average salaries are as follows:²

	1919-20 average	Proposed budget	Per cent of increase
Professors	\$3,678	\$4,500	22
Assistant professors.....	2,151	3,000	39
Instructors	1,161	1,800	55

A leading Pacific coast university has adopted a new salary schedule beginning December 1, 1920, as follows:

Professors	\$4,500-	\$7,500
Associate professors.....	3,250-	4,000
Assistant professors.....	2,500-	3,000
Instructors	1,800-	2,400

A letter from a great Canadian university dated March 29, 1920, contains the following information as to the new average salaries:

	Applied science	Arts	New schedule	Percentage of increase over Arts
Professors	\$4,000.00	\$3,583.00	\$5,500.00	53
Associate professors.....	3,050.00	2,950.00	4,000.00	46
Assistant professors.....	2,600.00	2,470.00	3,000.00	22
Lecturers	1,699.00	1,675.00	2,500.00	...
Demonstrators	994.11	.....	1,350.00	...

² Cornell University Semi-Centennial Endowment, Bulletin no. 12.

The universities of the country are now confronted with the problem of next year's budget. A number of the budgets are now in the process of being formulated. Letters received within the past two days from five of the greatest mid-west universities indicate the present condition of the financial problem.³

"Our budget for 1920-21 is in preparation. There will be moderate increases in the lower ranks, but no material changes in the upper ranks." "President ——— suggests that in perhaps ten days the budget will be in such condition that your questionnaire" in regard to increases may be answered. One of the largest of the mid-west endowed universities reports:

Just recently we compiled a questionnaire for the General Education Board and I beg to attach hereto copies of sections of it which I think answer your questions.

The salary changes in this institution for the past five years are as follows:

	1914-15 (Actual)	1919-20 (Estimated)	Per cent of increase
Professors	\$4,231	\$4,849	14.6
Associate professors.....	2,736	3,103	13.4
Assistant professors.....	2,088	2,579	23.5
Instructors	1,417	1,655	16.8
Average	2,968	3,538	...

One state institution reports that the budget of the University of ——— for 1920-21 has not been made up.

There is no expectation at present of increasing the salary minimums of the several grades, though doubtless individual salaries will be increased here and there The present salary rates represent an increase of about fifty percent above the salaries paid in 1913-14; the minimum salaries are at least that much above the minimum salaries of the year mentioned.

A very excellent example of a new budget is that received from the business office of a large mid-west state university which may well be compared with Minnesota. The officer in charge of the budget also expresses his personal opinion as to the increases necessary, and the proper distribution of such increases.

The same officer writes under date of June 8, 1920:

I wish to state that the increased appropriations make it possible to carry into effect the tentative budget sent you some time ago, with still further advances.

TENTATIVE BUDGET OF THE UNIVERSITY OF ——— 1920-21

	Academic		Engineering		Agriculture		Entire staff*	
	No.	Average salary	No.	Average salary	No.	Average salary	No.	Average salary
Professors	54	\$4,692	14	\$4,238	27	\$4,285	108	\$4,576
Associate professors	35	3,468	6	3,241	21	3,263	62	3,375
Assistant professors	47	2,538	12	2,620	36	2,542	103	2,563
Instructors	117	1,696	36	1,762	33	1,788	197	1,744
Assistants .....	...	....	...	....	...	Not determined	...	....

* Including Law and Medicine, excluding Extension.

³ April 10, 1920. Four of the great state universities and one endowed university are represented.

I consider the proper increase in salaries over the 1913-14 average to be 60-80 per cent.

I would distribute this percentage of increase in the following ranks:

	Increase
Professors	60
Associate professors.....	65
Assistant professors.....	75
Instructors	80
Assistants	80

This institution in 1919-20 paid salaries below that of Minnesota. But this new budget places this state institution in a materially better position than our own university. The significance of these changes is more clearly shown in a comparison of the salaries at Minnesota in 1919-20 and those paid at this near-by state university which has already prepared its 1920-21 budget. Whereas last year we could offer promising young men a more attractive outlook than our competitor, today our competitor stands willing and able to obtain the better men with higher salaries.

The manner in which the new schedule of another university affects the power of Minnesota to obtain and keep its faculty is shown in the following table:

	Academic college			Entire staff	
	Other university*		Minnesota	Other university	Minnesota
	1919-20	1920-21		1920-21	1920-21
Professors	\$3,742	\$4,692	\$3,698	\$4,576	\$3,868
Associate Professors.....	2,830	3,468	2,888	3,375	2,905
Assistant Professors.....	2,223	2,538	2,231	2,563	2,178
Instructors	1,546	1,696	1,665	1,744	1,500

* This is a state university comparable with Minnesota and whose standards we can and should at least equal.

The above institution is now able to offer greater inducements to prospective faculty members than Minnesota. We shall be forced to fill our vacancies with inferior men. A faculty which is once loaded with mediocre men is placed in a most unfortunate position. Such men will not receive calls to other institutions. They do expedite the departure of the better men. Any institution which attempts to solve its salary problem by means of a temporary lowering of its standards will be embarrassed for many years.

During the past year a compilation was made of the maximum and minimum salaries in 68 of the land grant and state universities.⁴ The averages of the salaries found in these tables are summarized in the first table on the following page.

Only ten institutions of the 68 pay salaries substantially equal to those of Minnesota or better. These are the universities of California, Illinois,

⁴ These tables were received from the Case School of Applied Science, Cleveland, Ohio.

Iowa, Michigan, Ohio, Texas, Wisconsin, Cornell, Iowa Agricultural and Mechanical College and the Michigan Agricultural College. Five of these institutions pay somewhat lower salaries than Minnesota.

SALARIES OF UNITED STATES LAND GRANT AND STATE UNIVERSITIES⁵

Deans		Professors		Assoc. professors		Asst. professors		Instructors	
Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
\$3,745	\$2,827	\$3,184	\$2,228	\$2,375	\$1,779	\$1,990	\$1,455	\$1,557	\$990

Letters to the presidents or deans of 50 leading engineering colleges and departments obtained the salaries in 46 such institutions upon condition that such lists be not published. The average maximum and minimum salaries were as follows:

Professors		Assoc. professors		Asst. professors		Instructors	
Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
\$4,203	\$2,771	\$2,750	\$2,317	\$2,324	\$1,775	\$1,765	\$1,211

Not more than 10 schools of the 46 equal or exceed Minnesota's scale of salaries in the engineering school. Six of these schools offered more attractive salaries than Minnesota.

The following table and explanation show the latest available information upon salaries in the leading universities. It is based upon the official communications received from the institutions during the latter part of April, 1920.

Columbia, Harvard, Yale, and Cornell have released this information for publication. The other institutions furnished the information on condition that their names be not used. Two leading women's colleges are included, one college in Minnesota, and the others are state and endowed universities comparable to Minnesota standards.

The institutions which have made increases are already confronted with a continuing salary problem. The replies to letters this month (April, 1920) indicate the present situation. The following statements by the presidents of two well-known eastern universities are typical of the many received.

⁵ Based on latest available budget. In most instances the 1918-19 or 1919-20 budget.

SALARIES AS REPORTED IN APRIL 1920
(SALARIES FOR 1920-21 BUDGET IF DETERMINED)

University	Percentage of increase in new salary schedules	Professors	Associate professors	Assistant professors	Instructors	
Columbia ...	Normal	\$6,000-\$8,000	\$4,500-\$5,000	\$3,000-\$3,600	\$2,000-\$2,400	
Harvard	40-60	6,000- 8,000	5,000- 5,500	3,500- 4,000	1,650- 2,750	
Yale	New advances being considered 1920-21	5,000- 8,000	.....	2,500- 4,000	1,250- 2,000
*		22-53	Av. 5,500	Av. 4,000	Av. 3,000	Av. 1,800
*		26-41	4,500- 7,500	3,250- 4,000	2,500- 3,000	1,800- 2,400
*		13-24	Av. 4,849	Av. 3,103	Av. 2,579	Av. 1,655
*		10-25†	Av. 4,692	Av. 3,468	Av. 2,538	Av. 1,696
*		50 since 1914	4,000- 6,250	2,100- 3,500	2,000- 3,000	1,000- 2,200
.....	
Cornell	22-55	Av. 4,500	.....	Av. 3,000	Av. 1,800
*	25	3,000- 5,500	2,650- 3,200	1,500- 3,000	1,000- 2,250	
.....	.....	Av. 3,847	Av. 2,910	Av. 2,444	Av. 1,607
*	13-17	3,000- 5,000	Av. 2,700	1,800- 2,400	1,300- 1,800	
.....	.....	Av. 3,600	.....	Av. 2,100	.....
*	33½ over 1914	3,000- 4,500	.....	2,000- 3,000	1,200- 2,000
.....	.....	Av. 3,800	.....	Av. 2,500	Av. 1,500
* .....	..	2,500- 3,500	2,000- 2,400	1,500- 1,900	1,000- 1,400
*	30 to be added	1,800- 4,000	.....	1,600- 2,400	900- 1,800
.....	.....	Av. 2,569.77	.....	Av. 1,855.55	Av. 1,287.50
*	Bonus included	3,000- 3,500	2,000- 2,800	1,800- 2,400	1,300- 2,000	
.....	.....	Av. 3,200	Av. 2,428	Av. 1,960	Av. 1,564
.....	
.....	Present schedule Increase over 1914	.....	.....	.....	.....
Minnesota‡	.....	.....	.....	.....	.....
Prof.	25.1	.....	.....	.....	.....
Assoc. Prof.	8.7	2,600- 6,000	2,500- 3,250	2,000- 3,000	1,000- 2,750	
Asst. Prof..	3.8	Av. 3,868	Av. 2,905	Av. 2,178	Av. 1,500	
Inst.	13.7	.....	.....	.....	.....

The schedule for last year is already out of date; the schedule for next year is not yet completed. I am inclined to think that no schedules that can be sent you at the present time can be trustworthy, since every institution is in a state of transition. [April 20, 1920.]

We made a gradual increase in our salaries beginning in the year 1916-17. This increase, however, was planned without any recognition of the unusual increase in the cost of living. This year the Trustees gave a bonus to the faculty and made further

* Name of institution omitted.

† 1920-21 tentative budget, academic college.

‡ Assistant professors at Minnesota show a net loss in average salaries of 3.8 per cent.

increases for next year which have brought the increases up to the sums indicated. The Trustees recognize, however, that this scale is entirely too low, and if the income justifies it, they will make further increases next year.

Certain facts are well established and recognized by all institutions.

I. The salaries were too low in 1913-14 to attract a sufficient number of the finest types of instructors.

II. The increases granted do not equal the increases in the cost of living.

III. The universities are relatively worse off than in 1913-14.

IV. Any institution that now fails to make increases in salaries loses its relative position among American universities.

V. Years of effort and much money are necessary to reestablish the personnel and reputation of an institution which once loses its standing.

The University of Minnesota is one of the institutions in grave danger of losing its position as one of the better financed universities of the United States.

Minnesota has supported the University faithfully and well. Its high position has been made possible by the liberal and sustained appropriations of the Legislature. Our citizens have demanded a great University. Such an institution has been established in this and other states. The time has now come when the people of this state must determine the question of whether they desire to maintain the present standing of their university. The University must receive a large increase in its revenue if its past achievements are to be maintained.

C. HOW MINNESOTA SALARIES COMPARE WITH THOSE AT OTHER UNIVERSITIES

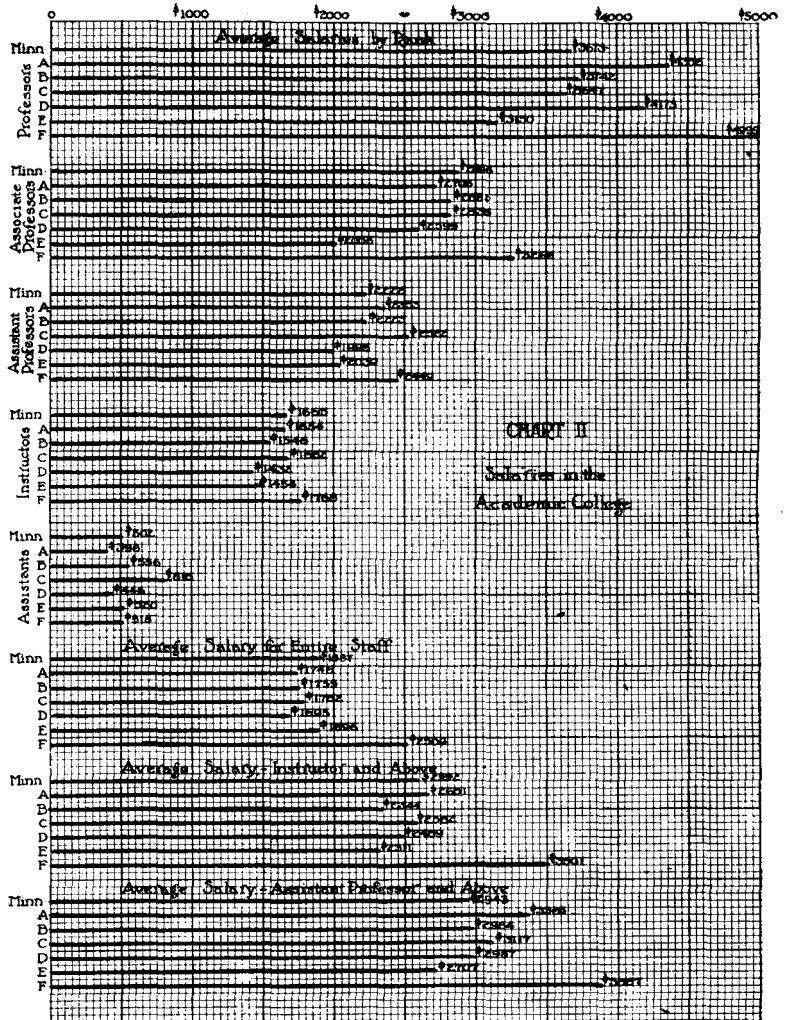
It is always difficult to make comparisons of the unlike. University budgets are not made according to any uniform system. Conditions are quite different. The various departments, schools, and colleges are not organized upon the same basis. A department, such as English or chemistry, in the academic college may serve the engineering, agriculture, and other colleges in one university; while in another university each college is self-sufficient with its own instructors of English and chemistry. Mathematics may be charged entirely to the academic college, or much of it may be included in the engineering budget. Thus chemistry may be centralized in one school or distributed among the academic, medical, pharmacy, agricultural, and other colleges. A number of other subjects are treated quite differently in the institutions any one attempts to compare.

What has been said of the colleges and schools is also true of the departments. English may be included in one department or as general literature, English, rhetoric, and public speaking. The languages may be grouped: romance, modern, Scandinavian, Latin, and Greek; or may be listed as separate departments for nearly each distinct language. The same condition prevails with the natural sciences and the studies of the so-called social science groups.

Yet a comparison of the expenditures by departments and colleges in different universities serves a very useful purpose. Any wide variation from an average or median should demand explanation. The fact that a variation exists is unimportant if the cause is satisfactory. But any institution which has unusual and many variations from the average and median of other like universities should know of such variations and the reasons therefore.

A very unusual comparison of seven great universities was made in November, 1919. The budgets of the institutions were used by the comptrollers, or business managers, to compile a "Comparative Salary Budget of Faculty Members of Different Grades." It places each department and college on a comparative basis with other institutions. A number of separate schools are included, for purposes of comparison, in the academic college of letters and science. The budgets used are those of 1919-20. The actual pay-roll of departments will not necessarily correspond exactly with the budget. Additions have been made during the year. Readjustments in salary and rank have occurred. Leave of absence, illness, resignation, death, and other causes have necessarily modified the pay-rolls of each of the institutions and in some cases materially changed the relative position of some of the smaller departments. But no such comparison can be mathematically correct except for a given time. Therefore, it must be understood that all figures used are those of the comptrollers or business

managers of seven mid-west universities who, in a personal conference, interchanged their existing budgets and tabulated the same according to what they believed was a fair comparative basis.



This "Comparative Salary Budget" of the university comptrollers is a most useful source of information for comparative studies. Each department in the academic college at the University of Minnesota having four or more members of the staff of the rank of instructor or above, was compared with the departments of the other six universities. There were fifteen such departments at Minnesota.

TABLE I

A COMPARISON OF SALARIES AND NUMBER OF STAFF IN THE ACADEMIC DEPARTMENTS OF SEVEN MID-WEST UNIVERSITIES

	Minne- sota	A	B	C	D	E	F
PROFESSORS							
<i>English</i>							
Number	4.5	5	2	4	1	5	8
Average salary ...	\$ 3,667	\$ 3,930	\$ 4,050	\$ 3,813	\$ 4,500	\$ 3,100	\$ 4,613
Expenditure	16,500	19,650	8,100	15,250	4,500	15,500	36,900
<i>Chemistry</i>							
Number	4	3	5	4	1	5	2
Average salary	3,700	5,400	4,030	4,500	3,500	3,300	5,500
Expenditure	14,800	16,200	20,150	18,000	3,500	16,500	11,000
<i>Economics and Commerce</i>							
Number	3	5	5	5	2	5	4
Average salary	4,083	4,900	4,050	3,500	3,500	3,500	4,250
Expenditure	12,250	24,500	16,250	17,500	20,050	17,500	23,400
<i>Romance</i>							
Number	3	5	2	4	1	2	7
Average salary	4,033	3,900	3,675	3,375	3,500	3,250	4,571
Expenditure	12,100	19,500	7,350	13,500	3,500	6,500	32,000
<i>Education</i>							
Number	5	5	3	3	4	4	6
Average salary	4,190	4,360	3,650	4,900	3,775	3,350	5,083
Expenditure	20,950	21,800	10,950	14,700	15,100	13,400	30,500
<i>Mathematics</i>							
Number	2	7	2	1	1	4	5
Average salary ...	3,400	4,243	4,000	4,500	4,500	2,875	5,200
Expenditure	6,800	29,700	8,000	4,500	4,500	11,500	26,000
<i>History</i>							
Number	4.5	5	5	4	3	5	5
Average salary	4,456	4,100	3,830	3,750	3,300	3,200	5,400
Expenditure	20,250	20,500	19,150	15,000	9,900	16,000	27,000
<i>Geology</i>							
Number	3	2	2	3	2	2	5
Average salary	3,900	4,500	3,800	3,333	4,100	2,750	4,800
Expenditure	11,700	9,000	6,900	10,000	8,200	5,500	24,500
<i>Zoology</i>							
Number	3	1	2	6	3	2	3
Average salary	3,483	4,600	3,675	2,583	3,467	3,375	4,833
Expenditure	10,500	4,600	7,350	21,500	10,400	6,750	14,500
<i>Pharmacy</i>							
Number	3	1	1	1	1	1	..
Average salary	3,533	4,500	3,650	3,400	3,750	3,050	....
Expenditure	10,500	4,500	3,650	3,400	3,750	3,050	....
<i>Botany</i>							
Number	3	2	3	3	2	2	3
Average salary	2,917	4,000	3,633	4,000	3,500	2,875	4,833
Expenditure	8,750	8,000	10,900	12,000	7,000	5,750	14,500
<i>Political Science</i>							
Number	2	2	1	2	1.5	2	2
Average salary	3,750	4,375	3,300	4,000	4,033	3,125	4,750
Expenditure	7,500	8,750	3,300	8,000	6,050	6,250	9,500

TABLE I—Continued

	Minne- sota	A	B	C	D	E	F
<i>Physics</i>							
Number	3	3	3	3	1	5	3
Average salary	\$3,667	\$3,633	\$4,333	\$3,933	\$4,500	\$2,950	\$5,667
Expenditure	11,000	10,900	13,000	11,800	4,500	14,750	17,000
<i>German</i>							
Number	1	2	2	2	1	2	3
Average salary	3,200	3,600	3,625	3,625	3,750	2,875	4,667
Expenditure	3,200	7,200	7,250	7,250	3,750	5,750	14,000
<i>Music</i>							
Number	1	1	2	1	1	..	..
Average salary	4,500	5,000	3,700	3,750	4,500	....	....
Expenditure	4,500	5,000	7,400	3,750	4,500	....	....
<i>All Others</i>							
Number	11	13	12	6	4.5	14	23
Average salary	3,255	4,162	3,742	3,750	3,556	3,168	4,961
Expenditure	35,800	54,100	44,900	22,500	16,000	44,350	114,100
<i>Totals</i>							
Number	56	62	52	52	30	60	79
Average salary ...	3,698	4,256	3,742	3,647	4,173	3,151	4,999
Expenditure	207,100	263,900	194,600	189,650	125,200	189,050	394,900
ASSOCIATE PROFESSORS							
<i>English</i>							
Number	3	3	7	1	5	..	5
Average salary	2,833	2,733	2,858	3,000	2,600	....	3,400
Expenditure	8,500	8,200	20,050	3,000	13,000	....	17,000
<i>Chemistry</i>							
Number	6	4	1	2	3	..	1
Average salary	2,808	2,750	2,700	2,750	2,583	....	3,200
Expenditure	16,850	11,000	2,700	5,500	7,750	....	3,200
<i>Economics and Commerce</i>							
Number	4	2	3	..	5	..	2
Average salary	3,025	2,750	3,067	....	2,610	....	3,200
Expenditure	12,100	5,500	9,200	....	13,050	....	6,400
<i>Romance</i>							
Number	2	1	1	..	3	..	2
Average salary	2,700	3,000	3,150	....	2,533	....	3,400
Expenditure	5,400	3,000	3,150	....	7,600	....	6,800
<i>Education</i>							
Number .....	..	1	2	2	1.33	..	7
Average salary ....	....	3,000	2,825	3,000	3,195	....	3,357
Expenditure .....	....	3,000	5,650	6,000	3,250	....	23,500
<i>Mathematics</i>							
Number	2	3	2	2	2	3	2
Average salary	3,150	2,833	3,050	2,825	2,625	2,017	3,400
Expenditure	6,300	8,500	6,100	5,650	5,250	6,050	6,800
<i>History</i>							
Number	1.5	2	..	1	1	..	1
Average salary	2,933	3,350	....	2,800	2,750	....	3,400
Expenditure	4,400	6,700	....	2,800	2,750	....	3,400
<i>Geology</i>							
Number .....	..	..	3	1	1	..	1
Average salary ....	....	....	3,017	3,000	2,350	....	3,000
Expenditure .....	....	....	9,050	3,000	2,350	....	3,000

TABLE I—Continued

	Minne- sota	A	B	C	D	E	F
<i>Pharmacy</i>							
Number	1	..	..	3	1	..	..
Average salary	\$2,750	....	....	\$2,500	\$3,100	....	....
Expenditure	2,750	....	....	7,500	3,100	....	....
<i>Botany</i>							
Number	1	2	2	..	..	..	2
Average salary	2,500	2,950	2,425	....	....	....	3,200
Expenditure	2,500	5,900	4,850	....	....	....	6,400
<i>Political Science</i>							
Number	2	..	1	..	..	..	..
Average salary	3,125	....	2,900	....	....	....	....
Expenditure	6,250	....	2,900	....	....	....	....
<i>Physics</i>							
Number	2	1	3	1	1	..	..
Average salary	2,875	2,900	2,783	3,000	2,750	....	....
Expenditure	5,750	2,900	8,350	3,000	2,750	....	....
<i>German</i>							
Number .....	..	1	1	..	1	..	2
Average salary ....	....	2,800	2,750	....	2,500	....	3,400
Expenditure .....	....	2,800	2,750	....	2,500	....	6,800
<i>Music</i>							
Number .....	..	1	..	..	1	..	12
Average salary ....	....	2,400	....	....	2,500	....	3,129
Expenditure .....	....	2,400	....	....	2,500	....	37,550
<i>All Others</i>							
Number	2	3	7	2	1	3	12
Average salary	2,875	2,500	2,743	3,000	2,500	2,000	3,129
Expenditure	5,750	7,500	19,100	6,000	2,500	6,000	37,550
<i>Totals</i>							
Number	26.5	24	34	15	25.33	6	37
Average salary ..	2,889	2,708	2,831	2,830	2,599	2,008	3,266
Expenditure	76,550	65,000	96,250	42,450	65,850	12,050	120,850
ASSISTANT PROFESSORS							
<i>English</i>							
Number	8	4	3	7	4.5	3	4
Average salary	2,225	2,350	2,250	2,550	2,178	2,167	2,200
Expenditure	17,800	9,400	5,750	17,850	9,800	6,500	8,800
<i>Chemistry</i>							
Number	5	3	4	4	1	4	3
Average salary	1,960	2,250	2,038	2,500	2,100	2,200	2,500
Expenditure	9,800	6,750	8,150	10,000	2,100	8,800	7,500
<i>Economics and Commerce</i>							
Number	5	1	1	4	5	4	6
Average salary	2,540	2,500	2,500	2,700	1,960	2,325	2,867
Expenditure	12,700	2,500	2,500	10,800	9,800	9,300	17,200
<i>Romance</i>							
Number	4	6	10	..	..	5	4
Average salary	2,525	2,417	2,240	....	....	1,890	2,500
Expenditure	9,100	14,500	22,400	....	....	9,450	10,000

SURVEY COMMISSION REPORT

TABLE I—Continued

	Minne- sota	A	B	C	D	E	F
<i>Education</i>							
Number	5	..	1	2	1.5	0.5	7
Average salary	\$2,110	....	\$1,900	\$3,250	\$2,173	\$3,000	\$2,557
Expenditure	10,550	....	1,900	6,500	3,250	1,500	17,900
<i>Mathematics</i>							
Number	4	6	5	4	..	2	..
Average salary	2,225	2,350	2,280	2,250	....	1,600	....
Expenditure	8,900	14,000	11,400	9,000	....	3,200	....
<i>History</i>							
Number	2	1	2	1	1	3	2
Average salary	2,500	2,500	2,400	2,000	1,850	2,167	2,350
Expenditure	5,000	2,500	4,800	2,000	1,850	6,500	4,700
<i>Geology</i>							
Number	4	3	3	..	2	2	3
Average salary	2,375	2,483	2,300	....	1,975	2,250	2,500
Expenditure	9,500	7,450	6,900	....	3,950	4,500	7,500
<i>Zoology</i>							
Number	2	3	1	3	..	3	1
Average salary	2,500	2,367	1,900	2,433	....	2,000	2,500
Expenditure	5,000	7,100	1,900	7,300	....	6,000	2,500
<i>Pharmacy</i>							
Number .....	..	2	1	..	1	1	..
Average salary .....	....	2,200	1,850	....	1,600	1,900	....
Expenditure .....	....	4,400	1,850	....	1,600	1,900	....
<i>Botany</i>							
Number	2	1	2	1	1	2	1
Average salary	2,100	2,400	2,350	2,100	2,100	2,075	2,100
Expenditure	4,200	2,400	4,700	2,100	2,100	4,150	2,100
<i>Political Science</i>							
Number	3	1	..	1	3	..	..
Average salary	2,667	2,200	....	2,500	1,967	....	....
Expenditure	8,000	2,200	....	2,500	5,750	....	....
<i>Physics</i>							
Number	1	2	1	2	1	1	2
Average salary	2,500	2,300	2,200	2,500	2,350	2,000	2,300
Expenditure	2,500	4,600	2,200	5,000	2,350	2,000	4,600
<i>German</i>							
Number	5	3	4	2	..	2	4
Average salary	2,220	2,400	2,175	2,550	....	1,500	2,400
Expenditure	11,100	7,200	8,700	5,000	....	3,000	9,600
<i>Music</i>							
Number	1	0.5	1	2	..	..	..
Average salary	3,000	2,200	2,350	2,750	....	....	....
Expenditure	3,000	1,100	2,350	5,000	....	....	....
<i>All Others</i>							
Number	3	5	6	6	5	1	8
Average salary	1,933	2,290	2,258	2,450	1,870	1,500	2,225
Expenditure	5,800	11,450	13,550	14,700	9,350	1,500	17,800
<i>Totals</i>							
Number	54	41.5	45	39	26	33.5	45
Average salary ..	2,231	2,353	2,223	2,522	1,996	2,039	2,449
Expenditure	120,450	97,650	100,050	98,350	51,900	68,300	110,200

SALARIES AND COST OF LIVING

TABLE I—Continued

	Minne- sota	A	B	C	D	E	F
INSTRUCTORS*							
<i>English</i>							
Number	18	23	25	14	10	..	2
Average salary	\$1,581	\$1,628	\$1,494	\$1,607	\$1,308	....	\$1,650
Expenditure	27,000	32,650	37,350	22,590	13,080	....	3,300
<i>Chemistry</i>							
Number	6	5	14	8	1	1	1
Average salary	1,700	1,980	1,332	1,825	1,700	1,500	2,000
Expenditure	10,200	9,900	19,650	14,600	1,700	1,500	2,000
<i>Economics and Commerce</i>							
Number	2	8.5	6	1	1	6	3
Average salary	2,000	1,835	1,683	2,400	1,200	1,567	2,417
Expenditure	4,000	15,600	10,100	2,400	1,200	9,300	7,250
<i>Romance</i>							
Number	8	20	17	5	6	9	5
Average salary	1,675	1,648	1,553	1,640	1,475	1,478	1,680
Expenditure	13,400	32,950	26,400	8,200	8,850	13,300	8,400
<i>Education</i>							
Number	2	..	1	4	0.5	1	12
Average salary	1,250	....	1,750	2,025	2,000	1,600	1,733
Expenditure	2,500	....	1,750	8,100	1,000	1,600	20,800
<i>Mathematics</i>							
Number	2	10	11	4	4	..	..
Average salary	1,750	1,685	1,545	1,530	1,275	....	....
Expenditure	3,500	16,850	17,300	6,120	5,100	....	....
<i>History</i>							
Number	1	4	3	4	1	3	2
Average salary	1,600	1,575	1,733	1,750	2,000	1,400	1,650
Expenditure	1,600	6,300	5,200	7,000	2,000	4,200	3,300
<i>Geology</i>							
Number	2	2.5	2	..	..	2	2
Average salary	1,800	1,600	1,650	....	....	1,500	1,650
Expenditure	3,600	4,000	3,300	....	....	3,000	3,300
<i>Zoology</i>							
Number	2	2	..	3	2	2	2
Average salary	1,650	1,500	....	1,600	1,600	1,500	1,650
Expenditure	3,300	3,000	....	4,800	3,200	3,000	3,300
<i>Pharmacy</i>							
Number	4	..	2	2	..	1	..
Average salary	1,550	....	1,825	1,650	....	1,000	....
Expenditure	6,200	....	3,650	3,300	....	1,000	....
<i>Botany</i>							
Number	1	3	3	1	..	2	2
Average salary	1,700	1,800	1,667	1,400	....	1,650	1,700
Expenditure	1,700	5,400	5,000	1,400	....	3,300	3,400
<i>Political Science</i>							
Number .....	..	1	..	1	..	..	1
Average salary ....	....	1,950	....	1,800	....	....	1,800
Expenditure .....	....	1,950	....	1,800	....	....	1,800

* Associates included.

TABLE I—Continued

	Minne- sota	A	B	C	D	E	F
<i>Physics</i>							
Number .....	..	6	6	1	2	6	2
Average salary ....	....	\$1,846	\$1,450	\$1,800	\$1,200	\$1,500	\$1,550
Expenditure .....	....	11,075	8,700	1,800	2,400	9,000	3,200
<i>German</i>							
Number .....	..	1	1	2	..	1	..
Average salary ....	....	1,800	1,600	1,950	....	1,300	....
Expenditure .....	..	1,800	1,600	3,900	....	1,300	....
<i>Music</i>							
Number	4	..	7	9	..	..	..
Average salary	2,563	....	1,529	1,539	....	....	....
Expenditure	10,250	....	10,700	13,850	....	....	....
<i>All Others</i>							
Number	1	4	..	4	11	12	2
Average salary	1,000	1,850	1,664	1,550	1,509	1,367	1,800
Expenditure	1,000	7,400	11,650	6,200	16,600	16,400	3,600
<i>Totals</i>							
Number	53	90	105	63	38.5	46	36
Average salary ..	1,665	1,654	1,546	1,682	1,432	1,454	1,768
Expenditure	88,250	148,875	162,350	105,970	55,130	66,900	63,650
ASSISTANTS							
<i>English</i>							
Number	8	3	9	21	2	3	22
Average salary	609	417	544	1,181	460	300	673
Expenditure	4,875	1,250	4,900	24,800	920	900	14,805
<i>Chemistry</i>							
Number	22	38	22	47	14	17	28
Average salary	555	342	616	556	614	624	85
Expenditure	12,200	13,000	13,550	26,150	8,600	11,100	4,070
<i>Economics and Commerce</i>							
Number	8	17	14	10	5	6	13
Average salary	747	400	801	940	596	475	829
Expenditure	5,975	6,800	11,220	9,400	2,980	2,850	11,300
<i>Romance</i>							
Number	5	2	17	20	3	....	4
Average salary	690	225	488	1,130	540	....	363
Expenditure	3,450	450	8,300	22,600	1,620	....	1,450
<i>Education</i>							
Number	7	3	3	3	3	2	2
Average salary	439	700	500	667	500	625	675
Expenditure	3,075	2,100	1,500	2,000	1,500	1,250	1,350
<i>Mathematics</i>							
Number	2	15	4	10	1	1	1
Average salary	313	500	510	800	600	600	600
Expenditure	625	7,650	2,040	8,000	600	600	600
<i>History</i>							
Number	9	5	8	..	5	..	4
Average salary	450	380	481	....	102	....	500
Expenditure	4,050	1,900	3,850	....	510	....	2,000
<i>Geology</i>							
Number	2	11	3	3	5	..	2
Average salary	\$225	\$218	\$500	\$1,367	\$294	....	\$800
Expenditure	450	2,400	1,500	4,100	1,470	....	1,600

SALARIES AND COST OF LIVING

TABLE I—Continued

	Minne- sota	A	B	C	D	E	F
<i>Zoology</i>							
Number	9	12	5	..	10	6	4
Average salary	689	438	520	....	370	350	550
Expenditure	6,200	5,250	2,600	....	3,700	2,100	2,200
<i>Pharmacy</i>							
Number	1	4	..	6	1	..	..
Average salary	1,200	175	....	367	1,320	....	....
Expenditure	1,200	700	....	2,200	1,320	....	....
<i>Botany</i>							
Number	4	10	7	8	5	5	2
Average salary	563	350	486	625	374	520	700
Expenditure	2,250	3,500	3,400	5,000	1,870	2,600	1,400
<i>Political Science</i>							
Number	2	2	2	..	1	1	2
Average salary	225	300	450	....	500	300	865
Expenditure	450	600	900	....	500	300	1,730
<i>Physics</i>							
Number	11	20	12	6	15	..	4
Average salary	472	559	600	967	349	....	675
Expenditure	5,200	11,199	7,200	5,800	5,233	....	2,700
<i>German</i>							
Number	3	..	..	..	..	..	..
Average salary	200	....	....	....	....	....	....
Expenditure	600	....	....	....	....	....	....
<i>Music</i>							
Number	1	..	..	..	..	..	..
Average salary	750	....	....	....	....	....	....
Expenditure	750	....	....	....	....	....	....
<i>All Others</i>							
Number	4	3	10	6	6	3	10
Average salary	363	300	350	700	508	400	559
Expenditure	1,450	900	3,500	4,200	3,050	1,200	5,590
<i>Totals</i>							
Number	98	145	116	140	76	44	98
Average salary ..	540	398	556	816	446	520	518
Expenditure	52,800	57,699	64,460	114,250	33,873	22,900	50,795

Each department was compared by rank and the average salary and the number of persons in each rank was tabulated. Then each department was tabulated according to its relative position on a basis of the average salary paid each rank. The departments were arranged according to the number in such department at Minnesota. All departments having less than four members were grouped under the heading, "all others." The average salaries for all departments in the academic college are shown in Table II. This information was obtainable only under an agreement that the names of the institutions should not be published.

A, B, C, D, and E are state universities, arranged in order according to their comparability with Minnesota. F is an institution which can well be compared with Minnesota.

SURVEY COMMISSION REPORT

TABLE II
AVERAGE SALARY AND NUMBER OF FACULTY IN EACH RANK BY DEPARTMENTS IN ACADEMIC COLLEGE*

Professors		Associate Professors		Assistant Professors		Instructors†		Assistants						
Av. salary	No.	Av. salary	No.	Av. salary	No.	Av. salary	No.	Av. salary	No.					
ENGLISH														
1. F	\$4,613....	8	F	\$3,400....	5	C	\$2,550....	7	F	\$1,650....	2	C	\$1,180....	21
2. D	4,500....	1	C	3,000....	1	A	2,350....	4	A	1,628....	23	F	673....	22
3. B	4,050....	2	B	2,858....	7	B	2,250....	3	C	1,607....	14	M	609....	8
4. A	3,930....	5	M	2,833....	3	M	2,225....	8	M	1,581....	18	B	544....	9
5. C	3,813....	4	A	2,733....	3	F	2,200....	4	B	1,494....	25	D	460....	2
6. M	3,667....	4.5	D	2,600....	5	D	2,167....	3	D	1,308....	10	A	417....	3
7. E	3,100....	5	E	.....	0	E	1,778....	4.5	E	.....	0	E	300....	3
CHEMISTRY														
1. F	5,500....	2	F	3,200....	1	F	2,500....	3	F	2,000....	1	E	633....	17
2. A	5,400....	3	M	2,808....	6	C	2,500....	4	A	1,980....	5	B	616....	22
3. C	4,500....	4	C	2,750....	2	A	2,250....	3	C	1,825....	8	D	614....	14
4. B	4,030....	5	A	2,750....	1	E	2,200....	4	M	1,700....	6	C	556....	47
5. M	3,700....	4	B	2,700....	1	D	2,100....	1	D	1,700....	1	M	555....	22
6. D	3,500....	1	D	2,583....	3	B	2,038....	4	B	1,332....	14	A	342....	38
7. E	3,300....	5	E	.....	0	M	1,960....	5	E	1,500....	1	F	85....	28
ECONOMICS AND COMMERCE														
1. A	4,900....	5	F	3,200....	2	F	3,867....	6	F	2,416....	3	C	940....	10
2. F	4,250....	4	B	3,067....	3	C	2,700....	4	C	2,400....	1	F	829....	13
3. M	4,083....	3	M	3,025....	4	M	2,540....	5	M	2,000....	2	B	801....	14
4. B	4,050....	5	A	2,750....	2	A	2,500....	1	A	1,835....	8.5	M	747....	8
5. C	3,500....	5	D	2,610....	5	B	2,500....	1	B	1,683....	6	D	596....	5
6. D	3,500....	2	C	.....	0	E	2,325....	4	E	1,567....	6	E	475....	6
7. E	3,500....	5	E	.....	0	D	1,960....	5	D	1,200....	1	A	400....	17
ROMANCE														
1. F	4,571....	7	F	3,400....	2	M	2,525....	4	F	1,680....	5	C	1,130....	20
2. M	4,033....	3	B	3,150....	1	F	2,500....	4	M	1,675....	8	M	690....	5
3. A	3,900....	5	A	3,000....	1	A	2,417....	6	A	1,648....	20	D	540....	3
4. B	3,675....	2	M	2,700....	2	B	2,240....	10	C	1,640....	5	B	488....	17
5. D	3,500....	1	D	2,533....	3	E	1,890....	5	B	1,553....	17	F	363....	4
6. C	3,375....	4	C	.....	0	C	.....	0	E	1,478....	9	A	225....	2
7. E	3,250....	2	E	.....	0	D	.....	0	D	1,475....	6	E	.....	0
EDUCATION														
1. F	5,083....	6	F	3,357....	7	C	3,250....	2	C	2,025....	4	A	700....	3
2. C	4,900....	3	D	3,195....	1.33	E	3,000....	0.5	D	2,000....	0.5	F	675....	2
3. A	4,360....	5	C	3,000....	2	F	2,557....	7	B	1,750....	1	C	667....	3
4. M	4,190....	5	A	3,000....	1	D	2,173....	1.5	F	1,733....	12	E	625....	2
5. D	3,775....	4	B	2,825....	2	M	2,110....	5	E	1,600....	1	B	500....	3
6. B	3,650....	3	M	.....	0	B	1,900....	1	M	1,250....	2	D	500....	3
7. E	3,350....	4	E	.....	0	A	.....	0	A	.....	0	M	439....	7
MATHEMATICS														
1. F	5,200....	5	F	3,400....	2	A	2,350....	6	M	1,750....	2	C	800....	10
2. C	4,500....	1	M	3,150....	2	B	2,280....	5	A	1,685....	10	D	1,000....	1
3. D	4,500....	1	B	3,050....	2	C	2,250....	4	B	1,546....	11	E	1,000....	1
4. A	4,243....	7	A	2,833....	3	M	2,255....	4	C	1,530....	4	F	1,000....	1
5. B	4,000....	2	C	2,825....	2	E	1,600....	2	D	1,275....	4	B	510....	4
6. M	3,400....	2	D	2,625....	2	F	.....	0	F	.....	0	A	500....	15
7. F	2,875....	4	E	2,017....	3	D	.....	0	E	.....	0	M	313....	2

* Includes Pharmacy, Chemistry, Business, and Music Departments.

† Includes associate instructors.

SALARIES AND COST OF LIVING

TABLE II—Continued

Professors		Associate Professors		Assistant Professors		Instructors†		Assistants						
Av. salary	No.	Av. salary	No.	Av. salary	No.	Av. salary	No.	Av. salary	No.					
HISTORY														
1. F	5,400....	5	F	3,400....	1	M	2,500....	2	D	2,000....	1	F	500....	4
2. M	4,456....	4.5	A	3,350....	2	A	2,500....	2	C	1,750....	4	B	481....	8
3. A	4,100....	5	M	2,933....	1.5	B	2,400....	2	B	1,733....	3	M	450....	9
4. B	3,830....	5	C	2,800....	1	F	2,350....	2	F	1,650....	2	A	380....	5
5. C	3,750....	4	D	2,750....	1	E	2,167....	3	M	1,600....	1	D	102....	9
6. D	3,300....	3	E	.....	0	C	2,000....	1	A	1,575....	4	C	.....	0
7. E	3,200....	2	B	.....	0	D	1,850....	1	E	1,400....	3	E	.....	0
GEOLOGY														
1. F	4,800....	5	B	3,016....	3	F	2,500....	3	M	1,800....	2	C	1,367....	3
2. A	4,500....	2	C	3,000....	1	A	2,483....	3	B	1,650....	2	F	800....	2
3. D	4,100....	2	F	3,000....	1	M	2,375....	4	F	1,650....	2	B	500....	3
4. M	3,900....	3	D	2,350....	1	B	2,300....	3	A	1,600....	2.5	D	294....	5
5. B	3,800....	2	M	.....	0	E	2,250....	2	E	1,500....	2	M	225....	2
6. C	3,333....	3	E	.....	0	D	1,975....	2	C	.....	0	A	218....	11
7. E	2,750....	2	A	.....	0	C	.....	0	D	.....	0	E	.....	0
ZOOLOGY														
1. F	4,833....	3	D	3,250....	1	M	2,500....	2	F	1,650....	2	M	689....	9
2. A	4,600....	1	A	3,000....	1	F	2,500....	1	M	1,650....	2	F	550....	4
3. B	3,675....	2	M	2,750....	1	C	2,433....	3	C	1,600....	3	B	520....	5
4. M	3,483....	3	B	2,450....	1	A	2,367....	3	D	1,600....	2	A	438....	12
5. D	3,667....	3	E	2,000....	1	E	2,000....	3	A	1,500....	2	D	370....	10
6. E	3,375....	2	F	.....	0	B	1,900....	1	E	1,500....	22	E	350....	6
7. C	2,583....	6	C	.....	0	D	.....	0	B	.....	0	C	.....	0
PHARMACY														
1. A	4,500....	1	D	3,100....	1	A	2,200....	2	B	1,825....	2	D	1,320....	1
2. B	3,650....	1	M	2,750....	1	E	1,900....	1	C	1,650....	2	M	1,200....	1
3. M	3,533....	3	C	2,500....	3	B	1,850....	1	M	1,550....	4	C	367....	6
4. C	3,400....	1	A	.....	0	D	1,600....	1	E	1,000....	1	A	175....	4
5. D	3,400....	1	B	.....	0	M	.....	0	F	.....	0	F	.....	0
6. E	3,050....	1	E	.....	0	C	.....	0	D	.....	0	E	.....	0
7. F	.....	0	F	.....	0	F	.....	0	A	.....	0	B	.....	0
BOTANY														
1. F	4,033....	3	F	3,200....	2	A	2,400....	1	A	1,800....	3	F	700....	2
2. A	4,000....	3	A	2,950....	2	B	2,300....	2	F	1,700....	2	C	625....	8
3. C	4,000....	3	M	2,500....	1	M	2,100....	2	M	1,700....	1	M	563....	4
4. B	3,633....	3	B	2,425....	2	C	2,100....	1	B	1,667....	3	B	486....	7
5. D	3,500....	2	C	.....	0	F	2,100....	1	E	1,650....	2	E	520....	5
6. M	2,917....	3	D	.....	0	D	2,100....	1	C	1,400....	1	D	374....	5
7. E	2,875....	2	E	.....	0	E	2,075....	2	D	.....	0	A	350....	10
POLITICAL SCIENCE														
1. F	4,750....	2	M	3,125....	2	M	2,667....	3	A	1,950....	1	F	865....	2
2. A	4,375....	2	B	2,900....	1	C	2,500....	1	C	1,800....	1	D	500....	1
3. D	4,033....	1.5	F	.....	0	A	2,200....	1	F	1,800....	1	B	450....	2
4. C	4,000....	2	C	.....	0	D	1,917....	3	M	.....	0	A	300....	2
5. M	3,750....	2	A	.....	0	B	.....	0	B	.....	0	E	300....	1
6. B	3,300....	1	D	.....	0	F	.....	0	D	.....	0	M	225....	2
7. E	3,125....	2	E	.....	0	E	.....	0	E	.....	0	C	.....	0

† Includes associate instructors.

SURVEY COMMISSION REPORT

TABLE II—Continued

Professors			Associate Professors		Assistant Professors		Instructors†		Assistants						
	Av. salary	No.		Av. salary	No.	Av. salary	No.	Av. salary	No.	Av. salary	No.				
PHYSICS															
1.	F	5,667....	3	C	3,000....	1	C	2,500....	2	A	1,846....	6	C	967....	6
2.	D	4,500....	1	A	2,900....	1	M	2,500....	1	C	1,800....	1	F	675....	4
3.	B	4,333....	3	M	2,875....	2	D	2,350....	1	F	1,550....	2	B	600....	12
4.	C	3,933....	3	B	2,783....	3	F	2,300....	2	E	1,550....	6	A	559....	20
5.	M	3,667....	3	D	2,750....	1	A	2,300....	2	B	1,450....	6	M	472....	11
6.	A	3,633....	3	E	.....	0	A	2,200....	1	D	1,200....	2	D	349....	15
7.	E	2,950....	5	F	.....	0	E	2,000....	1	M	.....	0	E	.....	0
GERMAN															
1.	F	4,667....	3	F	3,400....	2	C	2,550....	2	C	1,950....	2	M	200....	3
2.	D	3,750....	1	A	2,800....	1	F	2,400....	4	A	1,800....	1	A	.....	0
3.	B	3,625....	2	B	2,750....	1	A	2,400....	3	B	1,600....	1	B	.....	0
4.	C	3,625....	2	D	2,500....	1	M	2,220....	5	E	1,300....	1	C	.....	0
5.	A	3,600....	2	E	.....	0	B	2,175....	4	D	.....	0	D	.....	0
6.	M	3,200....	1	C	.....	0	E	1,500....	2	M	.....	0	E	.....	0
7.	E	2,875....	2	M	.....	0	D	.....	0	F	.....	0	F	.....	0
MUSIC															
1.	A	5,000....	1	A	2,400....	1	M	3,000....	1	M	2,563....	4	M	750....	1
2.	M	4,500....	1	D	.....	0	C	2,750....	1	C	1,539....	9	A	.....	0
3.	D	4,500....	1	D	.....	0	B	2,350....	1	B	1,529....	7	B	.....	0
4.	C	3,750....	1	C	.....	0	A	2,000....	0.5	A	.....	0	C	.....	0
5.	B	3,700....	2	E	.....	0	D	.....	0	D	.....	0	D	.....	0
6.	E	.....	0	B	.....	0	E	.....	0	E	.....	0	E	.....	0
7.	F	.....	0	F	.....	0	F	.....	0	F	.....	0	F	.....	0
ALL OTHERS															
1.	F	4,961....	23	F	3,129....	12	C	2,450....	6	A	1,850....	4	C	700....	6
2.	A	4,162....	13	C	3,000....	2	A	2,290....	5	F	1,800....	2	F	559....	10
3.	C	3,750....	6	M	2,875....	2	F	2,225....	8	B	1,664....	7	D	508....	3
4.	B	3,742....	12	B	2,743....	2	M	1,933....	3	C	1,550....	4	E	400....	3
5.	D	3,556....	4.5	A	2,500....	3	B	2,258....	6	D	1,509....	11	M	363....	4
6.	M	3,255....	11	D	2,500....	1	D	1,870....	5	E	1,367....	12	B	350....	10
7.	E	3,168....	14	E	2,000....	3	E	1,500....	1	M	1,000....	1	A	300....	3
TOTALS															
1.	F	4,999....	79	F	3,266....	37	C	2,522....	39	F	1,768....	36	C	816....	140
2.	A	4,356....	62	M	2,889	26.5	F	2,449....	45	C	1,682....	63	B	556....	116
3.	D	4,173....	30	B	2,831....	34	A	2,353....	41.5	M	1,665....	53	E	520....	44
4.	B	3,742....	52	C	2,830....	15	M	2,228....	56	A	1,654....	90	F	518....	98
5.	M	3,673....	57	A	2,708....	24	B	2,223....	45	B	1,546....	105	M	502....	98
6.	C	3,647....	52	D	2,599....	25.33	E	2,039....	33.5	E	1,454....	46	D	446....	76
7.	E	3,151....	60	E	2,008....	6	D	1,996....	26	D	1,432....	38.5	A	398....	145

† Includes associate instructors.

THE RANK OF ACADEMIC DEPARTMENTS AT MINNESOTA COMPARED WITH THOSE OF SIX OTHER UNIVERSITIES ON THE BASIS OF AVERAGE SALARIES. NUMBER OF TIMES MINNESOTA APPEARS IN EACH RANK IN TABLE II

	Professors	Associate Professors	Assistant Professors	Instructors	Totals
I .....	..	1	5	2	7
II	3	3	1	2	9
III	2	6	3	2	13
IV	3	2	3	3	11
V	3	1	2	1	7
VI	5	1	..	2	8
VII .....	..	1	1	2	4

This last table shows how salaries are distributed among the departments with certain wide variations from the median position of Minnesota as third or fourth in rank. If the total averages are examined it will be noticed that Minnesota's rank for the academic college is: professors, fifth; associate professors, second; assistant professors, fourth; instructors, third.

Only four of the institutions compared maintained colleges of agriculture as a part of the university. Their expenditures for instructional purposes show a remarkable similarity between the budgets of B, C, and Minnesota. The total expenditures are almost the same. Minnesota can well be compared with B, an institution spending \$266,795 while Minnesota spends \$267,858 for agricultural instruction. The distribution of ranks and the salaries paid are remarkably similar. The great difference to-day is due to the fact that a material increase in salaries has already been provided for institution B next year. Minnesota compares very favorably with other agricultural colleges at the present time.

TABLE III
SALARIES IN COLLEGES OF AGRICULTURE

	Minnesota	B	C	E	
PROFESSORS	1....\$5,200	3....\$4,000	2....\$5,500	1....\$4,500	
	2.... 5,000	1.... 3,900	1.... 4,500	1.... 4,000	
	3.... 4,500	4.... 3,750	9.... 4,000	4.... 3,500	
	4.... 4,000	1.... 3,650	4.... 3,750	1.... 3,250	
	2.... 3,600	2.... 3,600	1.... 3,600	3.... 3,000	
	1.... 3,500	1.... 3,500	2.... 3,500	2.... 2,880	
	5.... 3,000	1.... 3,450	3.... 3,250	1.... 2,850	
	3.... 3,200	1.... 3,400	.....	3.... 2,750
	2.... 3,000	1.... 3,300	.....	3.... 2,500
	1.... 2,800	1.... 3,200	.....	1.... 2,250
	1.... 2,600	3.... 3,150	.....	.....
	1.... 2,500	3.... 3,100	.....	.....
	Number	26	23	22	20
	Average salary	3,654	3,513	3,948	3,068
Expenditure	95,450	80,850	86,850	61,360	

SURVEY COMMISSION REPORT

TABLE III—Continued

	Minnesota	B	C	E
ASSOCIATE				
PROFESSORS	0.5.... 3,600	3.... 3,100	1.... 3,200	.....
	5.... 3,000	1.... 3,050	1.... 3,000	.....
	3.... 2,800	4.... 3,000	.....	.....
	4.... 2,700	1.... 2,950	.....	.....
	1.... 2,600	1.... 2,900	.....	.....
	1.... 2,500	1.... 2,850	.....	.....
	2.... 2,400	1.... 2,800	.....	.....
	2.... 2,250	1.... 2,750	.....	.....
	1.... 2,200	3.... 2,600	.....	.....
	.....	1.... 2,550	.....	.....
	.....	1.... 2,500	.....	.....
	.....	1.... 2,250	.....	.....
Number	19.5	19	2	.....
Average salary	2,790	2,826	3,100	.....
Expenditure	52,600	53,700	6,200	.....
ASSISTANT				
PROFESSORS	1.... 2,500	1.... 3,000	1.... 3,500	1.... 2,520
	4.... 2,400	2.... 2,700	1.... 3,000	4.... 2,400
	2.... 2,250	1.... 2,600	3.... 2,700	1.5.... 2,200
	2.... 2,200	1.... 2,580	4.... 2,500	1.... 2,100
	3.... 2,100	2.... 2,500	3.... 2,400	2.... 2,000
	6.... 2,000	3.... 2,400	1.... 2,200	1.... 1,900
	8.... 1,800	1.... 2,350	.....	4.... 1,800
	2.... 1,600	4.... 2,300	.....	1.... 1,700
	.....	1.... 2,280	.....	1.... 1,600
	.....	1.... 2,250	.....	1.... 1,500
	.....	2.... 2,200	.....	.....
	.....	3.... 2,100	.....	.....
	.....	2.... 2,050	.....	.....
	.....	8.... 2,000	.....	.....
	.....	1.... 1,950	.....	.....
	.....	1.... 1,850	.....	.....
Number	28	34	13	17.5
Average salary	2,032	2,317	2,615	2,087
Expenditure	56,900	76,460	34,000	36,520
ASSOCIATES	.....	.....	1.... 3,000	.....
	.....	.....	11.... 2,400	.....
	.....	.....	1.... 2,300	.....
	.....	.....	1.... 2,200	.....
	.....	.....	9.... 2,100	.....
	.....	.....	6.... 2,000	.....
	.....	.....	16.... 1,800	.....
Number	.....	.....	45	.....
Average salary	.....	.....	2,080	.....
Expenditure	.....	.....	93,600	.....

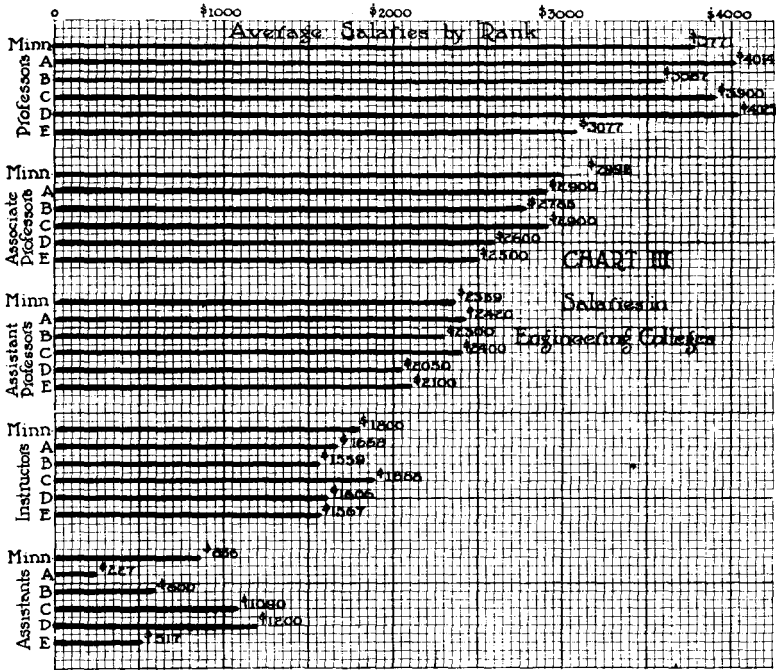
TABLE III—Continued

	Minnesota	B	C	E
INSTRUCTORS	0.5.... 2,400	1.... 2,150	1.... 1,800	1.... 1,700
	1.... 2,000	1.... 2,100	4.... 1,600	6.... 1,500
	1.... 1,900	1.... 1,900	1.... 1,500	2.... 1,200
	5.... 1,800	1.... 1,850	1.... 1,400	.....
	1.... 1,600	4.... 1,800	.....	.....
	7.... 1,500	1.... 1,750	.....	.....
	2.... 1,400	1.... 1,700	.....	.....
	1.... 1,320	2.... 1,600	.....	.....
	1.... 1,300	5.... 1,500	.....	.....
	4.... 1,200	1.... 1,450	.....	.....
	1.... 1,100	1.... 1,400	.....	.....
	1.... 1,020	2.... 1,300	.....	.....
	1.... 1,000	1.... 1,200	.....	.....
	1.... 600	1.... 1,100	.....	.....
	.....	1.... 940	.....	.....
Number	27.5	24	7	9
Average salary	1,460	1,585	1,585	1,456
Expenditure	40,140	38,040	11,100	13,100
Number	30	19	26	20
Average salary	759	934	542	886
Expenditure	22,768	17,745	14,100	17,710
Total number	151	119	115	66.5
Average salary	1,774	2,250	2,138	1,935
Total Expenditure	267,858	266,795	245,850	128,690
INSTRUCTORS AND ABOVE*				
Number	121	100	89	46.5
Average salary	2,025	2,491	2,604	2,386
Expenditure	245,090	249,050	231,750	110,980
ASST. PROF. AND ABOVE				
Number	73.5	76	82	37.5
Average salary	2,790	2,776	2,812	2,610
Expenditure	204,950	211,010	230,650	97,880

* Associates included.

Minnesota is not paying the members of its engineering faculty as well as A, but is doing better than B or E, and nearly as well as C. The total engineering budget at A, a state university, is more than twice as large as that at Minnesota. B, whose budget is almost identical with that at Minnesota, may well be compared. Minnesota expends more money for each rank, and has fewer men of the rank of instructors than has B. In other words, Minnesota compares very favorably with institution B for the year 1919-20; but B has provided for an entirely new budget for the

year 1920-21 which is distinctly better than that existing here. Institutions A and C are already in a position to offer more attractive positions to a number of the Minnesota staff.



Only institutions A and D can be compared with the Medical School at Minnesota. B and C have medical departments but not complete courses in medicine. Minnesota spends more than D and less than A upon its medical school. Minnesota ranks below A and above D in salaries paid. Yet D pays its assistant professors of the medical school better than Minnesota, and pays two professors as high as \$8,000 a year. A pays one professor \$10,000; two, \$7,500; and four, \$6,000. B and C both compare favorably with Minnesota in the salaries paid in their limited medical departments. Minnesota has maintained her position as to salaries paid in the medical school, but any increases granted elsewhere will immediately place this institution in an unfavorable position. At least one institution, B, has already made this increase.

SALARIES AND COST OF LIVING

TABLE IV
SALARIES IN COLLEGES OF ENGINEERING
(School of Mines included)

	Minnesota	A	B	C	D	E	
PROFESSORS	1.. \$5,000	1.. \$6,000	2.. \$4,000	1.. \$5,500	1.. \$5,000	1.. \$4,500	
	4.. 4,000	6.. 5,000	1.. 3,750	3.. 5,000	0.66. 4,125	4.. 3,500	
	3.. 3,750	6.. 4,500	1.. 3,700	4.. 4,000	3.. 4,000	2.. 3,250	
	2.. 3,500	1.. 4,200	2.. 3,500	3.. 3,800	0.5.. 3,500	7.. 3,000	
	2.. 3,000	4.. 4,000	1.. 3,250	1.. 3,500	1.. 3,250	3.. 2,750	
	....	1.. 3,750	1.. 3,000	2.. 3,300	..	1.. 2,500
	....	5.. 3,500	....	2.. 3,200	..	1.. 1,500
	....	2.. 3,400	....	1.. 3,000	....	.25.. 1,000
	....	3.. 3,200	....	1.. 2,800	....	....
	....	2.. 3,000	....	....	....	....
	....	1.. 1,600	....	....	....	....
	Number	12	32	8	18	6.16	19.25
	Average salary	3,750	4,014	3,588	3,900	4,026	3,078
Expenditure	45,250	128,450	28,700	70,200	24,800	559,250	
ASSOCIATE							
PROFESSORS	....	2.. 3,000	1.. 3,000	2.. 3,000	1.. 3,000	1.. 2,500
	2.. 3,200	2.. 2,900	4.. 2,950	2.. 2,800	2.. 2,750	....
	1.. 3,050	2.. 2,800	1.. 2,700	....	1.. 2,600	....
	1.. 3,000	....	2.. 2,650	....	2.. 2,250	....
	2.. 2,750	....	1.. 2,250	....	....	....
Number	6	6	9	4	6	1	
Average salary	2,992	2,900	2,784	2,900	2,600	2,500	
Expenditure	17,950	17,400	25,050	11,600	15,600	2,500	
ASSISTANT							
PROFESSORS	2.. 2,750	5.. 4,000	1.. 2,800	*1.. 3,700	1.. 2,100	1.. 2,500	
	4.. 2,500	1.. 2,700	3.. 2,400	1.. 2,800	1.. 2,000	1.. 2,400	
	1.. 2,250	1.. 2,500	3.. 2,250	3.. 2,600	....	2.. 2,250
	1.. 2,000	1.. 2,400	2.. 2,200	3.. 2,500	....	1.. 2,200
	3.. 2,000	1.. 2,350	1.. 2,150	8.. 2,400	....	5.. 2,000
	....	2.. 2,300	1.. 2,000	1.. 2,200	....	2.. 1,800
	....	7.. 2,200	....	....	....	....
	....	4.. 2,000	....	....	....	....
Number	11	17.5	11	17	2	12	
Average salary	2,359	2,420	2,300	2,400	2,050	2,100	
Expenditure	25,950	42,350	25,300	40,800	4,100	25,200	
INSTRUCTORS‡	2.. 2,200	§1.. 3,000	4.. 1,850	1.. 2,400	1.. 2,000	1.. 2,500	
	4.. 2,000	1.. 2,100	1.. 1,800	3.. 2,300	1.. 1,900	2.. 1,700	
	3.. 1,800	1.. 2,000	1.. 1,750	4.. 2,200	2.. 1,750	4.. 1,500	
	1.. 1,700	6.. 1,950	2.. 1,700	3.. 2,100	1.. 1,500	1.. 1,200	
	3.. 1,600	8.. 1,800	3.. 1,600	3.. 2,000	1.. 1,450	1.. 1,000	
	1.. 1,500	1.. 1,700	3.. 1,500	2.. 1,900	1.. 1,300	....
	1.. 1,200	5.. 1,550	4.. 1,400	11.. 1,800	1.. 1,200	....
	....	9.. 1,500	1.. 1,350	2.. 1,600	....	....
	....	2.. 1,300	3.. 1,250	2.. 1,500	....	....
	....	3.. 1,000	....	2.. 1,400	....	....
	....	....	....	1.. 1,250	....	....

* One professor on part time.

‡ Associates included.

§ Aeronautics.

SURVEY COMMISSION REPORT

TABLE IV—Continued

	Minnesota	A	B	C	D	E
Number	15	37	22	34	8	9
Average salary	1,800	1,669	1,559	1,888	1,606	1,567
Total expend.	27,000	61,750	34,350	64,250	12,850	14,100
Number	8	56	5	5	1	19
Average salary	856	228	600	1,090	1,200	517
Expenditure	6,770	12,740	3,000	5,450	1,200	9,830
Total number	52	148.5	55	78	23.16	60.25
Average salary	2,364	1,769	2,116	2,465	2,525	1,840
Total expend.	¶122,920	262,690	116,400	192,300	58,550	110,880
INSTRUCTORS AND ABOVE						
Number	44	92.5	50	73	22.16	41.25
Average salary	2,636	2,702	2,268	2,560	2,587	2,450
Expenditure	116,150	249,950	113,400	186,850	57,350	101,050
ASSISTANT PROFESSORS AND ABOVE						
Number	29	55.5	28	39	14.16	32.25
Average salary	3,074	3,391	2,821	3,144	3,143	2,696
Expenditure	89,150	188,200	79,050	122,600	44,500	86,950

TABLE V
SALARIES IN THE MEDICAL SCHOOLS

	Minnesota	A	B	C	D
PROFESSORS	1.. \$6,000	1.. \$10,000	1.. \$5,250	1.. \$6,000	2.. \$8,000
	.66.. 5,250	1.. 7,500	1.. 4,500	2.. 5,000	1.. 5,500
	4.. 5,000	1.. 7,000	1.. 4,250	1.. 4,000	1.. 4,500
	4.5.. 4,000	4.. 6,000	1.. 4,000	.....	3.5.. 4,000
	1.. 3,750	3.. 5,000	1.. 2,500	.....	2.. 3,500
	.....	3.. 4,400	1.. 3,250	.....	2.. 3,000
	.....	1.. 4,000	.....	.....	3.. 2,500
	.....	1.. 3,750	.....	.....	1.. 2,000
	.....	1.. 3,400	.....	.....	.....
	.....	3.. 3,200	.....	.....	.....
	.....	3.. 3,000	.....	.....	.....
Number	11.16	22	6	4	15.5
Average salary	4,592	4,839	4,125	5,000	3,968
Expenditure	51,250	106,450	24,750	20,000	61,500

¶ \$1000 for lectures not included.

TABLE V—Continued

	Minnesota	A	B	C	D
ASSOCIATE					
PROFESSORS	2.. 4,000	1.. 3,750	.....	2.. 3,250	2.. 3,000
	1.. 3,200	.....	.....	.....	.....
	1.. 3,000	.....	.....	.....	.....
	1.. 2,800	.....	.....	.....	.....
Number	5	1	..	2	2
Average salary	3,480	3,750	.....	3,250	3,000
Expenditure	17,400	3,750	.....	6,500	6,000
ASSISTANT					
PROFESSORS	1.. 3,000	4.. 2,500	1.. 2,500	2.. 2,900	1.. 3,000
	3.. 2,400	1.. 2,200	1.. 2,400	1.. 2,700	4.. 2,500
	.....	1.. 2,000	1.. 2,070	1.. 2,200	1.. 2,150
	.....	1.. 1,950	1.. 2,000	.....	2.. 1,700
	.....	2.. 1,800	.....	.....	.....
	.....	1.. 1,600	.....	.....	.....
Number	5	10	4	4	8
Average salary	2,040	1,955	2,242	2,675	2,567
Expenditure	10,200	19,550	8,970	10,700	18,550
ASSOCIATES	.....	.....	.....	2.. 2,200	1.. 1,750
	.....	.....	.....	1.. 1,650	.....
Number	..	..	..	3	1
Average salary	.....	.....	.....	2,017	1,750
Expenditure	.....	.....	.....	6,050	1,750
INSTRUCTORS	3.. 1,500	1.. 2,100	2.. 1,800	2.. 1,800	1.. 2,200
	1.. 1,400	1.. 1,950	1.. 1,650	1.. 1,400	4.. 2,000
	1.. 1,320	1.. 1,850	1.. 1,200	2.. 1,200	1.. 1,800
	1.. 720	1.. 1,600	.....	.....	1.. 1,700
	2.. 600	15.. 1,500	.....	.....	3.. 1,500
	1.. 400	1.. 1,300	.....	.....	1.. 1,400
	6.. 300	2.. 1,200	.....	.....	1.. 1,000
	.....	.....	.....	.....	1.. 800
Number	15	22	4	5	13
Average salary	696	1,464	1,613	1,480	1,646
Expenditure	10,440	32,200	6,450	7,400	21,400
ASSISTANTS					
Number	40	36	14	23	26
Average salary	735	567	500	43	706
Expenditure	29,390	20,420	7,000	9,800	18,357
Expenditure for part time instruction	30,080	5,500	.....	4,244	840
TOTAL EXPENDITURE	148,070	187,870	47,170	58,644	126,647

TABLE VI
SALARIES IN THE LAW SCHOOLS

	Minnesota	A	B	C	D	E	F
PROFESSORS	1.. \$6,500	1.. \$10,000	4.. \$5,000	2.. \$5,000	1.. \$5,000	1.. \$5,000	2.. \$8,500
	1.. 5,500	3.. 6,250	1.. 3,250	2.. 4,000	2.. 4,000	3.. 4,000	2.. 7,500
	4.. 5,000	7.. 5,000	....	1.. 3,500	1.. 3,750	1.. 3,500	1.. 6,625
	0.66. 3,375	1.. 4,400	....	1.. 3,000	1.. 3,500	....	1.. 5,500
	....	1.. 3,500	....	....	....	....	....
Number	6.66	13	5	6	5	5	6
Average salary	5,136	5,511	4,650	4,083	4,050	4,100	7,304
Expenditure .	34,250	68,650	23,250	24,500	20,250	20,500	44,125
ASSOCIATE							
PROFESSORS	....	....	....	....	2.. 3,000	....	....
Number .....	..	..	..	..	2	..	..
Average salary	....	....	....	....	3,000	....	....
Expenditure .	....	....	....	....	6,000	....	....
ASSISTANT							
PROFESSORS	....	1.. 3,000	1.. 2,500	1.. 2,750	....	....	....
Number .....	..	1	1	1	..	..	..
Average salary	....	3,000	2,500	2,750	....	....	....
Expenditure .	....	3,000	2,500	2,750	....	....	....
INSTRUCTORS	....	....	....	....	....	....	1.. 2,500
Number	..	..	..	..	..	..	1
Average salary	....	....	....	....	....	....	2,500
Expenditure	....	....	....	....	....	....	2,500
LECTURERS	(2). 3,300	(9) 2,700	....	....	....	....	....
Total							
Expenditure	38,250	77,350	25,750	26,250	26,250	20,500	46,625

The Law School at Minnesota has the highest average salary for professors of any of the seven schools compared except F. Altho the average salary for professors of law at Minnesota, \$5,341, is nearly \$2,000 lower than the average at F, of \$7,304, yet a comparison of the salaries for professors at Minnesota in the different colleges is as follows:

Law	Medicine	Science, Literature, and the Arts	Agri- culture
\$5,341*	\$4,592	\$3,673	\$3,654

* Includes the salary of the dean.

Law schools have few members of the staff who are not full professors. The salaries are usually high compared with other departments of the same university. Minnesota stands high among the state universities in the expenditure for law school instruction. Only two of the institutions compared have as large a budget for instruction in law.

The institutions which pay the highest salaries are A and F. Table VII shows that Minnesota ranks next to A and F in salaries of over \$6,000. A, F, and C surpass Minnesota in the payment of salaries in excess of

\$5,000. Of the staff at Minnesota, 28.38 per cent receive over \$3,000 a year. At the other institutions it is F, 55.44 per cent; A, 32.41 per cent; B, 25.97 per cent; C, 27.01 per cent; D, 33.33 per cent; E, 19.62 per cent.

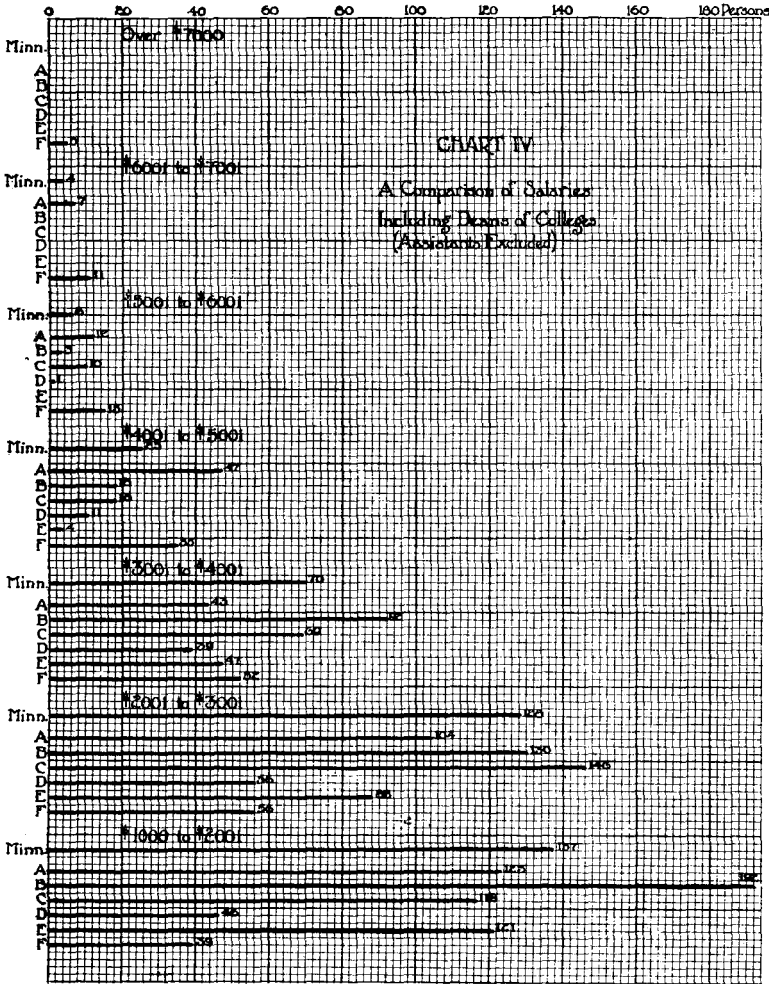


TABLE VII
HOW THE 1919-20 SALARIES ARE DISTRIBUTED IN SEVEN
UNIVERSITIES¹

Universities	Total number of staff receiving \$1,000 or more	Number	Per cent at seven universities	Distribution at Minnesota per cent
MINNESOTA . . .	370	5 over \$7,000	0.24	0.00
A	336	22 \$6,001 to 7,001	1.03	1.08
B	435	47 5,001 to 6,001	2.21	1.62
C	359	158 4,001 to 5,001	7.42	6.76
D	153	412 3,001 to 4,001	19.36	18.92
E	260	708 2,001 to 3,001	33.30	34.59
F	213	774 1,000 to 2,001	36.44	37.03
Total	2,126	2,126	100.00	100.00

MINNESOTA'S DISTRIBUTION OF SALARIES COMPARED WITH
OTHER UNIVERSITIES

Universities	Per cent over \$7,000	Per cent \$6,001 to \$7,001	Per cent \$5,001 to \$6,001	Per cent \$4,001 to \$5,001	Per cent \$3,001 to \$4,001	Per cent \$2,001 to \$3,001	Per cent \$1,000 to \$2,001
MINNESOTA	0.00	1.08	1.62	6.76	18.92	34.59	37.03
A	0.00	2.08	3.87	13.68	12.78	30.95	36.64
B	0.00	0.00	0.69	4.13	21.15	29.88	44.15
C	0.00	0.00	2.78	5.01	19.22	40.66	32.33
D	0.00	0.00	0.65	7.19	25.49	36.60	30.07
E	0.00	0.00	0.00	1.54	18.08	33.85	46.53
F	2.35	5.21	7.04	16.43	24.41	26.29	18.27

¹Based upon the Comparative Salary Budget of Faculty Members prepared by the comptrollers of the seven universities in a conference in November, 1919.

D. THE COST OF LIVING

The increased cost of living is a recognized fact. The amount of this increase can be determined with great accuracy. It is possible to compile a "cost-of-living" index which in succeeding years will indicate mathematically the relative cost of living.¹ Retail prices of the important articles of family consumption may be weighted according to their relative importance in the family budget, and an index number be obtained which may serve as a measuring unit for comparison with future costs.

The following table shows that an increase of 83.1 per cent in the income of the average American family between 1913 and October, 1919 was necessary in order that the family might maintain its economic status.

TABLE XII

ESTIMATED PER CENT OF INCREASE IN COST OF LIVING IN THE
UNITED STATES FROM 1913 TO OCTOBER, 1919*

Items of expenditure	Per cent of total expenditure	Average per cent of increase in prices from 1913 to October, 1919	Per cent of increase as applied to family budget
Food	38.2	80.70	30.8
Clothing	16.6	139.30	23.1
Housing	13.4	17.75	2.4
Fuel and light.....	5.3	45.07	2.4
Furniture and furnishings..	5.1	139.62	7.1
Miscellaneous	21.3	81.31	17.3
Total			83.1†

* *Monthly Labor Review*, January, 1920, p. 98.

† By Associated Press, April 27, Boston: "The average cost of living for American wage earners advanced 64.8 per cent between July, 1914 and March, 1920," according to the National Industrial Conference Board.

These figures are based on a study of over 12,000 families in 92 localities.

The second column shows the average per cent of increase in the prices of the several groups from 1913 to October, 1919. The third column is the product of the first and second columns and shows the per cent of increase applied to the total family budget. To illustrate: 38.2 per cent of the total expenditure goes for food; food costs have increased 80.7 per cent; this makes the per cent of increase in the price of food, as related to the total family expenditure, 30.8 per cent.

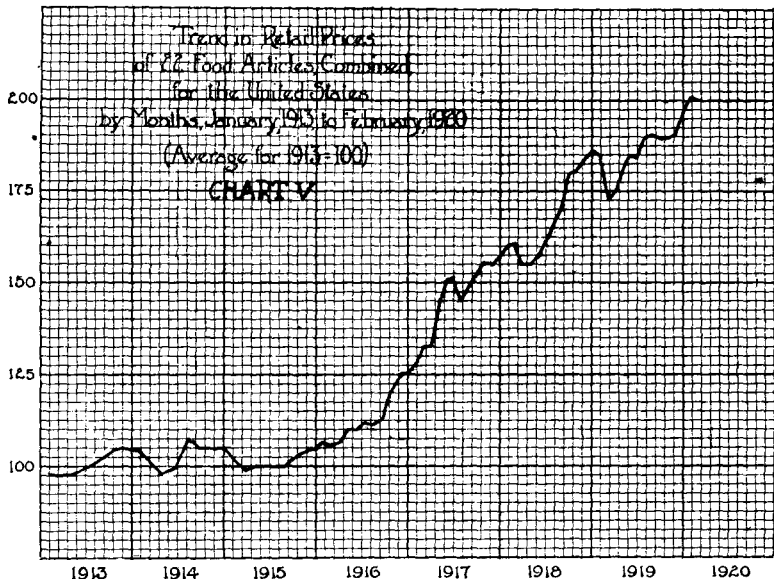
The retail prices of twenty standard food articles have been compiled by the United States government. But all food items are not of equal

¹ Paper read at the thirty-first annual meeting of the American Economic Association by Royal Meeker, United States Commissioner of Labor Statistics, December 27, 1918.—*Monthly Labor Review*, March, 1919.

importance in the family budget. Sugar, tea, potatoes, and meat may increase in price 100 per cent and yet the general budget is not burdened equally by the increase for the various commodities. Therefore,

The price of each commodity to be included in the aggregate for each month has been multiplied by a number representing the importance of that commodity in the average family consumption. These weighted products of the several commodities to be combined are added and computed as percentages of the aggregate, similarly computed, for the year 1913. The resulting index numbers show the trend in the retail cost of the several articles combined.²

The following chart is based upon the weighted monthly index numbers for food compiled as stated. It shows the increase in the food cost for the average family as 92 per cent higher in November, 1919 than in September, 1915.



The above chart shows the cost of food in July, 1917 at 147 and in July, 1918 as 167, compared with a 100 in July, 1915. President Burton, in his report to the Board of Regents of the University of Minnesota for the biennium extending to July 31, 1918, stated:

If reasonable salaries had been paid to the number of faculty required to perform well the service to the state, expected of this college in 1917-18, there would have been necessary at least twice the funds that were actually provided.³

But by July, 1919 the cost of food had increased to 190 from the index number of 167 in July of 1918. This upward trend in the cost of living makes the budget, for the biennium extending to July 31, 1920, inadequate to maintain the economic standard of living contemplated for the

² *Monthly Labor Review*, January, 1920 p. 72.

³ *Twentieth Annual Report of the Board of Regents*, p. 68.

members of the staff. The above chart refers to food only, but the percentage spent for food is very closely related to the cost of the entire family budget, as is seen by examination of the family budget in Table XII.

This increase in the cost of living has been investigated by practical business firms. A report of such an investigation and the consequent wage adjustments is published in the *Monthly Labor Review* for January, 1920 (pages 148-52). The business firm decided upon a "careful analysis of the wage conditions, due regard being given to the current purchasing power of the dollar, and practical application of our findings to the solution of our own problem.....and in the recognition of the relative increase in the living cost, as compared with the relative increase in wages in any given period, we are only laying the foundation for better conditions and better relations between men and management."⁴

This private investigation of the budgets of 280 employees established the fact that in 1913 \$4.06 purchased exactly the same amount of standard articles that \$7.39 would purchase in May, 1919. This represented a weighted average increase of 81.6 per cent in the living cost of each family. The result found by the employer to exist among his own employees is shown in Table XIII.⁵

TABLE XIII
RELATIVE DAILY LIVING COSTS IN 1913, 1915, 1917, 1918, AND TO
MAY, 1919

Item	1913	1915	1917	1918	1919*	
					Daily cost	Per cent increase over 1913
Food	\$1.9534	\$2.2538	\$3.1025	\$3.5164	\$3.8939	99.3
Clothing	1.205	1.328	1.65	2.125	2.336	93.9
Fuel .....	.353	.364	.363	.483	.463	31.2
Shelter .....	.555	.556	.597	.659	.691	24.5
	\$4.0664	\$4.5018	\$5.7125	\$6.7835	\$7.3839	81.6

* To May, 1919.

This increase in the cost of living was also recognized by the railroads and the United States government as follows:

Average monthly compensation per employee for all employees including an estimate of the effect of the increases recently granted to the shopmen—⁶

	July 1919	1917
	121.50	83.64
Per cent of increase July, 1919 over 1917.....		45.3

⁴ See also *Bulletin* of the Taylor Society (New York) for October, 1919 pp. 29-46.

⁵ *Monthly Labor Review*, January 1920 p. 150.

⁶ Report of Walker D. Hines to the U. S. Senate, Nov. 14, 1919.

The increase in the hourly wage between 1915 and 1917 is illustrated by such examples as follow:⁷

	1915	1917
Machinists	\$.387	\$.462
Carpenters .....	.276	.322
Section men .....	.150	.192
Freight engineers .....	.598	.691
Passenger engineers .....	.824	.914
Passenger conductors .....	.699	.737

The United States government recognized the necessity of making still further increases over and above those made between 1915 and 1917, and increased the compensation 45.3 per cent for the average railroad employee.

The Department of Agriculture has compiled the average rates of wages, and these figures for the years 1913 to 1918 show the close relationship between the cost of living and farm wages.⁸

TABLE XIV⁹

WAGES OF MALE FARM LABOR, 1913 TO 1918 (FROM THE YEARBOOK OF THE DEPARTMENT OF AGRICULTURE, 1918)

Year	By the month		Day labor, at harvest		Day labor, not at harvest	
	With Board	Without Board	With Board	Without Board	With Board	Without Board
1913	\$21.38	\$30.31	\$ 1.57	\$ 1.94	\$ 1.16	\$ 1.50
1914	21.05	29.88	1.55	1.91	1.13	1.45
1915	21.06	30.15	1.56	1.92	1.13	1.47
1916	23.25	32.83	1.69	2.07	1.26	1.62
1917	28.87	40.43	2.08	2.54	1.56	2.02
1918	34.92	47.07	2.65	3.22	2.07	2.63
Index numbers (1913=100)						
1913	100	100	100	100	100	100
1914	98	99	99	98	97	97
1915	99	99	99	99	97	98
1916	109	108	108	107	109	108
1917	135	133	132	131	135	135
1918	163	155	169	166	178	175

The increases received by the following 2,456,482 persons is indicative of the wage advances received by employees in the industrial field. The employees were distributed as follows:¹⁰

⁷ *Monthly Labor Review*, December 1919 p. 230.

⁸ The 1919 figures were not available in November, 1919 when the compilation was made.

⁹ *Monthly Labor Review*, November, 1919 p. 194.

¹⁰ *Ibid*, November, 1919, p. 191.

Iron and steel	278,072
Cotton goods	383,404
Hosiery and underwear	150,528
Silk goods	108,170
Woolens and worsted goods	163,976
Clothing, men's	225,719
Boots and shoes	206,088
Lumber }	618,163*
Millwork }	
Furniture	133,498
Cigars	178,872†

* Includes all lumber manufactures.

† Includes all tobacco manufactures.

The union wage scale figures here published represent the minimum wage of union members employed in the trades stated, but these figures do not always represent the maximum wage that is paid, as in some instances part or even all of the organized workers in the trades receive more than the scale.¹¹

The rates given are those as of May 15, 1919. Present indications are that several of the trades will demand an increase to \$1.00 or \$1.25 an hour. The city of Minneapolis has recently recognized the necessity of further increases, and has established a day laborer's minimum wage of \$4.50 a day.

TABLE XV¹²

RELATIVE EARNINGS PER HOUR IN SPECIFIED INDUSTRIES

1913-1919

(1913=100)

Year	Iron and steel	Cotton goods manufactures	Hosiery and underwear	Silk goods	Woolens and worsted goods	Clothing, men's	Boots and shoes	Lumber, saw mills only	Mill work sash doors	Furniture	Cigars
1913	†100	100	100	100	100	100	100	100	100	100	100
1914	†103	103	103	100	103	*	101	*	*	*	*
1915	†101	*	*	*	*	*	*	91	99	103	*
1916	*	120	*	*	127	*	107	*	*	*	*
1917	‡	*	*	*	*	*	*	*	*	*	*
1918	*	179	*	*	193	*	147	*	*	*	*
1919	†221	*	184	191	*	171	*	194	151	154	152

* Not reported.

† Based on 9 departments in 1913 and 10 departments in other years.

‡ Not computed, as 4 departments were not reported.

The union labor scale in twelve typical trades for Minneapolis is shown in the following table:¹³

¹¹ *Ibid.*, November, 1919 p. 172.

¹² *Ibid.* p. 192.

¹³ *Ibid.* pp. 172-90.

TABLE XVI
UNION SCALE PER HOUR, MINNEAPOLIS, MINNESOTA

	1913	1917	1919
Bricklayers	65	70	87.5
Carpenters	50	55	75
Cement finishers.....	50	55	75
Compositors (book and job).....	43.8	45.8	70
Electrotypers molders.....	36.1	56.3	59.4
Machinists	33.5	40	72.5
Painters	50	55	70
Plasterers	70	75	90
Plasterers laborers.....	40.6	50	60
Plumbers	56.3	62.5	75
Sheet metal.....	50	50	70
Structural iron.....	56.3	62.5	87.5
	50.13	56.43	74.33

Increase in 1919 over 1913 per hour.....48.27 per cent*

* But the reduction in the weekly hours of employment for the 12 trades represented amounted to nearly 9 per cent.

The following quotation from the February, 1920, Bureau of Labor Statistics shows very clearly the increase in rents and building costs that the college instructor must pay. There is no escape from the fact that building costs have increased since 1919:¹⁴

The unit prices used in the estimate for materials were obtained from the Bureau of Labor Statistics of the Department of Labor and from the published records in the various trade journals. The total percentages increase in cost of materials for the six-room houses which we have used for illustration is 71 per cent.

The rates of wages per hour for the various building trades in 1913 were obtained from a bulletin of the Bureau of Labor Statistics. The rates for 1919 are those contained in the report of the proceedings of the thirteenth annual convention of the Building Trades Department, American Federation of Labor, under date of June 4-7, 1919.

The percentage of increase in wages in 1919 over 1913 varies in the trades used in our estimate from 36 per cent to 100 per cent. The total percentage increase in the cost of labor in the six-room frame house which we have used for illustration, is 65 per cent.

These percentages of increases are comparable with the data presented by Benjamin A. Howes in the October, 1919, issue of *Country Life*, which shows an increase in building labor of 75 per cent and an increase in building materials ranging from 30 to 100 per cent.

A recent publication by the Information and Education Service of the United States Department of Labor entitled *Economics of the Construction Industry*, which furnished very complete statistics of the average annual hourly scale of building trades from May, 1913 to May, 1918 gives the increase in wages as of May, 1918

¹⁴ *Ibid.*, February, 1920 pp. 250-52.

as 31 per cent. The report of the United States Bureau of Labor Statistics on wholesale prices records the rise in prices of all building materials exclusive of steel as about 75 per cent in 1918 and 84 per cent in the last quarter of 1918.

It thus appears that there has been a material increase in the cost of building labor in 1919 over 1918, but this increase has only followed the corresponding increase in cost of building material and other commodities. The costs of both building labor and material now appear fairly comparable with other increases in the cost of living.

In addition to the estimate for the six-room frame house, estimates have been prepared for a similar house built of hollow tile and also one of brick. The comparison of the three is as follows:

COMPARISON OF COST OF SIX-ROOM DWELLING HOUSE

Type of house	1913	1919	Per cent of increase
Frame house.....	\$2,932.36	\$4,930.58	68
Hollow-tile stuccoed house.....	3,362.65	5,665.18	68
Brick house.....	3,546.34	6,038.73	70

In the comparison of estimated costs as of 1913 and 1919, the same amount of materials and the same rates of output of labor are used in each case. The rates of output of building labor, are of course, subject to wide fluctuations. The rates assumed here have been compiled and checked by the estimating division of the United States Housing Corporation and by builders of practical experience. The efficiency of labor in the comparison presented is taken as being the same in 1919 as in 1913. With the exception of a period in the spring of 1919, many building contractors maintain that the efficiency of building labor is not so high now as it was in 1913.

In compiling these tables the cost of labor and material was figured out for each item for the house built as of 1913. The 1919 costs were arrived at by applying the percentage of increase in labor and material to the 1913 figures. It should be borne in mind that this is an estimate based on average prices and average work under union labor. There is a wide variation in the cost of labor and the cost of materials in different parts of the country, and this same house built under different conditions from those assumed here may easily vary \$500 or more in cost.

Overhead, land, and utilities.—The foregoing estimates do not include public utilities, contractor's profit, and overhead or architect's fee.

From the report of the *Economics of the Construction Industry* by the United States Department of Labor, as well as from the real estate division of the United States Housing Corporation, the indications are that there has been little increase in the value of land occupied by the ordinary dwelling house. For the purpose of further comparing the total cost of the frame house, with land, appurtenances, and overhead, we will assume the following:

Cost of land (\$1,000 per acre—7 lots per acre).....	\$143.00
Cost of public utilities per lot.....	400.00
Contractor's profit and overhead.....	15 per cent
Architect's fee—plans and supervision.....	6 per cent

Based upon the foregoing comparison the increase in the cost of construction of a modern six-room frame house between 1913 and 1919 becomes 66 per cent. The total cost of erection of houses in 1913 and 1919 is as follows:

TOTAL COST OF ERECTING SIX-ROOM FRAME HOUSE IN 1913
AND 1919

	1913	1919
Net cost of building.....	\$2,932.36	\$4,930.58
Cost of land at \$1,000 per acre.....	143.00	143.00
Cost of public utilities.....	400.00	680.00
Contractor's profit and overhead, 15 per cent.....	439.85	739.59
Architect's fee—plans and supervision, 6 per cent.....	202.33	340.21
Total	\$4,117.54	\$6,833.38

The most convincing evidence of the increase in living costs is found in the index numbers of wholesale prices. The two years, 1918 and 1919, and the first months of 1920 show the real situation.

INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS OF COM-
MODITIES AND BY MONTHS, 1913 TO 1920¹⁵
(1913=100)

Year and month	Farm products	Food, etc.	Clothes and clothing	Fuel and lighting	House furnishing goods	Miscellaneous	All commodities
1918							
January	207	187	211	157	161	178	185
February	208	185	216	157	161	181	186
March	212	177	233	158	165	184	187
April	217	178	232	157	172	191	190
May	214	177	237	160	173	194	190
June	217	179	245	159	198	196	193
July	224	184	249	166	199	190	198
August	230	191	252	160	221	191	202
September ..	237	199	255	167	226	194	207
October	224	201	257	167	226	196	204
November ..	221	206	256	171	226	203	206
December ..	222	210	250	171	227	204	206
1919							
January	222	207	234	170	218	212	203
February	218	196	223	169	218	208	197
March	228	203	216	168	218	217	201
April	235	211	217	167	217	216	203
May	240	214	228	167	217	213	207
June	231	204	258	170	233	212	207
July	246	216	282	171	245	221	218
August	243	227	304	175	259	225	226
September ..	226	211	306	181	262	217	220
October	230	211	313	181	264	220	223
November ..	240	219	325	179	299	220	230
December ..	244	234	335	181	303	220	238
1920							
January*	246	253	350	184	324	227-	248

¹⁵ *Monthly Labor Review* February, 1920 p. 88.

* *Ibid.* March, 1920 p. 65.

If any one questions the substantial accuracy of the Bureau of Labor Statistics based upon 328 commodities, the following table should remove any doubt, as it shows the close similarity in the results obtained by independent investigators.¹⁶

WHOLESALE PRICES IN THE UNITED STATES AND CANADA (INDEX
NUMBERS EXPRESSED AS PERCENTAGES OF THE INDEX
NUMBER OF 100 FOR 1913

Year and month	U. S. Bureau of Labor statistics: 328 commodities (variable)	Annalist: 25 commodities	Bradstreet: 96 commodities	Dun: 200 commodities	Gibson: 22 commodities	Canada Department of Labor: 272 commodities (variable)
1919						
January ..	203	211	201	190	206	211
February ..	197	201	192	182	201	206
March ...	201	209	187	180	212	205
April	203	222	188	182	223	206
May	207	226	187	184	220	229
June	207	216	196	189	212	210
July	218	219	205	193	220	217
August ..	226	220	217	200	218	222
September	220	202	211	197	201	223
October ..	223	200	212	195	191	252
November	230	201	216	191	197	227
December	238	205	219	202	206	238

Lower prices have been expected by many since the signing of the armistice in November, 1918. The United States Commissioner of Labor Statistics discussed this problem in February, 1920.¹⁷

IMPROBABILITY OF DECREASE IN PRICES AND COST OF LIVING BY ROYAL MEEKER, COMMISSIONER OF LABOR STATISTICS

Everybody is anxiously watching the course of prices and even more anxiously inquiring when, if ever, prices are coming down. The wish is father to the thought, and it is easy for the housewife to accept any statement that prices are slated for a fall in the near future.

Before attempting to answer the query as to when, if ever, prices are to fall, it would be well to consider the causes which have brought about the remarkable rise in prices since 1915. These causes may be summarized as follows:

1. By far the most important cause of increased prices is the enormous additions to the circulating medium, money and its substitutes, during the past four years;
2. Decrease in the actual physical quantities of goods produced and exchanged;
3. Manufacture for and purchase by the Governments of the world for war and other purposes; and
4. Changes in the demands for and the supply of goods and services.

If prices are to be lowered, the causes operating to boost prices must be attacked. The amount of money and checks in circulation must be appreciably reduced and the quantities of necessary goods must be increased in amount. The

¹⁶ *Ibid.*, March, 1920 p. 67.

¹⁷ *Ibid.*, February, 1920 pp. 95-97.

stocks of commodities manufactured on Government account must, so far as possible, be salvaged and thrown on the market. The extraordinary demands for goods new and old must either be curtailed or production of these goods expanded to meet the needs.

The financing of the war has made two dollars grow where but one dollar grew before. This, coupled with the fact that there has been an enormous destruction of economic goods and of the farms, mines, and forests, and factories supplying these goods, explains the enormous and world-wide decrease in the purchasing power (value) of money, which causes increased prices. As long as the people have twice as many dollars with which to buy a smaller number of commodities, prices are bound to remain high. It will take a long time to deflate the world's inflated currencies or to inflate the world's deflated supply of goods. The profiteer is being blamed on all hands for the increase in prices. Undoubtedly, profiteering of a most reprehensible sort has existed and does exist today, but the profiteer is a result of ever-increasing prices rather than a cause thereof. His influence in boosting prices is negligible. If all the profiteers in the world should be apprehended and thrown into jail or lined up and shot, it would have no appreciable influence upon prices.

It has been suggested that the abnormally high prices are psychological in origin and that prices will fall just as soon as the people can be made to think falling prices. Of course, psychology is involved in every price, but the larger quantities of currency and the smaller amounts of commodities are physical facts that no psychic legerdemain can overcome.

Higher prices possible.—I see no prospect of any considerable fall in prices for several years to come. It will be impossible for the Governments of the world to pay off their debts very rapidly. On the contrary, there is every reason to apprehend that credits must be issued to foreign Governments, foreign manufacturers, and foreign business men, in order to rehabilitate the broken and shattered industries of Europe. This being the case, we may expect that larger volumes of checks and credit instruments will be thrown into circulation, thus boosting prices still higher. If it is impossible to reduce the volume of the world's indebtedness suddenly, it is even more impossible to increase the quantity of the world's goods suddenly. Of course, the world's productive forces are being marshaled as rapidly as possible in order to increase the production from farms, forests, mines, and factories, but this is necessarily a slow process, especially in these times of great business instability and labor unrest. The 1919 farm crops have practically all been marketed. The only way that prices can be brought down before next year's crops begin to find their way to market is through deflation of the currency. As pointed out above, still further inflations are inevitable if Europe is to rehabilitate her industries so that she can increase her supply of material goods and thus bring about lower prices by increasing goods and decreasing debts.

Some business men are apprehensive that the United States will be flooded with European-made goods which will bring prices tumbling down. The price of foreign exchange at the present moment is such as to make it highly profitable for American business men to buy large quantities of goods in Europe, especially in Germany and Austria, if European countries only had the goods to sell. Not until Europe has rehabilitated its industries may we expect to have our markets flooded with European goods. That puts off the tumble in prices several years. The normal seasonal drop in prices may be expected in 1920. This seasonal drop comes much earlier than is generally supposed. In normal times the low-price level for all commodities combined comes in March, April, or May. These seasonal price changes are relatively small and will have but little effect upon the housewives' expenditures. No great and sudden fall in prices seems possible for a long time.

People generally are yearning so intently for lower prices that they have not thought much about the results of falling prices. The prices we kicked about in 1913 have come to be regarded as ideal. Untold distress has been caused by the rapid price increases of the past four years. The sufferings already endured by the people through rising prices will be multiplied tenfold if prices drop within the next seven years to the 1913 level.

It would be most unreasonable to withhold the merited increase in salaries of the University staff upon the theory that the increases so justly deserved and so long delayed can be avoided by awaiting the decline in the cost of living. When, if ever, a material decrease in the money cost of living will occur, no man knows. Predictions of decreases have failed for two years. Men, like Mr. Meeker, speak with abundance of information and after close study of the problem. No material decline in the near future may safely be assured.

The latest available information upon prices is as follows:

I. *Dun's Review*, April 24, 1920, page 14, shows that during the past week 39 wholesale prices advanced and only 30 declined. No evidence of a material decline of wholesale prices exists, and the demand indicates a continual advance.

II. The chart on page 542 of *The Annalist*, April 19, 1920, shows a rapid rise in food costs this year and an increase over the 1914 average food cost per family of 104 per cent.

III. The present prospect for a decrease in prices is well stated in the *Drovers Journal* and reproduced in *Bradstreet's*, April 24, 1920.

Theorists harp upon the high prices of grain as being out of reason. They base conclusions on the fact that the war is over and that all commodities should seek their pre-war level. Their trouble is they think too far ahead. We will get down to a lower price basis some day; but it will take time.

Whether the readjustment will be gradual or sudden cannot be foretold. The Federal Reserve Board thinks it will be gradual. The world has had four years of waste and destruction. It took thirteen years after the Civil War for commodity prices to get back to normal. In these days things move faster, but it could easily take four or five years. It is not reasonable to expect any material decline this year. It may take a few years for people to settle down to work. At present labor is not disposed to exert itself. It is making big wages and buying luxuries freely.

The general public is extravagant. Taxes are heavy. Our system of distribution has been much disorganized. It will take years to build sufficient locomotives, cars, and other necessary equipment to give us normal transportation. In the past three years traffic has increased 45 per cent, while facilities for handling it have gained only 2 per cent. The world has been on a big spree. It will take time to sober up.

IV. No better information upon the increase in the cost of living can be obtained than that compiled and tabulated by the National Industrial Conference Board for a number of the leading business associations of the United States. The following chart is a reproduction of the one appearing in *Report Number 19* of the National Industrial Conference Board. Upon the question of "Changes in the Cost of Living July 1914-July 1919" and in addition thereto, the same is brought down to the date of March, 1920 in accordance with the announcement by this board of April 27, 1920, that the increases in March amounted to 94.8 per cent over that of July 1914.

In contrast with the change in living costs is shown the increase in salaries for all members of the faculty of the College of Science, Literature, and the Arts of the University of Minnesota who were here in 1914-15 and still remained in 1919-20.

